THE AMERICAN SOCIETY FOR CELL BIOLOGY

NEWS LETTER

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Cytokinesis Researchers Meet in Vermont

Cytokinesis aficionados from all over the world who work with a variety of organisms met this month in Burlington, Vermont, to share their findings and ideas about cytokinesis, the physical division of a cell into two daughter cells.

The meeting began with a chalk-talk keynote address given by Ray Rappaport. He presented a fascinating historical account of cytokinesis research going back over 100 years, illuminating some of the key questions that still captivate the field.

While many aspects of cytokinesis remain puzzling, several promising trends emerged in this meeting held on the University of Vermont campus. *See Summer Meeting*, page 18

ASCB Annual Meeting Late Abstract Submission Deadline October 7 www.ascb.org

Salmon to Give Porter Lecture

Edward Salmon

Ted Salmon of the University of North Carolina, Chapel Hill, has been named by ASCB President Harvey Lodish, Program Chair Sandra Schmid and the Keith R. Porter Endowment to give the 23rd Annual Keith R. Porter Lecture at the ASCB 44th Annual Meeting in Washington, DC.

Salmon's research has been dedicated to understanding the molecular mechanisms governing the assembly of spindle microtubules and the segregation of chromosomes during mitosis. His presentation, "Achieving Accurate Chromosome Segregation," is scheduled for Tuesday evening, December 7. ■

Kozminski Named 13th *MBC* Awardee

Keith Kozminski

Keith G. Kozminski of the University of Virginia was named by the *Molecular Biology of the Cell* Editorial Board as recipient of the 13th annual *MBC* Paper of the Year Award.

Kozminski co-authored the article *Interaction Between a Ras and a Rho GTPase Couples Selection of a Growth Site to the Development of Cell Polarity in Yeast* with the laboratories of Hay-Oak Park at Ohio State University and Charles Boone at the University of Toronto.

Kozminski will present his research at a minisymposium during the ASCB Annual Meeting in Washington, DC. ■

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Harvey Lodish

PRESIDENT'S COLUMN

Taking Time Off

I confess that I'm writing this near the end of a serious nine-day vacation. Two days were spent hiking in the New Hampshire mountains; we took two of our grandchildren on an overnight to their first Appalachian Mountain Club hut. This was followed by six days on Sebago Lake in Maine, mainly playing with the grandchildren, boating, swimming, and eating.

Taking time off for family or contemplation did not come naturally to me. I had to learn how to do this, as do many people who are passionate about their work.

I was surprised to discover that spending time away from the lab had a positive effect on my research because I returned with renewed energy and fresh perspectives, not to say with a more balanced view of life.

As a student I routinely worked 14 - hour days, seven days a week. Only occasionally would I take an evening or weekend afternoon off for relaxation. Thus I approached my PhD thesis supervisor with some trepidation, asking him for five days off so I could go home to Ohio and get married. Fortunately, Norton Zinder was a very wise man and I have not forgotten his words: "Harvey, this is the best thing you could possibly do. Take a few days extra." After returning to New York I continued working in the lab but at a somewhat less frenetic pace. I did start taking significant time off, even two weeks for a delayed honeymoon. I was surprised to discover that spending time away from the lab had a positive effect on my research because I returned with renewed energy and fresh perspectives, not to mention with a more balanced view of life. I even learned that a few odd minutes away from the lab spent idly contemplating a research problem or result often led to new insights – an idea for an experiment that came to me on this two-week trip led to an entire chapter of my thesis!

ASCB President Harvey Lodish hiking with grandchildren Joshua (5) and Sophia (7)

Sydney Brenner taught me my next important lesson on the very first day I started my postdoctoral research. He took me aside and told me that in England they do things differently that in the States. "In the US, the general notion is to run into the lab, do as many experiments as possible as quickly as possible, and hope for an interesting result. Here we don't have as much money for research and we have to think more deeply about an experiment before we do it." The routine, I soon learned, involved colleagues discussing an idea or two over a cup of dilute morning coffee and chocolate biscuits. The discussions would continue over lunch and then at afternoon tea, again over biscuits. Hypotheses and experiments would be discussed openly, torn apart, and reconstructed. The emphasis was on picking the most important and accessible problem to study and on figuring out the best approach to teasing apart a complex biological system. Max Perutz, the Director of the LMB, was often an active participant, as were most of the other senior researchers there.

After a few days of trying to resolve these issues, one could actually go into the lab and

do the "perfect" experiment. Then back to the coffee and tea hours, ever refining the hypothesis and getting more and more input on the experimental strategy. This collaborative and "leisurely" approach to science was incredibly productive. In one case a single off-hand comment by Fred Sanger about the availability of high specific activity [35S] methionine made possible a lot of experiments, as did advice from Mark Bretscher on bacterial cell-free mRNA translation systems.

The only negative for me was the stone in extra weight I gained during my first year as a postdoctoral fellow, but then I discovered that the chocolate biscuits were not actually a requirement of these discussions.

A few hours away from the lab bench, talking freely and openly about scientific and multiple non-scientific matters, is in fact the best way to carry out innovative science. I've tried over the years, with only moderate success, to pass this lesson on to my students and fellows. I remember when, almost 25 years ago, several colleagues and I were helping to design the Whitehead Institute building. Our highest priority was to have a cafeteria. We wanted a place where, like the canteen in the LMB, everyone could come to eat and relax, talk about anything and everything, and ideally find a better hypothesis to explain some unexpected results or figure out a new project or a better way of doing an experiment.

I continue to learn lessons from my wife, my children, and my grandchildren, as well as from my own postdocs and students, about the importance of taking time off. I feel that the current cohort of young scientists does a better job than did my generation of balancing lab work and other career activities with family and recreation. For many years most of my postdocs have had families with children. I've had several postdocs of both genders with two children, and two postdocs, both female, with three. As far as I could tell, taking time off for family has not hampered their research productivity. Rather it has probably been enhanced.

These scientists and their families need the continued support of senior investigators. Everyone needs to hear clearly that time away from the lab – including at least one extended vacation each year – can have a positive rather than negative effect on one's science. I also try to set an example. Older children and babies carried in backpacks often come along on our day lab hikes to the White Mountains, and having 30 or more children of present and past lab members in our pool during our annual party reinforces the notion that family is a real and important part of lab life.

It would be naïve to suggest that postdocs, especially those with families, lead an easy life, but as a group they are incredibly organized and make excellent use of their time in the lab. One of my main goals is to work with them so that the experiments they carry out are as well- conceived as possible. Another is to support their efforts at having a balanced life, and taking some time off for contemplation and relaxation. ■

"In the US, the general notion is to run into the lab, do as many experiments as possible as quickly as possible, and hope for an interesting result. (In the UK) we don't have as much money for research and we have to think more deeply about an experiment before we do it."

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

ASCB MAC Honors Minority Scientists at MBL

MAC member Peter Satir

MAC scholar Geidy Serrano and Richard Levine from the University of Arizona

The ASCB MAC hosted its 19th annual luncheon honoring young minority researchers enrolled in Summer courses at the Marine Biological Laboratory (MBL) in Woods Hole, MA. "MAC Scholars" receive competitive financial support from the ASCB MAC for their courses at the MBL. Since its inception in 1985, the MAC Scholars program has supported over 130 minority students at the MBL.

This year's MAC Scholars represent Native American, Hispanic American, and African American students from diverse academic and research backgrounds: Alexis Tapanese-Castillos from Memorial-Sloan Kettering Cancer Center is taking the course on Embryology; Denise Davis from Yale University School of Medicine is enrolled in Neurobiology; Reymundo Dominguez is at the University of Southern California and is also enrolled in Neurobiology; Geidy Serrano is from the University of Puerto Rico and is in the course on Neural Systems & Behavior; Olivia George is studying at New Mexico State University and is taking the course on Physiology; and Kevin Jackson is at the University of Illinois at Chicago and is enrolled in Frontiers in Reproductive Science. ■

MBL Director Bill Speck, ASCB Executive Director Elizabeth Marincola, former ASCB officer George Langford, MAC Chair Donella Wilson and MBL Chief Academic and Scientific Officer William Beers.

