THE AMERICAN SOCIETY FOR CELL BIOLOGY

NEWS LETTER

VOLUME 27, NUMBER 9 September 2004

CONTENTS

Post-Election Budget Cuts 1
E.E. Just Lecture.....1
Alberts Award.....1
President's Column.....2
Gifts.....6
Letter to the Editor.....6
Members in the News.....6
Member Profile.....8
Dear Labby.....11
Public Policy Briefing 13
WICB.....16
Annual Meeting 18
Grants & Opportunities 20
Classified 22
Calendar 24

Bush Prepares Post-Election Budget Cuts

NIH, NSF on chopping block

A leaked Administration budget projection suggests that the Bush Administration is planning significant budget cuts for FY2006. The National Institutes of Health budget would be reduced by 2.1% to $28 billion.

For 2005, the NIH budget is expected to be $28.6 billion. If re-elected, President Bush will have to send an FY2006 budget to Congress shortly after inauguration.

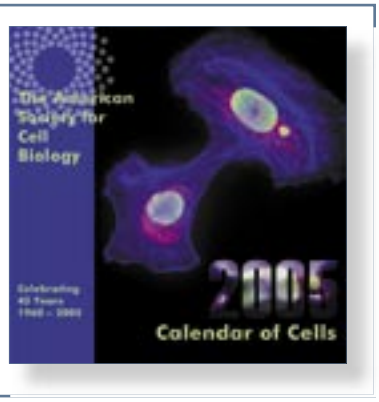
The leaked document suggests that the Administration is preparing to recommend significant cuts in politically sensitive and popular programs. In some cases, the reductions would come from programs that are expected to receive budget increases in the FY2005 budget, which is currently being debated by Congress.

The memo indicates the virtual elimination of the expected $1.7 billion increase in 2005 for the Department of Education with a $1.5 billion reduc- See *Budget*, page 15

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

ASCB 45th Anniversary 2005 Calendar

Order at www.ascb.org



Murray to Present E.E. Just Lecture

Sandra Murray

The ASCB Minorities Affairs Committee has named Sandra Murray of the University of Pittsburgh School of Medicine to present the 11th annual E.E. Just Lecture.

Murray's lab uses *in vitro* methods to study gap junctions and gene regulation following treatment of cells with compounds known to influence junction expression and to promote adrenal steroidogenesis.

Murray will present the Lecture, *Function at the Junction: Analysis of Gap Junction Protein Expression and Dynamics in Adrenal Cortex*, on Sunday, December 5 at the ASCB Annual Meeting in Washington, DC. ■

Wood Named to Alberts Award

William Wood

ASCB Education Committee Chair Kenneth Miller announced that William Wood of the University of Colorado will receive the seventh annual Bruce Alberts Award for Outstanding Contributions to Science Education.

Wood's research is on the genetic control and molecular biology of embryonic axis formation and pattern formation in development of the nematode *C. elegans*. He authored the textbook *Biochemistry*, still widely used, and founded the National Academies Summer Institute on Undergraduate Biology Education.

The Award will be presented on Sunday, December 5, at the ASCB Annual Meeting in Washington, DC. ■

The American Society
for Cell Biology
8120 Woodmont Avenue, Suite 750
Bethesda, MD 20814-2762
Tel: (301) 347-9300; Fax: (301) 347-9310
ascbinfo@ascb.org; www.ascb.org

Elizabeth Marincola
Executive Director

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

Elizabeth Marincola
Editor
John L. Saville
Production Manager
Nancy Moulding
Production Assistant
Kevin Wilson
Public Policy Briefing
Ed Newman
Advertising Manager
John Fleischman
Member Profile

Deadlines for submission of articles and advertising materials:

Issue	Deadline
November	October 1
December	November 1
January 2005	December 1

The *ASCB Newsletter*
ISSN 1060-8982
Volume 27, Number 9
September 2004

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

Harvey Lodish

PRESIDENT'S COLUMN

Should Cell Biologists Study Human Disease?

Why is it that so few cell biologists work directly on understanding the molecular and cellular basis of human disease? Clearly there are many cultural, historical, political, and educational aspects of this problem. But solution of these issues is not difficult and would greatly enhance our ability to understand and eventually treat a host of untreatable pathologies. Many of these diseases pose difficult research problems, but success in science is measured by one's achievement in solving difficult problems, not easy ones. Importantly, I see many opportunities for young independent investigators to advance their careers by studying complex disease-related problems.

When I was a junior faculty member in the late 1960's and 1970's, molecular and cellular biology were considered "pure" sciences; any implication that our research could be useful was discouraged by senior scientists. Neither I nor my compatriot PhDs had any serious knowledge of human physiology or pathobiology, and nowhere in our undergraduate or graduate curricula did we or our students learn anything about organ function or whole body metabolism or infectious disease. A few changes did occur in the early 1980's when it became apparent that the obscure work we were doing on gene structure and expression could actually be useful to the nascent biotechnology industry. As I have commented in a recent article[1], there still remains a cultural divide between scientists in academe and in industry, even though they have a common education and research training.

In the late 1960's and 1970's, molecular and cellular biology were considered "pure" sciences; any implication that our research could be useful was discouraged.

Unfortunately, there is also a huge cultural divide between basic, mechanistic, studies in cell biology and the great unmet needs of medicine in understanding and eventually treating major human diseases.

Students and faculty should realize that immense insights into basic cellular and genetic mechanisms have already come from intensive studies of some human diseases. Studies of cancer cells, to take just one example, have illuminated many aspects of cell growth control, receptor kinases, and cell cycle regulation, as well as the roles of integrins and extracellular matrix proteins in tissue organization. Future studies on major untreatable diseases also promise considerable insight into other basic mechanisms.

Unfortunately, there is also a huge cultural divide between basic, mechanistic, studies in cell biology and the great unmet needs of medicine.

The current divide between basic and medical science—and the opportunities for basic cell biology—were pushed to the front of my mind as I attended small meetings on metabolic problems in human obesity and on new approaches to neurodegenerative disease.

Immense insights into basic cellular and genetic mechanisms have already come from intensive studies of some human diseases.

Alzheimer's disease, Parkinson's disease, and amyotrophic lateral sclerosis (Lou Gehrig's disease) are incurable. Not only are there no cures in the pipeline, there is a significant lack of understanding of the underlying pathology. Why,

late in life, should specific classes of neurons degenerate? Are the tangles of precipitated tau protein (a microtubule binding protein) that accumulate in the brains of Alzheimer's disease patients the cause of the disease or a side-effect? Or is the cause related to the fibers of Aß1-42, a 42 amino acid peptide cleaved from a membrane-spanning APP protein by combined action of a metalloproteinase and an enzyme that apparently cleaves APP in the middle of the membrane? Why do tau and Aß1-42 form aggregates? Do these kill the neuron and if so, how? Are defects in vesicle traffic up and down the axon a part of the problem?

These are some of the key questions in the field, and these are questions of basic cell biology. Yet until a few years ago, essentially no scientists trained in fundamental cell biology worked on these issues. The field was the provenance of neuropathologists and neurologists. Anatomic abnormalities seen at autopsy coupled with a few insights obtained from cloning disease genes from rare families with genetic predisposition were the main bases for speculation of the ultimate cause of the pathology.

