GSA

# GENEtics

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# From the President's desk:

On May 18, 2005 members of the GSA Board of Directors put aside our usual casual science attire, donned suits and ties, and set off for a day on Capitol Hill to talk with members of Congress about the importance of funding basic research. Each of us met with five or six members of Congress or their legislative staff. Among those we met with were Reps. Michael Capuano (MA), William "Lacy" Clay, Jr. (MO), Peter DeFazio (OR), Jim McDermott (WA) and staff from Rush Holt's (NJ) office. On the Senate side, among those we met with were Sen. Patty Murray (WA), and staff members of Sens. Russ Feingold (WI), Edward M. Kennedy (MA), John Kerry (MA), Rick Santorum (PA), Arlen Spector (PA), Barbara Boxer (CA), Gordon Smith (OR) and James Talent (MO). (See article on page 4 inside.) These visits were arranged by Matt Zonarich, staff member of the Joint Steering Committee (JSC) for Public Policy (chaired by Harold Varmus). The GSA has been a member (and financial supporter) since 1993 of the JSC whose mission is to educate members of Congress about basic scientific research and its significance for our society. This is accomplished by bringing scientists together to advocate for federal funding support.

We used our visits with congressional members and their staffs to highlight the current funding crisis, to emphasize the importance of basic research, particularly the significant discoveries that have emerged from research on model organisms, and to thank them for their past support. We mostly encountered receptive audiences, and we were reminded of the impact that individual members of the GSA can have by advocating for funding for science to their own representatives. One very helpful resource for this is the Congressional Liaison Committee (CLC) of the JSC. All members of the GSA can join the CLC online at no cost at http://www.jscpp.org/clc.cfm. Doing so provides you with updates on the funding situation for NIH and NSF, notification of important upcoming votes in Congress, and recommendations for ways to make your views known to your representatives. In the recent past, grass-roots input from CLC members had a significant impact on science policy and funding for basic research. I encourage all GSA members to get involved in charting the future of research by joining and supporting the CLC.

It is becoming increasingly important for us as scientists to meet our responsibility to explain our research and justify the public support from which our work has benefited. Members of the GSA can have an impact by highlighting the breakthroughs made from basic research on model

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# Dear Abbot:

On a recent visit to Brno and the Gregor Mendel Museum, I was thrilled to be allowed to walk about the grounds of your abbey and gardens. The renovations to the buildings, the creation of the museum with its many exhibits and the restoration of your garden are coming along nicely. Is it really true that I can sponsor a square meter of your garden (up to a total of 300 square meters) with a contribution of only 100 Euros (~$121.00 U.S.) to the museum fund?

Grateful in Bethesda

Elaine Strass, GSA Executive Director at the Mendel Museum and Abbey of St. Thomas in Brno, Czech Republic. Photos by Erin Herrik

Dear Grateful,

I cannot imagine so much money being spent on such a tiny square of land! For your generous donation I will send you a certificate suitable for framing, and your name will be added to the list of sponsors at our Web site (http://www.mendel-museum.org). The garden is being restored under the supervision of John S. Parker, director of the Cambridge University Botanic Garden, Prof. Ladislav Havel of the Mendel University of Agriculture and Forestry in Brno and Eva Jiricna, a renowned Czech architect.

I have noticed many scientists coming to the museum and enjoying the grounds. Some of them have been surprised to learn that there are plans to plant flax in place of the peas in my garden. The reason is that the various colors of flax flowers will better show the general public, particularly school children, the genetics lessons I learned. Sad to say, the pea plants actually do not offer such an exciting or informative display.

You may recall that in the museum you saw pictures of me holding a fuchsia plant. I loved to study flowers and was constantly fascinated with the treasures botany holds for us. I worked hard to unravel nature's secrets in this corner of biology. I'm glad I learned about pea plants, but I have to admit that flowers and bees (which I kept in the bee house I designed toward the back of the abbey property) really piqued my imagination. The whole time I was trying to figure out how traits of peas are inherited I expected that I would find similar features of heredity in bees that might also explain their social structure. Alas, I just didn't have the time to finish that work.