ASCB MAC Director Irelene Ricks, Alexis Tapanes-Catillos, Olivia Geoge, Keith Jackson, Denise Davis, Reymundo Dominjuez and MAC Chair Donella Wilson

Larry Aladb and Abdoullah Diarra

Shari Wiley, Larry Aladb, and Viness Ubert

Jim Townsel

Former ASCB MAC member David Burgess

MBL SPINES Instructor Steve Zottoli fom Williams College

ASCB-supported summer students Andrew Clark and Jaquan Horton at Friday Harbor Laboratories.

Nydia Brooks from Fisk University is investigating sex selection among amphipods.

Society Funds Minority Student Work at Friday Harbor

FHL Administrator Scott Schwinge, Natika Bock from the University of Victoria, Liz Harrison from Howard University, Matthew Johnson from the University of Central Arkansas, Nydia Brooks from Fisk University and Noyle McPherson from Oakwood College.

The American Society for Cell Biology Minorities Affairs Committee has supported minority students at Friday Harbor Laboratory in Washington state since 1998. This Summer, the ASCB MAC helped to support five underrepresented students: Jaquan Horton and Andrew Clark from the University of California, Irvine; Noyle McPherson from Oakwood College; Nydia Brooks from Fisk University; and Matthew Johnson from the University of Central Arkansas.

FHL interns participate in laboratory research that includes study on the functional morphology and ecology of marine fishes to the determination of whether or not sex selection among amphipods is based on size preferences. This year, students hope to publish results with their FHL mentors, on topics ranging from Brooks' work on amphipod sex selection patterns with mentor Vik Iyengar, to Noyle McPherson's investigation of the ATP-mediated release of brevetoxin from two common species of algae associated with red tide, with mentor Wei-Chun Chin. ■

MAC Wins Grant Renewal

A $1.8 grant from the National Institutes of Health/Minority Access to Research Careers was awarded to ASCB to conduct the program initiatives of the Minorities Affairs Committee (MAC) for the next four years. This competitive renewal, written by the MAC co-chairs with JK Haynes serving as PI and Elizabeth Marincola serving as institutional administrator, features several new initiatives this year in addition to many of the current longstanding MAC projects designed to increase the numbers of underrepresented minorities in cell biology. The grant began last month.

The grant represents funding of about twice as much compared to the previous multiyear MARC grant for ASCB/MAC programs. Newly funded programs account for much of this increase. New initiatives include support for a conference to enhance the career development of Junior Faculty Scholars, the development of collaborative agendas focusing on student and faculty career growth with other major professional societies and underrepresented minority professional societies, such as the Annual Biomedical Research Conference for Minority Student (ABRCMS), Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), American Indian Science and Engineering Society (AISES), and the Leadership Alliance, the research and development of position statements and peer reviewed publications on the participation of underrepresented minorities in the scientific workforce, and a more rigorous evaluation and participant tracking of existing and new MARC programs. With the results of this grant, the MAC hopes to provide national guidance on the advancement of underrepresented minorities in science.

As in the past, the NIH/MARC grant will continue to support travel awards for underrepresented students and scientists to the ASCB Annual Meeting; institutional and fellows support for summer activities, such as the Visiting Professors program in which minority professors work on collaborative research projects in laboratories of ASCB members at majority institutions; scholarship support for underrepresented students at the Marine Biological Laboratory (MBL) in Woods Hole (see page 4) and Friday Harbor Laboratory at the University of Washington (see page 5); and the Linkages Fellows program that provides faculty from minority-serving institutions with the opportunity to attend the ASCB Annual Meeting and receive professional development assistance from the MAC.

For more information on the strategic goals of MAC programs, see the ASCB website at www.ascb.org. ■

ASCB PROFILE

Barbara J. Meyer

"I felt that I needed to create my own question and my own problem if I was going to be a real scientist," says Barbara Meyer of her arrival 25 years ago at the MRC Laboratory of Sydney Brenner in Cambridge, England. "I needed to start from scratch."

Barbara Ries for HHMI

Barbara Meyer

For Meyer, who has been a Professor of Genetics and Development at UC Berkeley since 1990 and an HHMI Investigator since 1997, starting from scratch began with a new worm. When Meyer first arrived in Cambridge in 1979, Brenner's *C. elegans* was still a scientific dark horse with a meager literature and a virtually unexplored genome. But the nematode could be grown in petri dishes, frozen in batches, and mutated into all sorts of intriguing phenotypes, which appealed to the new American post-doc who'd done her graduate work at Harvard with Mark Ptashne on lambda phage. Meyer had big questions in mind for the little worm to answer: how does the worm count the number of X chromosomes to determine sexual identity, and how does it then compensate for the different doses of X chromosomes in the two sexes?

Meyer had big questions in mind for the little worm to answer: how does the worm count the number of X chromosomes to determine sexual identity, and how does it then compensate for the different doses of X chromosomes in the two sexes?

When Meyer first arrived in Cambridge in 1979, Brenner's *C. elegans* was still a scientific dark horse with a meager literature and a virtually unexplored genome.

It was a daring strategy for a young scientist, says Frank Solomon, a former colleague at MIT where Meyer established her first lab after leaving the MRC. "Barbara Meyer started on a brand new and very difficult problem using a model system that at the time wasn't well known or widely used. Remember this was before [*C. elegans*] won a Nobel Prize. So it took Barbara a relatively long time to get going because she chose to do something new, original and hard. She started fresh in dark, uncharted territory but she made something of it." Continues Solomon, "even a few years ago, I would have said that Barbara was the person largely responsible for working out sex determination in worms. Yet since then, this work has led in a million directions. What started out as the genetics of a fundamental biological problem has in her hands blossomed into this multi-faceted, broad-reaching set of results that take us to lots of fundamental biological processes that would not have been anticipated."

It took Meyer nearly a decade to unravel the puzzle of sex specificity in *C. elegans*, years spent screening for mutations, identifying key genes, characterizing proteins, sketching pathways and working out the interactive protein complexes that switched sex fate between males (XO) and hermaphrodites (XX) while compensating for differences in X chromosome dosage.

In 1990, Meyer and her husband Tom Cline gave up their tenured positions (she at MIT, he at Princeton) to return to their native California for new faculty posts at UC Berkeley. By then, it was clear to Meyer that these genes and proteins that could recognize X chromosomes in *C. elegans* were similar to components in the mitotic chromosome condensation and segregation machinery already discovered in yeast and frogs. There are major implications here for evolutionary biology as well as for cell division and replication control, says Meyer. "Some of the genes that are important in the sex-specific dosage compensation machinery have retained their ancient roles in chromosome segregation while being co-opted for their new role in gene expression."

The implications keep growing, Meyer says. "One of our proteins has turned out to be involved in controlling the number of crossovers between homologous chromosomes during meiosis. So now we've gone off in that direction as well." One result is the amazing variety of meetings that Meyer finds on her itinerary. "I go to tons of them—epigenetics, meiosis, chromatin—you name it. I joined the ASCB in 1995 as soon as I realized that components of the dosage compensation machinery are involved in chromosome segregation. Then I started speaking at ASCB and this year I serve on the Program Committee."

> "What started out as the genetics of a fundamental biological problem has in her hands blossomed into this multi-faceted, broad-reaching set of results that take us to lots of fundamental biological processes that would not have been anticipated."