In the past few years, exciting new work on the mechanism of protein folding into aggregates, coupled with genetic and cellular studies of mutant candidate proteins in flies, worms, and even yeasts, have yielded major advances in understanding of this and other neurodegenerative diseases. Yet fundamental questions remain and all too few young cell biologists are working in these areas or are even aware of the problems and opportunities presented by these diseases.

Fundamental questions remain and all too few young cell biologists are working in these areas or are even aware of the problems and opportunities presented by diseases.

Consider obesity—currently a huge and growing epidemic in all Western countries and many in Asia. In several states, over a

quarter of the adult population is clinically obese and a sizable percentage morbidly obese. Obesity will have a tremendous impact on public health since hugely overweight individuals have a very high likelihood of developing diabetes and cardiovascular disease and their sequelae of blindness, strokes, and limb amputations. Especially worrisome is the increase in obese, pre-diabetic teenagers who are already insulin resistant and likely will soon develop full-fledged diabetes; these people likely will require lifetime treatment and have poor prognoses.

I am sad to report that most of our MIT biology PhD students receive their degrees without knowing the functions of major body organs such as the liver or kidney.

The cell and molecular biology of obesity is only slowly being dissected. Work in this field has largely been done by scientists trained in nutrition and medical endocrinology; the few "basic" scientists in this field, many of whom have the MD or MD and PhD degrees, have made many of the key advancements.

Adipose (fat) tissue from obese individuals contains larger adipocytes than those in lean individuals, and these have huge fat droplets. The tissue is heavily infiltrated with macrophages and other stromal cells that produce inflammatory cytokines such as TNFα. These in turn affect the gene expression pattern in adipocytes, down regulating many proteins essential for insulin action. In particular, the profile of adipocyte-secreted proteins – including proteins like adiponectin that enhance fat and glucose catabolism by muscle and inflammatory cytokines like IL-6, is changed for the worse.

What is the nature of these "stromal" cells? Where do they come from and what attracts them to adipose tissue? Surprisingly the identities of these cells are not certain and they may well differ in different body fat depots. What is the extracellular matrix surrounding adipocytes and do matrix proteins, integrins, or hormone receptors play key roles in the development of "obese" fat tissue? What determines the size of a fat cell and the structure and metabolism of the lipid droplets within them? What are the signaling mechanisms used by adipose cell-produced hormones? These are basic cell biological problems and deserve the attention of ambitious young investigators who want both to solve important problems and perhaps have an impact on new types of therapy.

One problem is that our undergraduates and graduate students receive little training in human physiology and pathobiology and simply are unaware of the key unsolved problems in the study of human disease. I am sad to report that most of our MIT biology PhD students receive their degrees without knowing the functions of major body organs such as the liver or kidney. A few undergraduate lecture courses or graduate seminars focused on specific classes of diseases, taught collaboratively between basic science and medical faculty, would go a long way toward remediating these defects in our curricula. (Short focused "mini-courses" may be appropriate here.) Unfortunately, and as I emphasized in an earlier column[2], faculty at our medical schools often have no reason to teach such undergraduate or graduate courses and in some departments are actively discouraged from doing so.

The NIH and private foundations would do a service to science by organizing short courses on the pathobiology of specific human diseases – liver fibrosis, macular degeneration, diabetes or asthma – for young investigators trained in "basic" biochemistry or cell biology or molecular biology. These would allow PhDs and MDs to learn from each other. The goal would be to inform "basic" biologists of issues concerning these diseases, and new, creative, testable, and fundable ideas could emerge from such gatherings.

We often hear of the need for interdisciplinary studies between biologists and mathematicians, physicists, and engineers. I support and encourage these collaborations, but in my view there is an even greater need for collaborations between basically- trained biologists and medical specialists. ■

[1] Two Cultures and the Revolution in Biotechnology, *The ASCB Newsletter*, May 2004.
[2] Teaching is Good for Research, *The ASCB Newsletter*, February 2004.

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

Gifts

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

Daphne Blumberg
Robert Blystone
Juan Bonifacino
Eric Brown
Coralie A.C. Carraway
Nirupa Chaudhari
J.S. Clegg
Julie G. Donaldson
Christine M. Field
Jean S. Hugon
Ralph T. Kubo
Christopher McKnight
Heber C. Nielsen
Yukio Okano
Lynda M. Pierini
Joel L. Rosenbaum
William M. Saxton
Bayard T. Storey
Catherine D. Thaler
Shui Ping Wang
James A. Weatherbee

LETTER TO THE EDITOR

Great Expectations, Realistic Expectations

To the Editor:

The President's Column by Harvey Lodish (*ASCB Newsletter*, July 2004) describing the pitfalls of making false promises to the public in terms of the biomedical benefits of basic research fills a great need and should stimulate candid discussion of these issues. We had an example of the need in the appearance of Ron Regan as a speaker in the Democratic Convention in Boston.

It is important to educate the public and the legislature who can easily fall prey to "disease of the month syndrome".

—Mariel Birnbaumer

MEMBERS IN THE NEWS

Jan Ellenberg

Chris Moulding

Jan Ellenberg of EMBL, an ASCB member since 1996, received the ELSO 2004 Early Career Award this month in Nice, France.

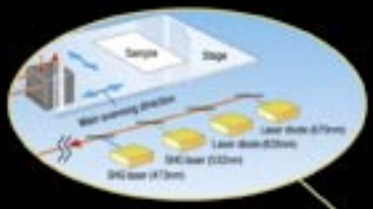
Chris Moulding, an ASCB member since 1997, has been appointed Senior Technology Licensing Associate at the University of Southern California. ■

FUJIFILM
I&I – Imaging & Information

Life Science

Introducing Fujifilm's new FLA-5100 Advanced Imaging System.

THE FUTURE OF SCIENCE IMAGING IS IN THE DETAILS.



Four Internal Lasers Available
Wavelength 473, 532, 635, 670nm.
Wide range of applications.

FLUOR Stage
Watertight, washable.

IP Stage
For phosphor imaging plate, scanning area 40 X 46cm.

Filter Module
Easy to access, changeable by users.

APPLICATION VERSATILITY

The new FLA-5100 imaging system allows imaging of fluorescent, radioisotopic, stained and chemiluminescent samples. This system is especially suitable for fluorescent (SYPRO® Ruby) detection or digitizing (CBB, silver stain) protein detection in the proteomics field.

Fluorescent SYPRO Ruby stain of 2D gel electrophoresis of Sake yeast.

2-Laser-2-Image overlap image with pseudocolor.

Fluorescent CBB stain detection by 635nm optional laser.

FEATURES

- Scanning area 46 X 40cm
- 2 Laser, 2 Image detection by dual PMT
- Fluorescent / Radioisotopic / Digitize / Chemiluminescent
- FLUOR / IP / MULTI Stage
- Pixel size – user choice of 10, 25, 50, 100, 200 microns
- Highly sensitive ^{3}H detection by BAS-TR IP

Japan Tel: +81-3-3406-2201
Fax: +81-3-3406-2158
http://home.fujifilm.com/products/science/index.html
Email: sginfo@tokyo.fujifilm.co.jp

Europe Tel: +49-211-5089-174
Fax: +49-211-5089-139
http://www.fujifilm.de
E-mail: mkailing@fujifilmeurope.de

U.S.A. Tel: +1-203-324-2000 ext. 6112
(1-800-431-1850 ext. 6112 in the U.S.A.) Fax: +1-203-351-4713
http://www.fujimed.com
E-mail: SSG@fujimed.com

Tim Hunt


Tim Hunt

Tim Hunt only had a week this summer for MBL and Woods Hole. "Hardly long enough to fertilize a clam," Hunt says. But official duties awaited at his Cancer Research UK lab and elsewhere; most of all, Hunt is wanted at home where he assumes his favorite title these days—dad to two young daughters.