And, of course, I am sure you were also impressed with the rendering in the museum by artist Christine Borland of a pedigree showing inheritance patterns of Huntington's disease in a large family. Each slice of agate in the piece represents an individual, suspended within its family tree – an amazing and beautiful idea reminding me of the beauty of nature. I knew all along that genetics holds the key to biological diversity. That's what I hoped to show with my study of the bees.

You know, they have me working again. I was a tour guide at the Abbey on May 20, 2005. The museum has dedicated itself to education and has managed to capture the spirit of the abbey as it was over 100 years ago (before the sequence of the human genome was determined). You are not the only one who is impressed with this place.

The Abbot

*For more information about the Abbey, purchasing a square meter of Mendel's garden, and Gregor Mendel and his experiments, refer to the Web site: http://www.mendel-museum.org/.*

# GSA Profile

*by Phyllis Edelman*

## Early Interest in Neuroscience: A Catalyst for Sandler Award Recipient Elissa Hallem's Research Career

**Elissa A. Hallem**
Photo credit: Michael Marsland/Yale University

Research in education says that if we want to increase the number of students who choose a career in science we must reach them before they leave middle school. Elissa Hallem, the 2005 Larry Sandler Award winner is a case study of why catching students young is important. She became interested in science, specifically neuroscience, in middle school because of a psychology class she took one summer. Little did she realize then that this interest would lead to a Ph.D. in neuroscience, awarded to her this spring by Yale University.

She's been studying how fruit flies respond to odors. We all know that fruit flies congregate around rotting bananas. What makes an odor that many humans consider close to nauseating almost ambrosial to a fly?

Hallem, with her dissertation advisor John R. Carlson, devised an elegant plan to map which odor receptors on *Drosophila* olfactory receptor neurons (ORNs) respond to particular odorant stimuli. They began by using a mutant strain of *Drosophila* that lacks odor receptors in a particular ORN class. They then added back a specific cloned receptor gene – there are more than 30 of them – to the ORN and subjected the neuron to different odorants at different concentrations. The goal, Hallem says, was "to determine which odor receptors were activated by which odors." Hallem looked at the electrophysiological responses of the neurons to the odorants. In some cases, the neurons were excited by odorants, and in other cases they were inhibited. In some cases, odorant concentration had an effect on neuronal firing. Some odors activated many receptors, while others activated only a few.

By recording which odors were detected by each receptor, Hallem and Carlson were able to establish a receptor-to-neuron map, "the first such olfactory map," Hallem explains. This work was published in the June 25, 2004 issue of *Cell*.

In another study, published in the January 15, 2004 issue of *Nature*, Hallem inserted odor receptors from the mosquito, (*Anopheles gambiae*, the vector for malaria), into a fruit fly ORN lacking its own odorant receptor genes. One of these receptors responded to the odorant 4-methylphenol, a component of human sweat. Thus, these mosquitoes have odorant receptors that may lead them to seek out humans. In his lab, Carlson, Hallem's mentor, hopes to use transgenic flies to screen for compounds that may be useful in developing better insect traps and repellents.

Hallem's research may provide clues as to how mammals respond to olfactory stimuli. She notes that "a fly is a good model for studying the sense of smell because it has a highly developed olfactory system, which is organized similarly to the mammalian olfactory system."

Of course, Hallem's graduate work at Yale was not the first time she worked with flies. While attending Santa Monica High School (CA), she began her research career working in Larry Zipursky's lab (UCLA) after school and during the summer. She spent her time there looking for genes required for the development of photoreceptor neurons in the *Drosophila* eye.

Besides the summer course she took in middle school, Hallem credits her father as influencing her decision to be a scientist. Although not a practicing scientist, he earned a Ph.D. in chemistry. In speaking about his encouragement, Hallem says, "He was always introducing me to different scientific concepts and he was always talking to me about science."

A native Californian, Hallem, who often visited relatives on the East Coast while growing up, attended Williams College in Massachusetts for her undergraduate degree. "I wanted to go someplace on the East Coast to have a different environment," Hallem relates. "Williams is a small school with small, personal classes. Teachers really take an interest in you." At Williams, Hallem majored in biology and chemistry, focusing on biology. "I took a lot of biology courses, and attended a number of biology summer programs," she notes.