Her ability to move easily from field to field in pursuit of her problem doesn't surprise those who've followed Meyer's work. "Barbara has always been fearless about applying any technique or technology available to whatever problem she's working on," says Jasper Rine, a Berkeley colleague. "Recently I've been struck by how Barbara has brought this whole new dimension of cell biology to her work. She's pushed the frontiers of microscopy to complement the molecular genetics and biochemistry in her lab. Now she's pushing dosage compensation, which is intrinsically a somatic or mitotic phenomenon, into an investigation of the roles of these proteins in meiotic chromosomes. She keeps uncovering deeper and deeper levels."

> "She was just so amazingly eloquent and clear. Everybody was spellbound by this beautiful young graduate student with long black hair and a stylish wool shirt."

Barbara Meyer is a native Californian, born and raised in Stockton, where her father owned a car dealership and her mother was a housewife. "I'd never really been East until I went to Harvard in graduate school, but everyone there thought I was from the East Coast. But then everyone in California thought I was from the East Coast, too. They still do. I guess I don't fit the stereotypical California mold."

Whatever the mold, Meyer grew up fascinated by numbers, reading, and puzzles. Biology in high school seemed "too phenomenological for my taste," she recalls, and Meyer entered Stanford undecided between a degree in literature or math. After her sophomore year in Germany where she satisfied her Humanities requirements, Meyer returned to Stanford for another look at the sciences. "What changed my thinking," Meyer recalls, "was reading Jim Watson's book, *The Molecular Biology of the Gene*, and realizing that you could ask precise questions in biology and get precise answers." Stanford's David Clayton showed her how to pose questions in biology. In her senior year, she worked in the Clayton laboratory on a mitochondrial-specific thymidine kinase. By the time Meyer enrolled in graduate school at Berkeley, she was zeroing in on the question of choice. How did a simple organism like a virus "decide" whether to switch on its replication machinery after entering a new host cell or integrate into the host genome and remain quiescent? Her Berkeley advisors thought the question too hard for current methods. Soon after, Meyer heard Harvard's Mark Ptashne talk about his work on this very issue in lambda phage. Meyer went East for a summer in the Ptashne lab. There they tried a new approach to analyze the function of lambda repressor, and the experiment went like gang busters. Meyer decided to transfer.

Eventually Meyer published 13 papers as a graduate student with Ptashne, helping him to establish lambda phage as a comprehensive model for gene transcription and regulation. Those papers also established Meyer as a minor celebrity, at least among grad students. Cynthia Kenyon, who is now at UC San Francisco, vividly remembers Meyer in those days. Later Kenyon and Meyer would become friends as overlapping post-docs at the Brenner MRC lab. "But back in Boston, Barbara was already a legend,"

Kenyon recalls. "I remember seeing her first at a discussion of lambda transcription regulation. She was just so amazingly eloquent and clear. Everybody was spellbound by this beautiful young graduate student with long black hair and a stylish wool shirt. Actually, I thought Barbara was almost scary, so I was really glad when we became friends in England."

Meyer recalls that during her early work in *C. elegans*, the only published insights on sex determination genes came from papers written by fly geneticists including one T.W. Cline. "I'd read his papers for years and I always thought he was this old guy at Princeton," Meyer recalls. "Then I finally met Tom Cline and he was this young guy. We talked for a long time after that because we had all these interests in common. Ultimately, I decided that I was interested in more than just Tom's science." They married in 1986, with the idea of eventually returning "home" together to California.

> "She's intense. She brings all different approaches to bear on a problem. She was a tremendous mentor."

Life in Berkeley suits them, says Meyer. The Meyer-Cline house is a showplace for the art they collect and the unique art furniture that Meyer designs and then collaborates with craftsman-furniture makers to construct. They garden, raise parrot finches, and are once again back on the High Sierra trails as Meyer has overcome the last lingering effects of a 1999 hiking accident in rural Costa Rica that shattered her ankle. "We're outdoors people," she says. "So we try to hike all the weekends we can."

Friends, colleagues and students who saw Meyer hobble her way through endless months of treatment and therapy after the accident still speak of it in hushed voices. "Oh, it was just awful to watch," says Anne Villeneuve, a former MIT graduate student now at Stanford Medical School. "Frankly, they didn't think that she would get back this much mobility. But Barbara's a person who gathers all possible information and that's what she did after her accident. It's the same way she does her science. She's tough. She's intense. She brings all different approaches to bear on a problem. She was a tremendous mentor for me."

Says Kenyon, "Barbara has this really incisive, clear-thinking mind and you can see that in her science but it extends into her everyday life. If someone in my family is sick or ill, Barbara will research the condition totally. Then she'll tell me who to see, what to do and what not to do. Barbara is the most loyal friend, always ethical and just smart about everything in life." ■

Call for Proposals

Summer Meeting Series

All ASCB members, individually or in teams, are invited to submit proposals to organize an ASCB Summer Meeting in 2006. The three-day meetings will host about 200 participants.

Topics should be novel (e.g., combining fields that don't traditionally meet together, or focusing on an emerging area) and include:

- a one-page summary of the scientific substance of the meeting;
- names of 3-10 potential speakers (confirmation need not be obtained in advance);
- CVs of proposed lead organizers.

Submit proposals to the American Society for Cell Biology, 8120 Woodmont Ave., Suite 750, Bethesda, MD 20814 or ascbinfo@ascb.org.

Application deadline is **December 1.** Some participation in fundraising may be required of organizers. Meeting dates and sites are to be determined by the Society in consultation with the organizer(s).

DEAR LABBY

Dear Labby,

I am a graduate student in a cell biology lab. My advisor often receives requests to review papers and passes these manuscripts on to me for comments. I usually learn a great deal when I do this, but it takes a lot of time from my research and my family. Also, I am aware that some commercial publishers that send these papers to my PI make enormous profits. My cynical self says, 'here I am, a vastly underpaid graduate student, working for free to feed the pockets of corporate shareholders.' My practical self says, 'I could learn a lot from reading this paper, and I don't want to rock the boat with my PI.' Do you have advice?

—Conflicted Student

Dear Conflicted,
Your issue is a multifaceted one. First, you're asking whether you can say 'no' to your PI and how to do so. In circumstances that you've determined that you need to, just say, "Sorry, I really don't want to do anything to distract me from the experiment that I'm thinking about now." S/he will probably admire your focus on work and maybe even envy you for being able to say 'no' so easily. Most of us are suffering because we can't.

The question of reviewing papers for commercial publishers is much more complicated. You have to weigh the costs and benefits carefully.

As you point out, reviewing papers can be a rewarding and educational experience. By doing so you may improve your science by thinking of a problem in a new way. You will also be accommodating your PI, and if you are credited for the review, you will start to establish a (presumably good) reputation with scientific publishers.

On the other hand, Labby agrees with your perception of the current structure of the commercial scientific publishing business. The scientific community does the research (mostly paid for by the taxpayer), then we prostrate ourselves to have the publishers consider our papers, then we often pay for the privilege of allowing them to sell our work for their profit. In the meantime, we serve on their editorial boards (usually for free), and we review the papers (also for free). So far, the publishers have been able to charge remarkably high and ever accelerating prices for subscriptions, and the taxpayer pays again (through our libraries), so that we can read the work of our next-door neighbors—and sometimes even our own. The only reason that publishers got away with this as long as they did was because before the advent of electronic publishing, they added essential value in printing and distribution. Obviously the value of these services has significantly eroded with the advent of electronic publishing.