Yet Woods Hole still exerts a powerful pull on Tim Hunt. Here on a July morning in 1982, Hunt performed an experiment that led 20 years later to the Nobel Prize in Physiology or Medicine for his part in what has been called the cell cycle revolution. The experiment was to follow protein biosynthesis in fertilized sea urchin eggs, using radioactive methionine and sampling at various times for electrophoresis and autoradiography. That morning Hunt noticed a novel protein band on the gel which rose steadily in concentration from fertilization until entry into mitosis before plunging out of sight a few minutes before the eggs divided, only to reappear in the next division cycle and abruptly disappear again at cell division. The saw tooth profile of this cycling protein seemed so precisely timed that Hunt felt it had to be integral to the cell cycle. Later he named it "cyclin." But from the first, Hunt recalls, "The question I had to constantly ask myself was, 'Am I missing something? Am I completely stupid?' I've been completely stupid many times in my life." That was Thursday morning.

> "'I have very little idea of what all this means, or what's going on...but I have a strong sense of being onto something quite important.'"

> Skepticism dogged Hunt's hypothesis that cyclin's rise and fall was driving the cell cycle and not just following in its wake.

On Friday evening, Hunt went along to the wine and cheese party following MBL's weekly lecture and bumped into John Gerhart. Hunt had heard Gerhart's 1979 MBL talk on the work that he and Marc Kirschner were doing on the mitotic spindle and its connections, if any, to the mysterious Maturation Promoting Factor, or MPF. "The day after I discovered cyclin, I ran into John," says Hunt. "That was, by far, the most exciting scientific conversation I've ever had anywhere in my life, because John told me about some data that he and Marc had got [on MFP]. It was just a shard of data, but it was so encouraging — the fact that you needed protein synthesis for MPF to come back the second time. It was right in line with what I'd seen."

It sounds quaint today, but Hunt conveyed the news to his Cambridge University colleague Richard Jackson in a typed, airmail letter. Hunt and Jackson had been grad students together in the Cambridge lab of Asher Korner and then lab mates as independent Research Fellows in the university's Biochemistry Department. Jackson recalls, "Tim described what essentially was the discovery of cyclin: 'I have very little idea of what all this means or what's going on but I have a strong sense of being onto something quite important.'"

From the beginning, cyclin caused a stir. One journal referee rejected Hunt's first cyclin paper as "gross speculation based on dubious logic." Eventually the paper found friendlier reviewers and publication in 1983, but skepticism dogged Hunt's hypothesis that cyclin's rise and fall was driving the cell cycle and not just following in its wake. The turning point came in 1986 with Joan Ruderman's cloning of cyclin in clams. Ruderman and Katherine Swenson used their clone of clam Cyclin A to perform the first functional assay of cyclin; they injected cyclin mRNA into *Xenopus* oocytes and found that this mRNA acted just like MPF—the oocytes matured.

> The fateful cloning of Cyclin B in sea urchin eggs yielded cDNA sequences that could be compared to cDNAs derived from Ruderman's clam Cyclin A.

In the meantime, it was becoming clearer

that there was more than one cyclin. In 1987, Hunt's lab cloned Cyclin B in sea urchin eggs. Jonathon Pines, a cell cycle researcher at the Wellcome Trust/Gurdon Institute of Cancer Research UK, was the graduate student who cloned Cyclin B under Hunt's watchful eye. How Pines got the assignment as a grad student is a classic tale. After a successful undergrad research project under Hunt, Pines was invited to become his graduate student in the fall of 1983. The Biochemistry lab shared by Hunt and Jackson was renowned for its protein synthesis work on hemoglobin, but fresh from another productive summer in Woods Hole, Hunt offered Pines an unexpected choice: Pines could work on reticulocyte protein synthesis or clone cyclin. Pines recalls, "Being naïve, I said, 'Oh, I think I'll clone that,' not really knowing what cyclin was or even what cloning was for that matter. That was the fateful decision."

For cell cycle science, the fateful cloning of Cyclin B in sea urchin eggs yielded cDNA sequences that could be compared to cDNAs derived from Ruderman's clam Cyclin A. Together the sequences led to the identification of a highly-conserved region called the "cyclin box," which was then matched to homologs from yeast to humans. What eluded him at the time, says Hunt, was how cyclins could regulate the complex and finely-detailed processes necessary for cell division. There turned out to be another cast of intermediaries, a vast new troupe of cellular actors called cyclin-dependent kinases or CDKs. It was Paul Nurse who elucidated the CDKs and shared in the 2001 "cell cycle" Nobel along with Hunt and Leland Hartwell, who pioneered the genetics of the cell cycle.

Says Pines, "The importance of discovering cyclin was showing that proteolysis was central to cell cycle control. That changed the emphasis in cell cycle from everything to do with phosphorylation and de-phosphorylation to the idea that what's important is that you degrade these proteins at this very specific time. That's what people were so skeptical about. How could the disappearance of this one protein be driving the cell cycle? They all thought that it was only being modified so you couldn't see it at the same place on the gel. This is Tim's real contribution, thinking of other ways in which the cell cycle could be regulated and in particular through proteolysis." Besides, adds Pines, "Tim is just the sort of scientist you want to win these things—a very nice man who is not a *prima donna* at all, but very modest and generous with his time and his ideas."

"The importance of discovering cyclin was showing that proteolysis was central to cell cycle control."

R. Timothy Hunt was born in 1943 near Liverpool where his father Richard was an Oxford University lecturer in medieval paleography. Going through old letters after his father's death, Tim Hunt discovered that his father, who'd never said a word about "his" war, apparently worked for a branch of British intelligence. Tim Hunt's earliest memories are of post-war Oxford where his father was Keeper of the Western Manuscripts at the Bodleian Library. Academics were not well paid in those days, but his father gloried in the scholarly life. Hunt says his mother Katherine ("Kit"), who came from a solidly commercial family background, provided "a healthy antidote to the university, because while my dad was so connected to everything Oxford,

"Tim is just the sort of scientist you want to win these things—a very nice man who is not a *prima donna* at all, but very modest and generous with his time and his ideas."

my mother thought a lot of Oxford people were more clever than sensible. Growing up in Oxford, I learned to take the university life with a grain of salt."

Despite the influence of medievalists, young Tim had little interest and less talent in Latin or Greek, but found his own niche in biology at his prep school, the renowned Dragon School. For high school, he attended Oxford's Magdalen College School where science was given more emphasis. "I loved Chemistry in particular, largely because the teacher, Colonel Simmons, was more concerned with principles than facts. We were allowed considerable freedom, and on more than one occasion started fires by distilling volatile flammable solvents," he recalls.

"While my dad was so connected to everything Oxford, my mother thought a lot of Oxford people were more clever than sensible. I learned to take the university life with a grain of salt."