Hallem's decision to go to Yale for graduate work was based on the variety and options provided by the school's interdepartmental neuroscience program. "I really liked the program. When I interviewed there, the people were really nice and excited about the program," she says. Although Hallem didn't interview with John Carlson, her future mentor, "when I got here, I thought more closely

*Continued on page 4*

# GSA Capitol Hill Advocacy Day A Success

*by Matt Zonarich, formerly of the Joint Steering Committee for Public Policy*

The GSA's Board of Directors spent the day of May 18 on Capitol Hill,educating members of Congress and their staffs on the importance of basic biomedical research funding. The distinguished GSA delegation made the trek to Washington, D.C. to participate in a crash course in public policy advocacy because it is important that Capitol Hill hears directly from the scientific community.

The Board members saw firsthand how Congress operates by participating in 25 meetings with representatives and senators. The main topics of discussion were increased funding for the National Institutes of Health and the National Science Foundation. In addition, by talking about their own research, GSA scientists reinforced the importance of basic research to the health, economy and security of our nation. The group also discussed the importance of stem cell research and the need to expand the number of stem cell lines currently available to federally funded researchers. The timing of GSA's Capitol Hill Day was crucial because the following week the House of Representatives passed H.R. 810, the Stem Cell Research Enhancement Act.

# GSA Profile

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## Elissa Hallem

about what I wanted to do and decided it would be fun to work with flies again," she added.

Speaking of her advisor, John Carlson, Hallem says, "He was a great advisor and this was the perfect lab for me to join. John allowed just the right amount of freedom for pursuing your own path and questions that you thought were the most interesting, but he was always there to offer critical insight at the right time."

Obviously, pursuing her own path and research questions has paid off for Hallem. In addition to receiving this spring the Sandler Award for an outstanding thesis, she also received the Harold M. Weintraub Graduate Student Award from the Fred Hutchinson Cancer Research Center in Seattle for her work with *Drosophila* and mosquito olfactory receptors.

The stage for Hallem's next act, a postdoc, is Paul Sternberg's lab at the California Institute of Technology. As of this writing, she has not started working there yet, so she's "not sure what I'll be doing." Recently married, she is looking forward to moving back to her home state with her husband, Joe Vanderwaart, who has a faculty position at Pomona College. Her goal is a career in academia, and she's well on the way to achieving that, thanks to a key experience back in middle school.

## Awards Nominations OPEN 'Til September 19th

There is still time to nominate fellow members for the three GSA awards – the Thomas Hunt Morgan Medal for a lifetime of contributions to genetics research, the GSA Medal for outstanding scientific contributions in the past 15 years, and the George W. Beadle Award for outstanding contributions to the community of geneticists. Please submit your nominations by September 19. (See www.genetics-gsa.org, click on "GSA M...hip/Joining the GSA" or "About the Society" and ...GSA Award Nominations.") As of this writ-...ons were received. Awards will be ... Web site, in the next issue of *GENEtics* ...Organisms meeting in San Diego, January


**1** Rep. Peter DeFazio (D-OR), left and Board member John Postlethwiat

**2** The GSA on Capitol Hill: From l to r, front row, Executive Director Elaine Strass and Board Secretary Anita Hopper. Middle row: Board member Trudi Schupbach, Vice President Barry Ganetzky, Board member Tom Cline, Past President Mark Johnston, President Terry Orr-Weaver, Board members Susan Dutcher, Stan Fields and Maynard Olson. Last row: Board members John Postlethwait and Scott Hawley

**3** Sen. Patty Murray (D-WA), center, meets with Board members John Postlethwait, left and Stan Fields, right.

**4** Rep. Jim McDermott (D-WA), left, meets with Board member Stan Fields

**5** Board member Sue Dutcher, Rep. William "Lacy" Clay, Jr. (D-MO) and Past President Mark Johnston

**6** Rep. Michael Capuano's office, from l to r: GSA Board member Tom Cline, President Terry Orr-Weaver and Executive Director Elaine Strass with Rep. Capuano (D-MA)

Photos by John Postlethwait and Elaine Strass

# GSA Conference

## "Genetic Analysis: From Model Organisms to Human Biology"
## January 5-7, 2006 • San Diego, CA

Join your colleagues in San Diego this January for a new conference that will emphasize the value of model organisms in understanding biology and basic mechanisms of human disease. The genome sequences have reemphasized the extent to which all organisms are built from the same set of genes, underscoring the importance of model organisms for understanding gene function. Human and model organism genetics will be highlighted at this meeting in a complementary way.