If you decide that these considerations prevail over the advantages of reviewing the paper, Labby suggests that you play the game by their own rules: ask your PI to write back that you're happy to review the paper at a fee of $200 per hour (reasonable compensation in line with many consulting jobs) and that you expect to spend 4-5 hours to do it. If they agree, put the money into an account to benefit your lab, e.g., pay for coffee, pizzas and parties. Everybody will love you for it, and the lab and science will prosper. More likely than not, however, the publisher will find another sucker to work for free, in which case you just saved those hours which you can dedicate to work, reading, or spending quality time with the people you love. In any case you can't lose.

But for those journals that abide by the principles of our scientific quest for knowledge and strive to make their content freely available to the citizens of the world, donating a few hours of your time to review a paper is time well spent.

—Labby

Dear Labby,
I entered a graduate program that claimed to be flexible. But now that I have arrived I find that if I want to get my degree I have to work with a formal member of the department, even though there are other people at the University working in areas that I am much more interested in. What should I do?

—Lost

Dear Lost,
If your desired mentor has the publications and expertise in the area you are interested in, I suggest you make a strong request that this person be allowed to be your Ph.D. advisor. Maybe s/he can join the program you're in, or maybe you can transfer between programs. After all, students often "find themselves" in graduate school and their interests change. It would seem to be in everybody's interest that you have the opportunity to work in an area that fascinates you, especially if this flexibility in lab choice was advertised when you were recruited into the program. You may have a lot more leverage than you think: the effects of disgruntled students on the success of future student recruitment efforts can be devastating. So speak up in order to get your problem solved and be prepared to help the next class of students make the right choice by "clarifying" the program rules and eliminating false advertising during next year's recruitment process.

—Labby

See *Labby*, page 12

Gifts

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

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Lydia Villa-Komaroff
Kenneth M. Yamada
Peter D. Yurchenco

Labby, continued from page 11

Dear Labby,
A fellow postdoc at the next bench is using HIV based vector to get her favored gene into human tissue culture cells. She claims that it is the fastest way to get the desired results. I am concerned about the safety of this approach. Should I tell my P.I. or will I seem like a pansy?

—Concerned

Dear Concerned,
Where infectious agents or other biohazards are involved, there are strict safely rules and guidelines that must be followed. Certainly, talk to your fellow postdoc, your P.I., and your lab safety representatives to assure yourself that proper precautions are being taken to make your lab a safe environment to work. If you find out in the course of these discussions that your P.I. does not know that HIV vectors are being used in the lab, run!

—Labby

Dear Labby,
My P.I. wants everyone in the lab to publish in an open access journal. In principle, I am in favor: it would be great if everyone could read my papers, especially those scientists with limited access to journals in smaller institutions and third world countries. But I am also worried about my career and what will happen if I don't publish in conventional high profile journals, even if they are not freely accessible. Surely, recruitment committees count the numbers of papers in the big journals when they make decisions.

—Perplexed

Dear Perplexed,
You must follow what you feel is right for you. Note, however, that there are multiple prestigious open access journals now that aim at publishing the highest impact papers, and the trend towards open access publishing is gaining tremendous momentum. Legislation in the U.S., U.K., and elsewhere may soon require all publicly funded research to be deposited in an open access format. Currently committees do look at the track record for publications that are in high profile journals. However, you may be ahead of your time. There is a risk inherent in any decision. In any event, where to publish your work should be a shared decision between you and your P.I.

—Labby

Dear Labby,
I was involved in helping recruit new students to our graduate Ph.D. program. I overheard an applicant tell how she had invented an abstract and then, when the abstract was accepted for presentation at a national meeting, she made up data for a presentation. Her success led her to be in the top of the national pool for admission to the graduate school. She's smart and charming but I am uneasy about this story. Should I tell my advisor or the graduate admissions committee?

—Uneasy

Dear Uneasy,
Yes, you should definitely let the faculty know this story. If her story is true, she lacks conscience, or a sense of right and wrong. Such unethical behavior, once initiated, is usually propagated and becomes habit. Since she told the story at a recruiting dinner, it's obvious that she sees nothing wrong with this behavior. If she made up the story for entertainment, her judgment is clearly faulty. In either case, I don't think that you would want her in your graduate program – or in any graduate program. Faking data in science is always a mistake. The community is huge and somebody will always try to replicate published experiments. If replication is not possible, then with time that will be found out and become known (usually well known, as everybody loves juicy gossip). In this way, science is inherently self-correcting.

—Labby

Dear Labby,
The specific question that you addressed about Taq polymerase in the June issue of the *ASCB Newsletter* had a specific answer that you didn't provide: Taq is in the public domain (the Roche Taq patent has been invalidated by a court). See www.promega.com/pressrelease/

Note that the word "patent" never appeared in the question. You assumed that there was a valid Taq patent, and based your answer on that, but, as it happens, there isn't (maybe there still was when you wrote the answer!).

This brings up more general questions about correct and incorrect uses of patenting in biotech, to what extent you are intimidated when you think a patent is issued in error and won't stand up, and how hard it is to figure out exactly what the facts are about what's patented and what isn't. It isn't easy to find the court records or a simple set of answers to any question like this, for you or for anyone else in our field.

—Reading You Carefully in San Francisco ■

Direct your questions to labby@ascb.org. Authors of questions chosen for publication may indicate whether or not they wish to be identified. Submissions may be edited for space and style.

PUBLIC POLICY BRIEFING

Ron Reagan Pitches Stem Cells to Democratic Convention

Ron Reagan, son of the late President Ronald W. Reagan, made an impassioned plea to delegates at the 2004 Democratic National Convention to support human embryonic stem cell research.

Reagan, like his mother Nancy Reagan, is a strong supporter of the research. In his remarks, he sought to reassure listeners that fetal tissue is not involved in hESC research, and went on to outline the possible benefits of research.

Reagan used the example of a 13-year-old girl who suffers from juvenile diabetes, describing in detail her daily treatment regimen. He asked the Convention to think about what it would mean to her and to millions of others if the research is not explored. "What excuse will we offer this young woman should we fail her now?", Reagan asked.

The text and video of Reagan's speech is at www.dems2004.org/viewallspeaker. ■

Ron Reagan addressed the Democratic National Convention on the importance of stem cell research.

Stem Cells Become Central Wedge Issue

The increased public and media attention on stem cells since the death of former President Ronald Reagan has raised the interest of Congress and become a major election issue for Democrats. Three bills have been introduced in the House of Representatives that would expand the number of human embryonic stem cell lines eligible for Federal funding.

A bill by Rep. Gary Ackerman (D-NY) would reinstate the 2000 NIH Final Guidelines, also known as the Clinton Guidelines, which were suspended by President Bush and then replaced by a policy that provided Federal funding for a limited number of stem cell lines derived before August 9, 2001.

A bill by Rep. Peter Deutsch (D-FL) would expand the Bush policy to allow embryos from IVF clinics that would otherwise be destroyed to be eligible for Federally funded research. The Deutsch bill would also require that the NIH Director expand the genetic diversity of the eligible stem cell lines. Finally, it would create the Ronald Reagan Office of Stem Cell Research at the NIH to "coordinate all research conducted or supported by the National Institutes of Health that uses human pluripotent stem cells." But the legislation would also limit the Federal funding of nuclear transplantation research.

In the meantime, the bipartisan bill co-authored by Rep. Mike Castle (R-DE) and Diana DeGette (D-CO) (see July *ASCB Newsletter*) would make Federal funds available for stem cells derived from excess embryos at IVF clinics. It has gained 148 co-sponsors from both parties. ■

Democrats Focus on Science

Science is enjoying a major role in the Democratic Party's 2004 campaign for the White House, with biomedical research at front and center.

The Democratic Platform, which was drafted in advance of the Democratic Convention in Boston and serves as the roadmap for the Fall campaign, makes reference to science in ten instances. Along with promising to "put science ahead of ideology in research and policymaking," the Platform commits to a series of scientific-related policies.