For university, Hunt left Oxford for Cambridge, entering Clare College as a Natural Scientist but was quickly drawn to biochemistry under the influence of the Very Great Men of molecular biology then at Cambridge, including Sydney Brenner and Francis Crick. In his graduate work with Asher Korner, Hunt worked on mRNA protein synthesis and hemoglobin. At a 1966 hemoglobin meeting in Greece, Hunt met Irving London who was at New York's Albert Einstein College of Medicine, and Hunt spent the next summer in the Bronx, followed by a two-year post-doc at Einstein after he finished his PhD in 1968. It was London who also introduced Hunt to Woods Hole where he fell in love with the non-stop science talk, the novel marine model systems like sea urchin eggs, and the chance encounters with Very Great Biologists. In 1970, Hunt returned to Cambridge University and the post of Research Fellow in Biochemistry but continued as a summer regular at MBL, teaching Physiology and Embryology.

Hunt becoming a doting dad in his fifties was a minor shock compared to the news that he had finally acquired a driver's license.

Hunt says that he's always avoided professorships and directorships, preferring the title of "Doctor" and the position of Principal Scientist at Cancer Research UK's Clare Hall Laboratories where he's been since 1991, continuing work into the structure, function and destruction of CDKs. He commutes from his home near University College London, where his wife, Mary Collins, is Professor of Immunology and Chair of Infection and Immunity in the Medical School. Their oldest, Celia Daisy Collins, is nine and her sister, Agnes Beatrix Collins, is six. Hunt anticipates the obvious question. "People ask, 'What's it like to be an older father?' I say, 'I have no idea because I never was a younger one, but I do like being a dad very much.'" Aggie has just moved on from Barbie dolls to playing shops and offices while Celia is a champion reader, he reports. The girls are not as fond of country rambling as he would like, but he's working on them. The whole family, though, loves their weekend cottage north of London.

For old Cambridge friends, Hunt becoming a doting dad in his fifties was a minor shock compared to the news that he had finally acquired a driver's license. Richard Jackson recalls that Hunt was famous in Cambridge for championing the Moulton, an ungainly, semi-folding bicycle with tiny wheels and a tall seat, that could allegedly be hefted onto public transport. Later on, Hunt was said to have owned the first skateboard and first mountain bike in Cambridge. Hunt says that getting his driver's license fulfilled a promise he'd made to Mary on being ready for modern fatherhood.

Becoming a dad may have changed his life more than winning the Nobel Prize, but Hunt says that he has deliberately put his new Laureate clout at the service of one special cause, promoting more European cooperation in science. "We're very Balkanized and we suffer for it," Hunt says. "Much as I love America, it's not fair that you have it all. If you think of the great glory days of European molecular and cell biology—The Pasteur in the '50s or the Laboratory of Molecular Biology in the '60s—a lot of that was fueled by American post-docs coming over to work with the likes of François Jacob or Sydney Brenner. Now the traffic is almost entirely in the opposite direction. A little more two-way flow would be good for both." ■

DEAR LABBY

Dear Labby,

My post-doctoral research is going extremely well with solid results. I am not certain, however, that when I write up these studies they will be accepted for publication in *Cell*, *Science*, or *Nature*, the journals with the highest impact factor in my area. There is a general impression among my peers that publication in one of these journals is needed to land an academic position at a good institution. Can you advise me on this issue?

—Cell-less in Seattle

Dear Cell-less,

Search committees at good institutions use many criteria to evaluate candidates. They are certainly interested in your publications, but a thorough committee will be concerned with the significance of your research more than the number of publications or the impact factor of the journals you have chosen. Some of the members of the committee will be outside of your subspecialty. It is important that your cover letter and letters of recommendation explain the work's significance to these members of the committee. The real value of a discovery is its long-term impact, of course. Many extremely important findings have been published in journals other than those you listed. If you have earlier published studies that have already been recognized, be sure to make that clear.

Generally, committees want to see a sustained record of accomplishment. It is especially helpful if you have carried out exceptional work as a graduate student and this is complemented by a strong post-doctoral experience. It also can impress the committee if these achievements are in different areas, showing that you are able to break into a new field and be successful. Similarly, a longer post-doctoral experience that has resulted in good publications in two different projects is impressive.

In short, high profile publications should not be a necessity and your success should depend on many factors. These include the quality of your past work, the interest of the department in your specialty, your letters of recommendation, the consistency of your accomplishments, the clarity of application, and the research that you propose to do. All of these factor into your chances of getting an interview. Then the interview and seminar are extremely important. So publish your studies in good quality journals, don't be overly concerned about the impact factors, and keep up the good work.

—Labby

Dear Labby,

I think "Conflicted Student" [August, 2004 *ASCB Newsletter*] needs to distinguish two issues. First, reviewing papers is a valuable part of scientific citizenship and a student should no more expect to be paid for it than he or she should expect to be paid for helping another student. If the burden is too heavy, given work and family, I am sure that the advisor of "Conflicted Student" would understand: after all, the advisor can always turn down requests by claiming that s/he is overwhelmed at the moment. Everyone respects that.

Second, the concern with the publishing industry, not just commercial, but many so-called non-profit publishers, is a real one. They have fattened their own wallets and opposed open access publishing, which is in the best interest of the scientific community and education worldwide. Yet here too the day-to-day issues are murky. Working for these regressive organizations are some wonderful people recruited from our ranks and working hard to assure that the best science gets published in the best of all possible ways. We depend on them and on the whole edifice; we just want the process reformed.

I urge "Conflicted Student" to find a way to help reform the publishing industry (for instance by publishing in open access journals as much as possible and by urging others to do the same). S/he should consider him- or herself the equivalent of an exploited worker, who despite financial and time pressures still has some energy left to work for justice and equality, and find some way to urge fellow students to become active in pushing the publication industry to better serve the scientific community. When that happens, "Conflicted Student" will be more comfortable devoting time to reviewing without feeling like a chump.

—Marc Kirschner

See *Labby*, page 12

Labby, continued from page 11

Dear Labby,

I write in response to "Conflicted Student" [August, 2004 *ASCB Newsletter*], who was ambivalent about reviewing a paper for a commercial publisher. I work for a non-profit publisher that has made strong efforts to provide the cell biology community with access to its content, so far be it for me to sound like I am coming out in favor of the commercial publisher. There were two elements, however, that were glaringly lacking from your response.

The first is that the peer review process is a give-and-take system. You neglected to remind "Conflicted" that he or she may one day want to submit his or her manuscript to a prestigious commercial journal and want to have it reviewed for free. Your advisee can hardly expect to receive timely reviews having refused to provide this service to others.

The second omission relates to the "value" of publication. You note that publishers used to add value to the scientific literature by providing printing and distribution services. You seem to have forgotten about the value added by the peer review process, which screens the work for a community already overloaded with information. The cost of reviewing manuscripts keeps getting lost in the debate about "open access", and the community needs to realize that it is significant. Tracking manuscripts, identifying appropriate reviewers (and hassling them when they are late), forwarding manuscripts and comments to the appropriate editors, coaching authors in the formats required for review and publication, etc. all take time and, therefore, money.

The economics of publishing are not simple, and approaches that appear to be valid on first glance may not translate into sustainable publishing models. I recommend that you tread carefully in advising young scientists on how to interact with editorial offices.