Science is enjoying a major role in the Democratic Party's 2004 campaign for the White House, with biomedical research at front and center.

As part of a larger commitment to homeland security, the Platform commits to harnessing the bioscience community in the United States to increase the development of drugs and vaccines.

The Democrats discuss the current problem of minority health disparities in the United States and promise to work to encourage more minority students to enter the sciences. The Platform also speaks of the need to increase the teaching of math and science at all grades.

(T)he Platform attacks the Bush policy on stem cell research as "wrongheaded" and promises to reverse the policy.

Most notably is the commitment by the party to invest in biomedical research to battle disease. The Bush Administration is criticized for slanting scientific information for political purposes. But beyond calling for increased funding for research, the Platform does not mention specific funding amounts.

The Bush Administration is criticized for slanting scientific information for political purposes. In very strong language, the Platform attacks the Bush policy on stem cell research as "wrongheaded" and promises to reverse the policy. It goes on to say, "we will pursue this research under the strictest ethical guidelines, but we will not walk away from the chance to save lives and reduce human suffering."

In his speech accepting the Democratic presidential nomination, Sen. John Kerry (D-MA) said, "What if we have a president who believes in science, so we can unleash the wonders of discovery like stem cell research to treat illness and save millions of lives?"

The Republican Party, which holds its convention at the end of August, has not yet released its Platform.

The Democratic Party Platform is at www.dems2004.org/site/pp.asp?c=luI2LaPYG&b=97933. ■

Congress Begins Work on 2005 Budget; NSF Faces Cuts

Before adjourning for its annual August recess and the Democratic and Republican Conventions, the House of Representatives started work on 13 appropriations bills that comprise the 2005 Federal budget.

The House Appropriations Subcommittee on Labor, Health & Human Services and Education has approved a bill that would in 2005 provide $28.5 billion, $727 million or 2.7% more than appropriated in 2004, for the National Institutes of Health. This matches the request of President Bush.

The National Science Foundation fared worse when the Subcommittee on Veterans Affairs and Housing & Urban Development cut the NSF budget by $110 million compared to 2004. The President had asked for $5.744 billion. The Committee, however, provided only $5.466 billion, $277 million less than the President's request.

(T)he Subcommittee on Veterans Affairs and Housing & Urban Development cut the NSF budget by $110 million compared to 2004.

The Subcommittee also deviated from tradition by declining to specify funding amounts for each of the NSF directorates,

such as the Bio Directorate. Instead, the Committee instructs the NSF to propose a specific spending plan thirty days after passage of the bill. ■

HHS Creates National Stem Cell Bank

In reaction to mounting pressure to expand the Bush stem cell policy, Health & Human Services Secretary Tommy Thompson has announced the development of a National Stem Cell Bank and the creation of three new Centers of Excellence for Translational Stem Cell Research. Thompson released the news in letters to Sen. Arlen Specter (R-PA) and Speaker of the House J. Dennis Hastert (R-IL).

The Bush Administration had opposed requests for the development of a stem cell bank for several years, including a call by the ASCB to create such a bank in 2001. In his letters, the Secretary announced that the "stem cell bank will consolidate many of the stem cell lines eligible for funding in one location." Cost reduction for researchers, uniform quality control and expanded knowledge of stem cells are offered as reasons for the development of the repository. There is no indication that the bank will expand the number of stem cell lines currently available to researchers.

The new Centers of Excellence will be funded with $18 million over four years with the goal of using stem cells to develop "useful therapies for diseases."

Continued, page 16

JOINT STEERING COMMITTEE FOR PUBLIC POLICY CAPITOL HILL DAY

Joint Steering Committee for Public Policy Capitol Hill Day attendees, with Congressional Biomedical Research Caucus Speaker Linda Griffith (at podium).

Jesse Kerns, staff to Rep. Jim McDermott (D-WA), meets with Jayanata Debnath of Harvard Medical School and Mara Jeffress of the University of Washington.

Hudson Freeze of the Burnham Institute and Rep. Susan Davis (D-CA).

Sandra Haberny of New York University, Alison Milutinovich of Johns Hopkins University, and David and Janet Shucard of SUNY Buffalo met with staff to Rep. Carolyn Maloney (D-NY).

Thompson states that, "The President's embryonic stem cell policy holds tremendous and yet-untapped potential, and we have much, much work to do within the policy as it exists. Before anyone can successfully argue that the stem cell policy should be broadened, we must first exhaust the potential of the stem cell lines made available within the policy, as well as the ability of the private sector to go beyond the policy." ■

Zerhouni Caucuses with "Stakeholders" on Congressional Call for Open Access

Current Congressional report language would require a copy of any scientific manuscript based on NIH-funded research released to PubMed Central immediately for posting six months later. In cases where NIH grants paid for publications charges, posting would be immediate. The requirement would apply to manuscripts published in any of the scientific journals listed in PubMed.

Zerhouni insisted that "the status quo cannot stand" because of the public's right to enjoy reasonable access to taxpayer-funded research, and because the NIH needs a comprehensive repository for the research it funds.

In the report accompanying the House version of the FY2004 Labor, Health & Human Services and Education Appropriations bill, the House Appropriations Committee requested recommendations from the National Institutes of Health for ways to ensure that the results of publicly funded research be freely accessible to the American public.

Many scientific publishers reacted swiftly and with alarm. In response, NIH Director Elias Zerhouni called a meeting in Bethesda of key scientific publishing "stakeholders", held on July 28 at the NIH. The sixty publications and organizations represented included *JAMA*, *NEJM*, Public Library of Science, FASEB and ASM. The ASCB was represented by Executive Director Elizabeth Marincola.

Zerhouni insisted that "the status quo cannot stand" because of the public's right to enjoy reasonable access to taxpayer-funded research, and because the NIH needs a comprehensive repository for the research it funds. Some publishers countered that the industry is still in an experimental phase with regard to business models that allow both access and profitibility. Others expressed objection to the notion of a Congressional mandate for publishing practices at all. Former Congresswoman Pat Schroeder, who is President and CEO of the American Association of Publishers, objected strenuously to the lack of consensus-building prior to the appearance of the language.

Marincola supported the demand for open access, suggesting that while details of the report language may benefit from refinement, the major requirement that publicly-funded content be made available after a six-month delay would not threaten the health of otherwise viable publications or scientific societies. She also speculated that it may be in the interest of the industry to interfere with change as long as it can, by raising the specter of government interference or of ruining valued journals with long-established traditions.

The report also instructs the NIH to ensure the protection of copyright by NIH grantees.

The language was driven by a perceived lack of public access to the results of Federally-funded research and the increasing subscription costs of many research journals. ■

GAO Reports Mixed Progress for Women in Science

Over the last three decades, the participation of women in the sciences has increased, but

men still significantly outnumber women in all fields of science. Despite considerable gains, female faculty still lag behind their male colleagues in terms of salary and rank. Under Title IX of the Education Amendments of 1972, students and faculty at institutions receiving Federal assistance for educational programs are protected against gender discrimination. At the request of Senators Barbara Boxer (D-CA) and Ron Wyden (D-OR), the Government Accountability Office (GAO) prepared a report entitled "Women's Participation in the Sciences Has Increased, but Agencies Need to Do More to Ensure Compliance with Title IX," to explore gender discrimination in the fields of mathematics, engineering and science.

The GAO report focuses on four federal science agencies—the Department of Education, the Department of Energy, the National Aeronautics and Space Administration and the National Science Foundation—who among them award billions of dollars in grants each year. The GAO found that only the Department of Education was successful in meeting the terms of Title IX because it was the only agency that conducted periodic compliance reviews of its grant recipients to ensure adherence to the law.

Despite considerable gains, female faculty still lag behind their male colleagues in terms of salary and rank.

The report recommends that the Administrator of NASA, the Secretary of Energy and the Director of the NSF take necessary actions to ensure that compliance reviews of grantees are conducted as required by Title IX.

A copy of the GAO report is available at www.gao.gov. ■

CONGRESSIONAL BIOMEDICAL RESEARCH CAUCUS

Linda Griffith of the Massachusetts Institue of Technology spoke on Body on a Chip: Early Steps Toward Tissue & Organ Regeneration.

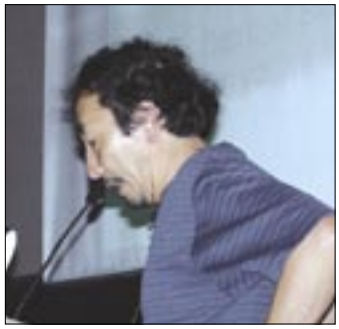
Louis Kunkel (left) of the Harvard Medical School and Eric Hoffman (right) of the Children's National Medical Center addressed the Congressional Biomedical Research Caucus on Muscular Dystrophy.

The ASCB Gratefully Acknowledges the Support of the Following Cytokinesis Meeting Sponsors:

- Chroma Technology Corporation
- Cytokinetics, Inc.
- *The Journal of Cell Biology*
- The National Institute of General Medical Sciences/NIH
- The National Science Foundation
- University Of Massachusetts Medical School

Tom Pollard spoke on Contractile Ring Assembly and Constriction

Poster Sessions



Issei Mabuchi

Summer Meeting, continued from page 1

The first was the dramatic conservation of key players which operate in cytokinesis. This was exemplified by the fact that large-scale screens going on in the O'Farrell/Mitchison/Field, and Heald/Meyer/Skop labs turned up similar lists of gene products which function during cytokinesis.

A second trend was the importance for membrane dynamics in cytokinesis. The Doxsey lab showed that in mammalian cells many components of the vesicle fusion machinery are important for abscission (the final step of cytokinesis), and without these components, cells are able to constrict the contractile apparatus but are unable to separate. Similar findings showed that membrane dynamics are important for cytokinesis in yeast, *Drosophila*, echinoderms, and *C. elegans*. The role of membrane trafficking during cytokinesis is clearly moving to the forefront of research in cytokinesis.

A third trend was the apparent diversity by which cells determine the position of the cytokinetic furrow. In many organisms the microtubule array is very important (*Drosophila*, echinoderms, *C. elegans*, and mammalian cells), but in others, such as *S. pombe*, the nucleus positions the furrow. Even within species where microtubules are essential, there is considerable variation. Cells which disassemble the nucleus in mitosis may rely on chromosome-associated stable microtubules to position the furrow, as was suggested by the Salmon lab. However, the Zhang lab proposed that in grasshopper spermatocytes, microtubules alone may be sufficient to form a furrow.

A fourth trend was the emphasis on negative regulation of furrowing activity. The Bowerman lab gave evidence that microtubules are required to inhibit furrowing outside of the primary contractile ring. In addition, the Sugimoto lab showed that differential microtubule nucleation pathways could determine whether or not a microtubule array induced or inhibited furrowing activity. Interestingly, the Robinson and Wang labs both showed that regulating the actin cytoskeleton outside of the contractile may also be crucial for proper cytokinesis.

David Burgess, Raymond Rappaport and Barbara Rappaport

Outdoor dining at UVM's Cook Common

Lunch at Oakledge Park

Lastly, the trend of multiple redundant pathways which work together during furrow constriction also became apparent during the meeting. For example, the Oegema lab showed that the anillin/septin pathway is redundant with the rho kinase pathway for furrow constriction in *C. elegans*, with either pathway being able to compensate in the absence of the other.

All in all, the meeting was a whirlwind of exciting new data to which this short review cannot do justice, but for those who were there, it was a great meeting.The organizer, Yu-Li Wang, as well as co-organizers Tom Pollard, Christine Field, David Burgess, and Bruce Bowerman, deserve the gratitude of the cytokinesis community for making it happen.

—Julie C. Canman, University of Oregon

MEMBERS IN THE NEWS

Joan Brugge, an ASCB member since 1994, was appointed Chair of the Department of Cell Biology at Harvard Medical School.

Joan Brugge

Bruce Jackson

Bruce Jackson of Boston University Medical College, an ASCB member since 1992, was named Senior Researcher at TERC, a national education research and development organization based in Cambridge, MA.

Charles Sherr

Bruce Stillman

Charles Sherr of St. Jude Childeren's Research Hospital, an ASCB member since 1992, received the Mott Prize, an award given annually by the General Motors Cancer Research Foundation.

Bruce Stillman of the Cold Spring Harbor Laboratory, an ASCB member since 1993, was awarded the Alfred P. Sloan, Jr. Prize, an award given annually by the General Motors Cancer Research Foundation. ■

BSCB Selects Young Cell Biologist

Bernard Strauss

The British Society for Cell Biology has named Bernard Strauss from the Department of Anatomy at the University of Cambridge as the Young UK Cell Biologist for 2004.

Strauss' winning abstract is titled, *Cell shape controls spindle orientation in the* Xenopus *blastula*.

He will attend the ASCB Annual Meeting in Washington, DC, to present his work. ■

What Happened to My Figures?!

After all the work you put into your research and getting your article published, it's a shock to crack open that journal and find the printed figures bear little resemblance to the images you thought you submitted. Here are some suggestions to help minimize such unpleasant surprises.

A Few Tips to Take the Headache Out of Graphics Prep

Do your homework. Before you start preparing your figures, read the graphics specifications published by the journals you're most likely to submit to. Specs vary from journal to journal, and they are often available online and can be quite instructive. Some important things to look for are resolution requirements for each type of graphic, preferred file formats, and page dimensions.

Most of the best graphics programs perform similar tasks at comparable quality: the important thing is to learn to use what you have well.

Learn to use your software . . . even if it means reading the dreaded manual. Whether it's Illustrator, Corel-Draw, or something else, most of the best graphics programs perform similar tasks at comparable quality: the important thing is to learn to use what you have well. Any program worth the price will have instructions for converting your graphics to the file formats required by publishers. Learning to use professional graphics-prep software can be time consuming, but if you use another kind of program because you're more familiar with it, you'll be disappointed. Programs like Microsoft Word automatically down-sample your images and embed them in the document as screen-resolution graphics (usually 72 dots per inch [dpi]). That means the images are now at a resolution too low for professional off-set printing. Many people run into similar trouble when they make figures in PowerPoint. PowerPoint has a "Compress Pictures" wizard that downsamples the embedded figures to a lower resolution (96-200 dpi) in order to decrease the file size. If you use this feature, make a low-res copy for presentations and keep another version for publishing that has the figures embedded at their highest resolution.

Learning to use professional graphics-prep software can be time consuming, but if you use another kind of program because you're more familiar with it, you'll be disappointed.

Keep your originals. Some file formats, like JPEGs, are "lossy," which means that every time you re-save a JPEG, you lose resolution. Always keep an unadulterated, high resolution original version of each element of your figures; when you want to manipulate the image, make a copy first.

Size for print. More than likely, your figures will be reduced to fit the column width of the journal, so it's a good idea to create figures as near to that size as possible. Be sure your fonts are neither too big nor too small and the visual information is readable at that size—and don't forget to embed the fonts. Also, consider how your figures will look as a group, and size the elements relative to one another. For example, make sure stains have the same dimensions from one figure to the next.

Plan ahead. Beware that converting graphics from one format to another can cause color changes, among other problems. It's best to choose the correct software for the type of image you want and create it in that software from the start.

Image Types

The three most common image types are halftones, line art, and combination figures. Each type is processed differently during

printing and therefore has different specifications.