—Mike Rossner

Dear Labby:

I agree with your response to "Conflicted Student" [August, 2004 *ASCB Newsletter*], particularly the suggestion that one weigh carefully the costs and benefits of donating time to review a paper. Who is profiting (literally) from one's generosity and good scientific citizenship is one issue; the other is to what extent the publisher will make the eventual paper accessible.

Although not evident at some top-tier US academic institutions, many researchers struggle daily to do their research without easy access to the scientific literature. Educators have to limit their teaching to the information they can get; physicians can't access information they need for state-of-the-art patient care. Surely even the most intransigent for-profit publishers must want their own physicians to have unrestricted access to the medical literature!

Congress and the NIH are waking up to the fact that research results funded by taxpayer dollars are not available to all constituents who need them. Legislation mandating some degree of access may be on its way [see August, 2004 *ASCB Newsletter*]. Such legislation would be akin to minimum wage laws. We mandate a fair minimum wage for the good of society. It applies equally to all employers; therefore there's an even playing field. Noone is at a special disadvantage, and the costs are spread across the economy in an equitable manner. If a fair release standard were mandated in the publishing industry, wouldn't the market similarly adjust?

Publishers still add value to our work, e.g., by organizing peer review and copyediting. However, the limited cost of these activities is not incompatible with offering reasonable free access to publications. Any publisher who tells you otherwise is either disingenuous or needs to look carefully at the efficiency of its operations. I hope "Conflicted Student" and others will continually challenge this and other disinformation being spread by the publishing industry and (regrettably and most damagingly) by some societies: that releasing content after a few months makes it impossible for a journal to remain profitable; that Interlibrary Loans and/or the ability to purchase articles on-line are adequate substitutes for access; that page charges would skyrocket and specialist journals would disappear if open access is implemented; that either releasing selected articles or allowing for third-world access discharges publishers' responsibility, etc. As Treasurer of the ASCB, I can attest to the fact that it is possible for a first-rate journal (*Molecular Biology of the Cell*) to both have a progressive access policy and remain profitable.

That said, it is difficult for anyone at the current time to be an open access purist without risking serious professional consequences. There are too few journals that are both respected and offer their content immediately and without restriction. There are indications that the situation is changing. In the meantime, it would be intellectually dishonest to refuse to review for a journal yet to submit one's own papers there.

"Conflicted Student" and anyone who cares about open access should consider access policies when deciding whether to both submit to and review for a particular journal. The comparisons are straightforward. In terms of their access policies, *PLoS Biology* and *The Journal of Biology* are better than *PNAS*, which is better than *Science*, which is better than *Nature*. *Molecular Biology of the Cell* is better than *JCB*, and so on. The relative importance that each of us assigns to this "access factor" will differ, and the need to publish our work may occasionally force us to submit to and review for journals we are not entirely comfortable with. However, if more of us begin to take access considerations seriously into account, it will help to accelerate the transition to truly open access that is in the best interests of all. ■

—Gary Ward

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

GOP Urged to Support Stem Cell Research

Rep. Mike Castle (R-DE) has asked the Republican Platform Committee to expand the President's current policy limiting Federal funding for human embryonic stem cell research. Castle is President of the Republican Main Street Partnership, a coalition of moderate Republican Senators, Members of Congress and Governors.

As announced by President Bush on August 9, 2001, Federally funded human embryonic stem cell research is limited to cell lines derived before that date.

Castle wrote that, "an expansion of the current policy is consistent with the Republican Party philosophy of compassion, ingenuity, economic development and science." Castle also asked that the platform include the affirmative statement that, "The Republican Party recognizes the enormous potential of adult and embryonic stem cell research. The Party supports efforts to fulfill President Bush's August 9, 2001 human embryonic stem cell policy by expanding the number of stem cell lines available to researchers based on the ethical guidelines established by the President and the National Institutes of Health."

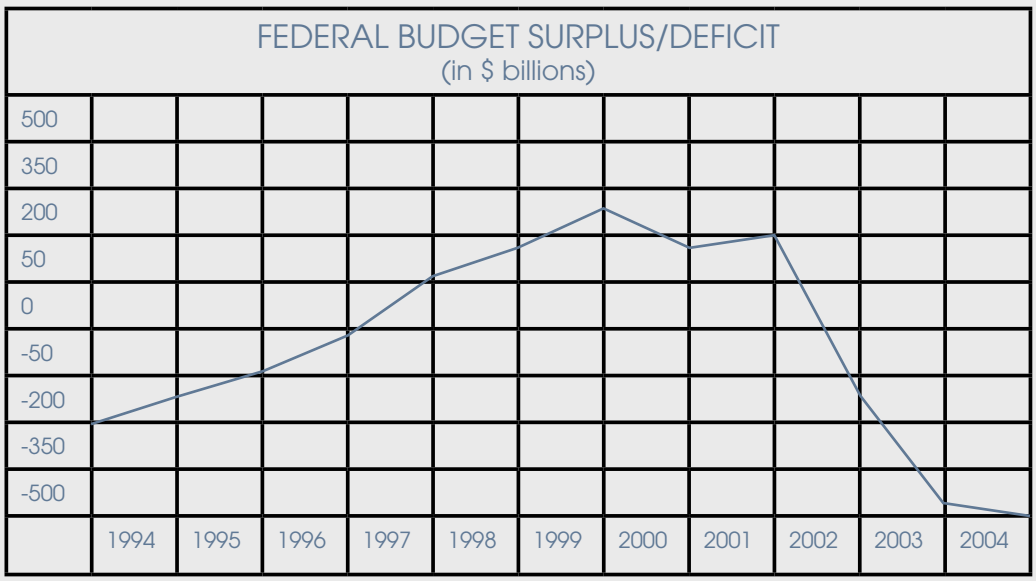
The Republican Platform Committee considered amending the platform to ban all research with human embryonic stem cells. The proposal failed when Co-Chair and Senate Majority Leader Bill Frist (R-TN) objected, invoking the moral complexity of the Bush policy and the therapeutic potential of stem cell research.

The Republican Platform Committee considered amending the platform to ban all research with human embryonic stem cells.

The text of Rep. Castle's letter is at www.house.gov/castle/pr_04_RMSP.html. ■

Federal Deficits Continue to Soar

The Federal Office of Management & Budget has updated its deficit projections for the 2004 fiscal year. The mid-year estimates indicate that the Federal budget deficit for fiscal year 2004 will be $445 billion, $70 billion larger than the FY2003 budget deficit. If the projections prove accurate, 2004 will be the fourth consecutive year of increasing deficits. The FY2004 deficit will also be $707 billion larger than was projected for FY 2004 by the Administration in 2001. At that time, the President foresaw a 2004 budget surplus of $262 billion. ■



NIH Bans Cash Awards to Some Employees

In reaction to ongoing criticism by Congress, National Institutes of Health Director Elias Zerhouni announced that he is prohibiting cash awards from outside organizations, including universities, to NIH employees who influence grants and contracts. Zerhouni made the announcement during testimony before the House Energy & Commerce Committee in June.