Halftones. The best example of a halftone is a photograph, but halftones include any image that uses continuous shading or blending of colors or grays, such as gels, stains, microarrays, brain scans, and molecular structures. Most publishers require that halftone images have a resolution of 300 dpi. Some software will measure ppi (pixels per inch) rather than dpi, but for all intents and purposes ppi and dpi are interchangeable. To prepare and manipulate halftone images, use Photoshop or a comparable photo-editing program, and save the files in TIFF format.

Line art. The distinguishing feature of line art is that it has sharp, clean lines and geometrical shapes, usually against a white background, such as tables, charts, graphs, and gene sequences. Line art can be color or black and white; color fills are solid, without gradation or fades. To prepare and manipulate line art graphics, use Illustrator or a comparable vector drawing program, and save the files in EPS format. Line art resolution should be very high—around 1200 dpi—in order to maintain the crisp edges of the lines and shapes. Note that text placed in an image is for all practical purposes line art, which brings us to…

Combination figures. These are the most common type of scientific figure because most images combine halftones with text. While the former only needs to be at 300 dpi resolution, the latter needs 1200 dpi—otherwise text ends up looking soft, and lines can be faint and/or pixilated. Most publishers split the difference and require a resolution between 600 and 900 dpi. Depending on what type of image dominates the figure, you'll want to prepare it in the program that best handles that type—Photoshop for halftones, Illustrator for line art—and save it in the corresponding file format.

Color

The two biggest problems encountered when converting graphics from one file format to another are loss of resolution and changes in color output. The first can be ameliorated by using the steps described above; the second deserves further discussion. Color reproduction is a fuzzy science, and what you see in your office is not necessarily what you get in print, since colors vary widely from one monitor to the next, from one printer to another. One thing you can do to preserve the colors of your original file is to put the image through as few conversion steps as possible. Once again, that means planning ahead and knowing before you make the image what kind of output you want in the end.

The two biggest problems encountered when converting graphics from one file format to another are loss of resolution and changes in color output.

CMYK vs. RGB. If the journal you intend to publish in is a print journal, then choose a CMYK color space for your graphics; if it's an online journal, choose RGB; if it's both, find out from the journal which format they prefer. Switching back and forth between CMYK and RGB will cause the colors to change, sometimes dramatically. Similarly, changing from one file format to another can cause color changes. For example, opening an EPS of a microarray in Photoshop can result in a loss of several degrees of green—and thus some of your visual data. You can reduce the risk of color loss by sending high-quality images in a file format that is as close as possible to their native format, carefully reviewing your proofs for accurate color, and saving your original, unadulterated images in case you need to remake the figure from scratch or send the originals to the publisher for them to remake or use to match color.

Programs like Microsoft Word automatically downsample your images and embed them in the document as screen-resolution graphics (usually 72 dpi). That means the images are now at a resolution too low for professional off-set printing.

Perhaps most important, ask questions. Scientific publishing is a service industry, and once your paper is accepted by a journal, the production staff should be available to help you with the technical details of preparing figures that meet the journal's specifications. You need to prepare the figures, but the publisher has a responsibility to ensure their print quality, so don't be shy about asking for technical assistance. ■

—Liana Holmberg

The ASCB 44th Annual Meeting

December 4-8, 2004
Washington, DC

Harvey Lodish, *President*
Sandra Schmid, *Program Chair*
Norka Ruiz Bravo, *Local Arrangements Chair*

Keynote Symposium

Sunday, December 4, 6:00 PM

Cell Biology - Rising to Meet the Medical Challenges of the Next Century
Peter Kim, *Merck Research Laboratories*
Sir Paul Nurse, *The Rockefeller University*

Symposia

Sunday, December 5

Directed Cell Migration in Development
Susan McConnell, *Stanford University*
Erez Raz, *Max Planck Institute*
Pernille Rorth, *European Molecular Biology Laboratory*

The Mechanics of Membrane-Bound Machines
Peter Agre, *The Johns Hopkins University*
Jeff Dangl, *University of North Carolina*
Ehud Isacoff, *University of California, Berkeley*

Monday, December 6

Regulation of Cellular Programs
Raymond Deshaies, *California Institute of Technology*
Richard Kessin, *Columbia University*
Peter Walter, *University of California, San Francisco*

Small RNAs & Gene Regulation
Robin Allshire, *The Wellcome Trust Centre for Cell Biology, University of Edinburgh*
Jim Carrington, *Oregon State University*
Thomas Tuschl, *The Rockefeller University*

Tuesday, December 7

The Cytoskeleton & Spatial Organization in Cells
Joan Brugge, *Harvard Medical School*
David Drubin, *University of California, Berkeley*
Joel Rosenbaum, *Yale University*

Modeling of Complex Cellular Behaviors
June Nasrallah, *Cornell University*
Garrett M. Odell, *University of Washington*
John Tyson, *Virginia Tech*

Wednesday, December 8

Cell Biology of Aging
Judith Campisi, *Lawrence Berkeley National Laboratory*
Cynthia Kenyon, *University of California, San Francisco*
Doug Wallace, *University of California, Irvine*

Minisymposia

Minisymposia will be scheduled eight each afternoon, Sunday through Wednesday of the Annual Meeting. Four additional speakers for each minisymposium will be selected by the co-chairs from among abstract submissions.

Asymmetry in Development
Juergen Knoblich, *Institute of Molecular Biotechnology, Vienna, Austria*
Geraldine Seydoux, *The Johns Hopkins University*

Autophagy & Organelle Turnover
Beth Levine, *Univ of Texas SW Medical Center*
Yoshinori Ohsumi, *National Institute for Basic Biology, Okazi, Japan*

Cargo Selection & Vesicle Formation
Bruno Antonny, *Institut de Pharmacologie Moléculaire & Cellulaire, Valbonne, France*
Linton Traub, *University of Pittsburgh School of Medicine*

Cell Biology of the Immune System
Janice Blum, *Indiana University*
Daniel Davis, *Imperial College London, UK*

Cell Biology of Intracellular Pathogens
Michel Desjardins, *University of Montréal, Canada*
Julie Theriot, *Stanford University*

Cell Biology of the Neuron
Shelley Halpain, *The Scripps Research Institute*
Josh Kaplan, *Massachusetts General Hospital*

Cell Cycle
Susan Forsburg, *The Salk Institute for Biological Studies*
Thomas McGarry, *Northwestern University*

Cell Junctions & Polarity
Andre Le Bivic, *Developmental Biology Institute of Marseilles, France*
Enrique Rodriguez-Boulan, *Cornell University*

Cell Migration & Adhesion
Margaret Frame, *Beatson Institute for Cancer Research, Glasgow, UK*
Yu-li Wang, *University of Massachusetts Medical School*

Cell Regulation Through Extracellular Proteolysis
Carl Blobel, *Memorial Sloan-Kettering Cancer Center*
Marcos Milla, *University of Pennsylvania*

Chemical Biology
Ben Cravatt, *The Scripps Research Institute*
Barbara Imperiali, *Massachusetts Institute of Technology*

Chromatin Structure & Functional Organization of the Nucleus
Shelley Berger, *The Wistar Institute*
Jan Ellenberg, *European Molecular Biology Laboratory, Heidelberg, Germany*

Control of Gene Expression
Ronald Breaker, *Yale University*
Stephen Buratowski, *Harvard Medical School*

Cytokinesis & Cellularization
Ahna Skop, *University of Wisconsin, Madison*
William Sullivan, *University of California, Santa Cruz*

Cytoskeletal Dynamics
Arshad Desai, *University of California, San Diego*
Laura Machesky, *University of Birmingham, UK*

Diverse Cellular Functions for Ubiquitin & Related Proteins
Erica Johnson, *Thomas Jefferson University*
Wes Sundquist, *University of Utah*