The NIH provided the Committee with a list of organizations that have given affected NIH officials cash awards since 1998. In general, the awards recognize the scientific achievements of the awardees while at the NIH. In exchange, winners were generally expected to give lectures at the awarding institution. These same institutions were also receiving grants from the same NIH institutes where the recipients worked. It was this appearance of conflict that drew the attention of Congressional investigators.

Most of the awards in question ranged from $500 to $5,000. The largest, $40,000, was awarded to former National Cancer Institute Director Richard Klausner by the University of Pittsburgh Medical Center in 1998.

During testimony before the Energy & Commerce Committee, Zerhouni said the new policy contains one important exception, for "acceptance of cash in the case of certain exceptional *bona fide* awards, such as the Nobel Prize."

The policy would allow employees who do not influence grants and contracts, including intramural scientists, to continue to receive awards. The awards would, however, have to be reviewed by both internal and external advisory boards. All awards will now be publicly disclosed.

Zerhouni's testimony is available at www.nih.gov/about/director/062204zerhouni_COI.pdf . ■

Kansas Pushing Creationism Again

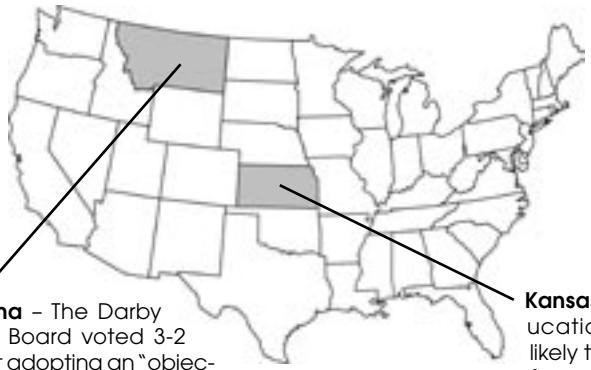
August primaries in Kansas have raised the prospect of another change in state science education standards as State Board of Education primary elections have almost assured a majority of anti-evolution members. The Board continues to review new science standards for the 2005 school year.

In Kansas' 6th School Board District, the primary campaign between incumbent Bruce Wyatt (R) and Kathy Martin (R) for Board of Education focused almost entirely on the role of evolution in the state science curriculum. Martin won the Republican primary with 63% of the vote and is running unopposed in the November general election.

During the campaign, Martin said she felt that evolution should be taught as a science alongside other theories, such as intelligent design, which she described as "accepted by professors around the nation."

The Martin victory is expected to convert a Board which is divided evenly at present to one with a 6-4 majority for the teaching of creationism as science. ■

Creationism Monitor



Montana – The Darby School Board voted 3-2 against adopting an "objective origins policy." The policy would have encouraged teachers to help students "analyze strengths and weaknesses of existing scientific theories, including the theory of evolution."

Kansas – Board of Education elections will likely tip the balance in favor of anti-evolutionists in the November elections for the first time since 1999. (See story at right.)

Source: The National Center for Science Education

Stem Cells Central to Campaigns

The debate over Federal funding of human embryonic stem cell research rose to the top of the political debate in the United States during August. The rhetorical battle began in late July with a speech at the Democratic Convention in Boston by Ronald P. Reagan, the son of the late President Ronald W. Reagan. In his speech to the convention, Reagan encouraged those in attendance and watching on television to support stem cell research. "Whatever else you do come November 2nd," Reagan said, "I urge you, please, cast a vote for embryonic stem cell research."

Soon after the close of the Democratic Convention, Presidential Candidate John Kerry's (D-MA) campaign observed the third anniversary of the Bush human embryonic stem cell policy by conducting a series of media events across the nation. Kerry said that as president he would overturn President Bush's far-reaching ban on Federal funding of stem cell research as part of a comprehensive plan to put America back on the path of scientific excellence. Vice Presidential candidate Sen. John Edwards also held a press briefing with national reporters on stem cell research, calling the milestone, "a sad anniversary." The campaign also conducted press conferences in seven states around the nation on the topic of stem cells and science policy.

In response to Democratic attacks on the President's policy, several speakers at the Republican Convention, including First Lady Laura Bush, mentioned stem cells. The First Lady said in a speech, "Few people know that George W. Bush is the only president to ever authorize Federal funding for embryonic stem cell research." She went on to say, "I hope that stem cell research will yield cures. But I know that embryonic stem cell research is very preliminary right now, and the implication that cures for Alzheimer's are around the corner is just not right, and it's really not fair to people watching a loved one suffer with this disease."

Campaign officials for both candidates recognize the current political value of the stem cell issue. "There is no question this is a very significant sleeper issue which we are trying to awaken," said Mark Mellman, Kerry's pollster. The Bush campaign acknowledges being surprised by the impact of the speech by Reagan. "The catalyst was Ron Reagan's speech," said a Bush campaign strategist. "He elevated the issue, elevated it in a way that was not honest and not fair to the President."

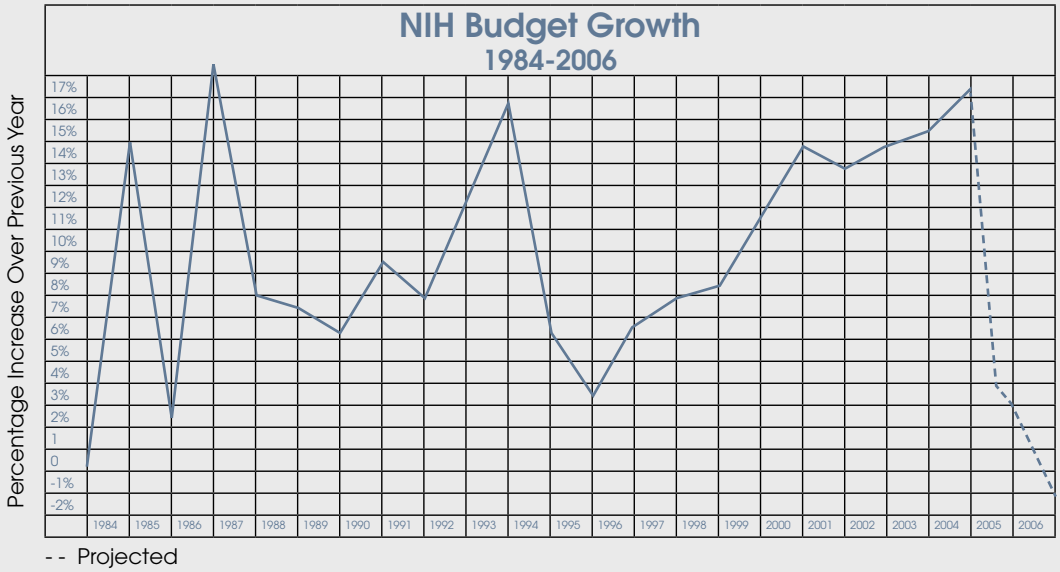
Sen. Kerry's radio address is available at www.johnkerry.com/audio/080704_radio.ram. ■

Budget, continued from page 1

tion in 2006. The Department of Veterans Affairs, which receives a $519 million increase in the President's 2005 budget, would in 2006 sustain a reduction of $910 million, resulting in funding below its 2004 budget.

The National Science Foundation, the Environmental Protection Agency, the Interior Department, and the Women, Infants and Children nutrition program would also be cut back in FY 2006, according to the document.

The White House Office of Management & Budget (OMB) has downplayed the significance of the memo, calling it, "nothing more than a process document". But senior Democratic Congressional staff consider it evidence of the anticipated strategy of the White House to address the Federal deficit of $400 billion. ■



How to "Get a Life" in the Life Sciences

For most of us humanoids, "a life" is a melange of friendship, love, loyalty, consideration, compromise, kids, a profession where you excel and find joy, hobbies, reading books, exercise, laughter, and eight hours of sleep a night. Can you find it in the life sciences? I think so.

The pathway begins with graduate school. Choose a research advisor who's passionate about science, not too distracted by companies or administration, with a lab that's happy, hard-working and productive, where folks get along well, and where graduates have gone on to "have a life". There, choose a research project with an early "decision point" (not when it's done, but when you know whether it'll work), of general interest in biology, and at the heart of the lab's direction. Develop some novel assets as a scientist: learn to enjoy criticism when offered in a positive spirit; the critic is helping you to hone your ideas, and this can actually be an avenue to developing friendships. Read with "an attitude", not only critical but also appreciative. For each article, ask yourself what different direction you'd take in your lab. From this reading, from gazing wide-eyed at histology texts, and through late night bull sessions with friends, build a fantasy "stable" of hobby-horse ideas, and take 'em out for frequent rides! Find a friend to be your partner in this fantasy game — it's the groundwork for realities to follow.

What should you accomplish in grad school? Publish quality papers telling a coherent story. Learn to present science clearly, for audiences at different levels, with confidence and charm, orally and in writing.

Learn to enjoy criticism when offered in a positive spirit; the critic is helping you to hone your ideas, and this can actually be an avenue to developing friendships.

Should you stick with it? Well, do you love bench science, teaching, and/or reading? If not, switch! In your 20s, strive to find your passions, personal and professional. If you do love it, work hard in the lab (I like 6am to 6pm, five days a week; arrive knowing the experiments you'll do that day), but evenings and weekends are for dinner, family, friends, reading (science, and novels), music, and hikes. What should you accomplish in grad school? Publish quality papers telling a coherent story. Learn to present science clearly, for audiences at different levels, with confidence and charm, orally and in writing. All the while, build the stable of hobby-horse ideas for your own future research.

Postdocing. It's for everyone — your salary almost doubles, you sample another region, or country and culture, and no "hoops" of tests to jump through! Think about it early (by the end of year three of grad school), and plan to complement, not extend, your graduate training. Of organism, scientific problem, and technical approach (genetics, enzymology, structural biology, or informatics), keep one but change two between grad school and postdocship. Change universities! Seek a productive lab doing exciting research where the postdocs go on to jobs you'd like. Ask your graduate department faculty about the personality and reputation of prospective postdoc advisors. Spend a few hours reading recent lab papers, write a serious and warm letter with a few new project ideas, include your CV and publications, and apply to one lab only at a time (and, tell this to the lab chief). During postdocship, develop a creative but practical plan for your own lab, built on the technical approaches

Of organism, scientific problem, and technical approach (genetics, enzymology, structural biology, or informatics), keep one but change two between grad school and postdocship.

you've mastered as a student and fellow but embarking into a new area, chosen from your "stable" of exciting ideas. For example, during graduate studies of the enzymology of yeast membrane trafficking, you may dream of understanding how Sec proteins work in neuronal networks. Your postdoctoral studies of worm apoptosis then teach you worm genetics and physiology, and you establish your own lab to unravel the connections and functions of the ~300 worm neurons, pioneering in worm enzymology, cell culture, and other frontier areas.

How to interview, for postdocships and for that dream job? Read a paper, and have questions and ideas, for each scientist you'll meet during the interview. Be confident but not arrogant; give a dynamite talk. Ask each person about their work and spend most of the time talking about their science. Pay attention, ask germane questions, establish common areas of interest. Show enthusiasm, and that you'll "pull your oar." Say please, and thank you, and above all Never Negotiate the Job you Haven't Been Offered.

How to interview, for postdocships and for that dream job? Read a paper, and have questions and ideas, for each scientist you'll meet during the interview. Be confident but not arrogant; give a dynamite talk.

Say please, and thank you, and above all Never Negotiate the Job you Haven't Been Offered.

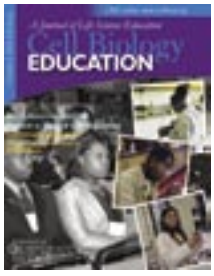
What careers lie ahead? In biotech and pharmaceutical companies, doing science of fundamental importance that also creates useful products; in academia, blending teaching with basic science, at research institutes if teaching is not for you, at liberal arts colleges or high schools if teaching is your passion, and possibly in a life of letters and ideas, be it law, business, administration, or journalism. The prime directive is that you must do what you're good at, and will find fulfilling (usually, the same thing). Let no one tell you otherwise.

If you do start your own lab, in academia or industry, remember that you're the best damn postdoc you'll likely see for a decade or more, and ruthlessly keep yourself at the bench! Seek one project, leading to one lovely paper, each year, and success will crown your efforts.

Are there special considerations for women in science? There are several. One is that the burdens of childbearing and early childrearing fall disproportionately on women. Furthermore, some folks are still being told 1950's fairy tales about women's "supportive roles" by their mom and dad. Does your Significant Other truly love you for you, and stand ready for the difficult give and take of a successful relationship? Find friends, and loved ones, with the right attitude. Above all, don't drop out, don't quit. Half the graduate students are women, but fewer of the postdoc applicants, and fewer yet of the job applicants. When offered a job, check how women have fared at that institution, and child-care policies and facilities if relevant. Be among those who stay with it, if you too find that science is a joyful part of your life. ■

—William Wickner

Cell Biology Education Grant Renewed



The Howard Hughes Medical Institute has renewed its support of *Cell Biology Education: The Journal of Life Science Education (CBE)* for another three years. The HHMI helped launch *CBE* with an initial major start-up grant in 2002.

HHMI Vice President Peter Bruns noted that the ASCB's online journal has emerged as an important and effective vehicle for disseminating innovations in science teaching and in bridging the divide between science and education in the life sciences.

Co-Editor-in-Chief Sarah C.R. Elgin of Washington University said, "HHMI has shaped educational reform for many years and their continued support for *CBE* emphasizes the high correlation among improved teaching, assessment of learning outcomes, and dissemination of successful programs, the heart of *CBE*'s mission."

CBE is completing its third year of publication and currently has almost 3,000 registered users. The quarterly publication is freely available and assesses no publication charges to authors. ■

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, *University of Southern California*
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, *University of North Carolina, Chapel Hill*
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

Better Images…Faster Answers

Developmental Biologists are Thrilled!

In the developmental lab, be it working with Zebrafish, *C. elegans*, Mice, or Drosophila, better images lead to more accurate conclusions.

Leica introduces a new tool in the pursuit of **better images**, the MZ16 FA. This stereofluorescence microscope provides greater resolution than ever before from whole embryo to the sub-cellular level. Your fluorescent specimens will appear in high contrast on a jet-black background thanks to Leica's patented TripleBeam™ technology.

For experiments in time lapse, extended depth of focus, or multi-probe imaging, **faster answers** are obtained through Leica's Intelligent Automation of the MZ16 FA's five motorized features.