ECM Biogenesis & Function
Enid Neptune, *The Johns Hopkins School of Medicine*
Peter Yurchenco, *UMDNJ-RW Johnson Medical School*

Establishment & Maintenance of Membrane Subdomains
Rob Parton, *University of Queensland, Australia*
Catherine Rabouille, *UMC Utrecht, The Netherlands*

Intermediate Filaments
Robert Goldman, *Northwestern University*
Harald Herrmann, *German Cancer Research Center*

Intraflagellar Transport in Human Health
Martina Brueckner, *Yale University*
Gregory Pazour, *University of Massachusetts Medical School*

Microtubule-Based Motility
David Burgess, *Boston College*
Sarah Rice, *Northwestern University*

Molecular Microscopy in Living Cells
Klaus Hahn, *The Scripps Research Institute*
John Heuser, *Washington University in St. Louis*

The Nuclear Envelope: Structure & Transport Mechanisms
Tom Misteli, *The National Cancer Institute/NIH*
Katherine Ullman, *University of Utah*

Procaryotic Cell Biology
Piet de Boer, *Case Western Reserve University*
Kit Pogliano, *University of California, San Diego*

Protein Translocation Across Membranes
Arthur Johnson, *Texas A&M University System Health Science Center*
Carla Koehler, *University of California, Los Angeles*

Secretory Organelles & Regulated Exocytosis
Michael Marks, *University of Pennsylvania*
Aaron Turkewitz, *University of Chicago*

Signal Transduction in Development
David Greenstein, *Vanderbilt University*
James Posakony, *University of California, San Diego*

Signal Transduction Networks
Anton Bennett, *Yale University*
Margaret Chou, *University of Pennsylvania*

Signaling in Cell Proliferation & Death
Jean Wang, *University of California, San Diego*
Jeff Wrana, *Samuel Lunenfeld Research Institute, Mt. Sinai Hospital, Toronto*

Stem Cells
Alejandro Sánchez Alvarado, *University of Utah*
Sean Morrison, *University of Michigan*

Systems Biology: Theory & Practice
Joseph Ecker, *The Salk Institute for Biological Studies*
Trey Ideker, *University of California, San Diego*

Thermal & Mechano-Sensation
Monica Driscoll, *Rutgers University*
Ardem Patapoutian, *The Scripps Research Institute*

To register, submit an abstract or for more information, contact the ASCB at (301) 347 9300 • ascbinfo@ascb.org • www.ascb.org

Faculty Position
Cell Biology

The Department of Biological Sciences at Vanderbilt University seeks candidates to fill a tenure-track faculty position in cell biology. We are especially interested in candidates studying topics such as protein trafficking, cell polarity, regulation of the cytoskeleton, signal transduction or other areas that complement existing strengths in our department and in any system (plant, animal, microbial). The central criteria for this position are excellence in research and the ability to teach undergraduate and graduate students with a high level of effectiveness. For information about the Department, visit our website: "http://sitemason.vanderbilt.edu/biosci". Applicants should send a letter of application together with a curriculum vitae, a statement of current and future research interests, three letters of recommendation, teaching evaluations, if available, and selected reprints to: Cell Biology Search Committee, Department of Biological Sciences, Vanderbilt University, VU Station B 351634, Nashville, TN 37235-1634 U.S.A. Review of applicants will begin October 1, 2004, and will continue until the position has been filled. Vanderbilt University is an Affirmative Action / Equal Opportunity Employer. Women and minority candidates are encouraged to apply.

Faculty Position
Molecular Genetics

The Department of Biological Sciences at Vanderbilt University seeks candidates to fill a tenure-track faculty position in molecular genetics. While all applications are welcome, we are especially interested in candidates studying replication, recombination, repair, protein or RNA targeting, cytoskeleton, or intracellular organization in any system (plant, animal, microbial). The central criteria for this position are excellence in research and the ability to teach undergraduate and graduate students with a high level of effectiveness. For information about the Department, visit our website: "http://sitemason.vanderbilt.edu/biosci". Applicants should send a letter of application together with curriculum vitae, a statement of current and future research interests, three letters of recommendation, teaching evaluations, if available, and selected reprints to: Molecular Genetics Search Committee, Department of Biological Sciences, Vanderbilt University, VU Station B 351634, Nashville, TN 37235-1634 U.S.A. Review of applicants will begin October 1, 2004, and will continue until the position has been filled. Vanderbilt University is an Affirmative Action / Equal Opportunity Employer. Women and minority candidates are encouraged to apply.

GRANTS & OPPORTUNITIES

BWF/HHMI Lab Management Guide. *Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty* is available at www.hhmi.org/labmanagement.

NIH Virtual Career Center. The NIH Office of Education offers resources for exploring employment options and career development opportunities in health sciences. See www.training.nih.gov/careers/careercenter/index.html.

NIAID Fellowships. The NIH National Institute of Allergy and Infectious Diseases solicits applications from biodefense training and development researchers of prevention, detection, diagnosis and treatment of diseases caused by potential bioterrorism agents. Grants, fellowships and career development awards. See www.niaid.nih.gov/biodefense/research/funding.htm.

NIGMS Grants. The National Institute of General Medical Sciences offers exploratory Center Grants for Human Embryonic Stem Cell Research. Deadline: October 20. See http://grants.nih.gov/grants/guide/rfa-files/RFA-GM-05-004.html.

HFSP Fellowships. The Human Frontier Science Program is accepting applications for research fellowships. Deadline: August 26. See www. hfsp.org. ■

Cell Regulation Now Available on Pubmed Central

Cell Regulation was the initial title of *Molecular Biology of the Cell* when it was launched in 1989.A complete electronic archive of *Cell Regulation* is now freely available on PubMed Central. An electronic archive of past issues of *Molecular Biology of the Cell* was released in March. Both journals were among a small group of journals initially selected by the National Library of Medicine to create a complete archive of issues not previously available in electronic form. The costs of the project were underwritten by NLM. Each journal issue was scanned cover-to-cover and a PDF file was created for every article. Grayscale and color graphics that appear in the articles are reproduced as true representations of the original pages. OCR text of sufficient quality to build indexes was generated automatically from the scanned pages. The complete archives of *MBC* and *Cell Regulation* is available at www.pubmedcentral.nih.gov/.

ASCB Annual Meetings

2004
Washington, DC
December 4-8

2005
San Francisco
December 10-14

2006
San Diego
December 9-13

2007
Washington, DC
December 1-5

2008
San Francisco
December 13-17

2009
San Diego
December 5-9

MEETINGS CALENDAR

October 6-9. Austin, TX.
American Physiological Society Conference: The Integrative Biology of Exercise. See www.the-aps.org.

October 20-23. St. Malo, France.
Third International Workshop on the CCN Family of Genes. See http://ccnworkshop3.free.fr/.

November 4-7. San Francisco, CA
19th Annual Meeting of the International Society for Biological Therapy of Cancer. See www.ISBTc.org.

November 10 - 13, San Diego, CA
Second National Meeting of the American Society for Matrix Biology. See www.asmb.net/national-meeting/

December 4-8. Washington, DC
The American Society for Cell Biology 44th Annual Meeting. Late abstract deadline: October 7. See www.ascb.org.

July 13-17, 2005. New York, NY.
Second International Symposium on Triglycerides, Metabolic Disorders and Cardiovascular Diseases. See www.lorenzinifoundation.org/.

September 7-11, 2005. Cambridge, England
Strategies for Engineered Negligible Senescence (SENS), 2nd Conference See http://www.gen.cam.ac.uk/sens2/. ■

ASCB Annual Meeting
December 4-8, 2004
Washington, DC

Late Abstract Deadline: October 7
See www.ascb.org

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