Better Images…Faster Answers with the Leica MZ16 FA! Call 800-248-0123 today!

Intelligent Automation

Leica Microsystems Inc.
2345 Waukegan Road
Bannockburn, IL 60015

Telephone (847) 405-0123 (800) 248-0123
Fax (847) 405-0164
In Canada call (800) 205-3422
www.stereomicroscopy.com

Leica
MICROSYSTEMS

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 Biodefense 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 Stem Cell 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.

NIH Re-entry Program. The NIH and Office of Research on Women's Health announce a continuing program for faculty who have taken time out for family responsibilities. See http://grants.nih.gov/grants/guide/pa-files/PA-04-126.html.

NIH Grants.

- Large-Scale Collaborative Project Awards, see http://grants2.nih.gov/grants/guide/pa-files/PAR-04-128.html. Deadlines: September 20, 2006 and June 21, 2007.
- Predoctoral Research Training in Biostatistics, see http://grants2.nih.gov/grants/guide/pa-files/PAR-04-132.html. Deadline: October 12, 2007.
- Tools for Genetic and Genomic Studies in Emerging Model Organisms, see http://grants2.nih.gov/grants/guide/pa-files/PA-04-135.html. Deadline: November 2, 2007.
- National Technology Centers for Networks and Pathways, see http://grants2.nih.gov/grants/guide/rfa-files/RFA-RM-04-019.html. Deadline: February 22, 2005.
- Innovation in Molecular Imaging Probes, see http://grants1.nih.gov/grants/guide/rfa-files/RFA-RM-04-021.html. Deadline October 23, 2004. ■

NEW!

Your Science is Complex…

Your Microscope Doesn't Have to Be

Leica Microsystems introduces the new Leica DM6000, the research microscope that will dramatically improve the quality of your science.

Quite simply, every user in your lab can reproducibly obtain the best possible images day after day without concern for instrument set-up or adjustment. Imagine being able to switch between brightfield, phase contrast, DIC, or fluorescence by touching a single button – and every image is perfectly adjusted. This is possible through Leica's pioneering Intelligent Automation, a technology that adjusts the microscope's performance in every imaging situation, based on your personal optimized settings.

The Highest Quality Image! See for yourself – Leica offers an unconditional 30-day guarantee!
Call Leica today at 800-248-0123.

Intelligent Automation

Leica Microsystems Inc.
2345 Waukegan Road
Bannockburn, IL 60015

Telephone (847) 405-0123 (800) 248-0123
Fax (847) 405-0164
In Canada call (800) 205-3422
www.light-microscopy.com/Digital/Microscopes

Leica
MICROSYSTEMS

Molecular Biologist
Morris College

Morris College, a private four year Liberal Arts College in Sumter, South Carolina, is seeking to fill the following position:

MOLECULAR BIOLOGIST: to teach "Cell and Molecular Biology," "Research Methods" and other biology courses. Additional responsibilities include: Supervising and conducting undergraduate research projects (involving students) and planning research activities in the Division of Natural Sciences and Mathematics. Must have a PhD in molecular biology from a regionally accredited institution. Effective Immediately.

Submit a letter of application, personal resume, three letters of recommendation and official academic transcripts to: Director of Personnel, Morris College, 100 W. College St., Sumter, SC 29150-3599. Morris College is an Equal Opportunity/Affirmative Action employer.

Assistant or Associate Professor
Department of Cell Biology
Harvard Medical School

The Department of Cell Biology invites applications for two tenure-track positions at the rank of Assistant or Associate Professor. We seek candidates working on fundamental questions in cell biology ranging from molecular studies of basic cellular mechanisms through the cellular basis of development, physiology or disease. The department is highly interactive and offers outstanding opportunities for collaboration and technical support in areas such as light and electron microscopy, mass spectrometry, and large-scale screening. Additional information about the department can be found at http://cellbio.med.harvard.edu.

Applicants should send a CV, up to four reprints, a 1-page summary of previous research contributions, and a 1-page plan for future work. Please arrange to have 3-5 letters of recommendation submitted as well. We prefer that all application materials be submitted electronically to cellbio_search@hms.harvard.edu. Alternatively, they may be mailed to the following address: Faculty Search Committee, Department of Cell Biology, Harvard Medical School, 240 Longwood Ave Boston MA 02115. Review of applications will begin Oct. 15th.

Equal Opportunity Employer

Faculty Position in Cell Biology
Department of Biological Sciences

The Department of Biological Sciences at Dartmouth invites applications for a tenure track position at the rank of Assistant Professor in the broadly defined area of Cell Biology. The successful candidate will establish an independent research program that will attract extramural funding, as well as participate in teaching at the graduate and undergraduate levels. Dartmouth provides a highly competitive start-up package, salary, and flexible benefits, as well as access to state of the art multi-user facilities. The candidate will join a group of faculty in the Molecular and Cellular Biology graduate program whose research involves cellular, biochemical and genetic approaches to studying problems in a number of model plant, fungal and animal systems. Individuals interested in joining a department where excellence in research and teaching are valued and rewarded should send a curriculum vitae, statements of research and teaching interests, a list of referees (including FAX numbers and e-mail addresses), and arrange to have at least three letters of reference sent under separate cover to:

Cell Biology Search Committee
Department of Biological Sciences
Dartmouth College
Hanover, NH 03755-3576

Although materials may be submitted by FAX (603-646-1347), note that the original documents are ultimately required. Application review will begin on October 15, 2004 and continue until the position is filled. For further information about the department and graduate program, see http://www.dartmouth.edu/~biology/.

Women and members of minority groups are strongly encouraged to apply. Dartmouth College is an Equal Opportunity/Affirmative Action Employer.

Postdoctoral Fellowships

Neuroscience, Neurogenetics, Behavior, Education, Vanderbilt Kennedy Center for Research on Human Development, Vanderbilt University, announces the availability of Postdoctoral Research Fellow positions. These fellowships fund research into fundamental mechanisms related to understanding disorders that affect human development and developmental disease, including mental retardation and other developmental disabilities. The Kennedy Center's research programs include both basic and clinical studies in four areas: Developmental Neurobiology and Plasticity, Mood and Emotion, Communication and Learning, and Family Research. Young investigators interested in embarking on research careers in these areas are encouraged to apply.

Applicants must identify a Vanderbilt University faculty sponsor who is a member of the Kennedy Center. A full list of the faculty membership can be found at http://www.vanderbilt.edu/kennedy. Applicants should also apply directly, specifying the program in which they are interested. Submit a statement of research goals (1-2 pages), current vitae, three letters of recommendation, and a statement from the Vanderbilt faculty mentor. Questions regarding individual research programs can be addressed to the appropriate program director listed on the web site. Send application materials to Kennedy Center Research Fellow Search, Vanderbilt University, Attn: Dr. Stephen Camarata, Peabody #74, 230, Appleton Place, Nashville, TN 37203. Applications are encouraged beginning September 1, 2004, andwill be accepted for review until April 30, 2005. Start date is negotiable.

Vanderbilt University is committed to principles of equal opportunity and affirmative action.

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

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

THE AMERICAN SOCIETY FOR CELL BIOLOGY
8120 Woodmont Avenue, Suite 750
Bethesda, MD 20814-2762

Non-Profit
Organization
US Postage
Paid
Bethesda, MD
Permit No. 356