**• Two poster sessions for contributed abstracts • Some abstracts selected for oral presentation**

### DEADLINES

**Abstract submission: Monday, November 14, 2005**

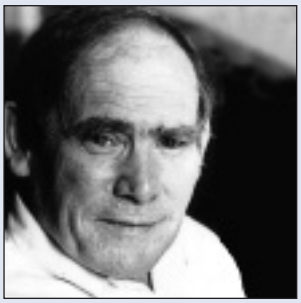
**Meeting registration and housing reservation: Thursday, December 1, 2005.**

***Attendance at the meeting is limited, so register early.***

For more meeting information and to register online, visit the meeting Web site at: www.GSA-MODELORGANISMS.org.

**Keynote Speaker**
Paul Nurse, Rockefeller University

**Keynote Speaker**
Mary-Claire King,
University of Washington, Seattle



**Keynote Speaker**
Sydney Brenner, Salk Institute

**Be a part of this new and exciting meeting by registering today. We look forward to seeing you in San Diego!**

## SESSIONS

### SESSION 1 – Growth, Differentiation and Cancer

Co-Chair and Speaker
Steve Elledge

Co-Chair Charles Sherr

Speaker Vicki Lundblad

Speaker Titia de Lange

Speaker Iswar Hariharan

### SESSION 2 – Gene Interactions and Unraveling Complex Traits

Co-Chair and Speaker
Aravinda Chakravarti

Co-Chair Chuck Langley

Speaker Allen Orr

Speaker Trudy Mackay

Speaker Peter Donnelly

# MEETING SESSIONS

## SESSION 3 – New Insights into Epigenetic Phenomena


Co-Chair and Speaker
Art Beaudet


Co-Chair and Speaker
Barbara Meyer


Speaker Vicki Chandler


Speaker Steve Henikoff

**GENETIC ANALYSIS: Model Organisms to Human Biology**

## SESSION 4 – Stem Cell Genetics


Co-Chair and Speaker
Judith Kimble


Co-Chair and Speaker
Janet Rossant


Speaker Alan Spradling


Speaker Liheng Li

## SESSION 5 – Neurological Diseases


Co-Chair and Speaker
Susan Lindquist


Co-Chair Jeremy Berg


Speaker Li Hui Tsai


Speaker Mario Capecchi


Speaker Cynthia Kenyon

## SESSION 6 – Comparative Genomics


Co-Chair Maynard Olson


Co-Chair and Speaker
Eric Green


Speaker Bill Gelbart


Speaker David Kingsley


Speaker Richard Durbin

## SESSION 7 – Technology


Chair Stan Fields


Speaker Ron Davis


Speaker George Church


Speaker Lee Hood

# From the September Issue of GENETICS

*by R. Scott Hawley*

Here are some upcoming articles that caught our interest.

**Title: The fission yeast *Schizosaccharomyces* pombe has two importin-α , Imp1p and Cut15p, which have common and unique functions in nucleocytoplasmic transport and cell cycle progression**

Authors: M. Umeda, S. Izaddoost, I. Cushman, M. S. Moore, and S. Sazer

The import of NLS-containing proteins into the nucleus depends on importin-α transport receptors. The two importin-α genes in fission yeast, *cut15* and *imp1*, are essential for efficient nuclear protein import. Umeda *et al.* examine the functional similarities and differences between these two proteins. Differences in mutant phenotypes show that Imp1p and Cut15p each have unique physiological roles. However, they must also share some functions because temperature sensitive mutations in both genes are synthetically lethal and over-expression of either gene can rescue some, but not all, of the phenotypic defects generated by mutants in the other gene.

**Title: Molecular evidence for transcription of genes on a B chromosome in *Crepis capillaris***

Authors: C. R. Leach, A. Houben, B. Field, K. Pistrick, D. Demidov, and J. N. Timmis

Plant B chromosomes have long been thought to be as genetically inert as they are dispensable. However Leach *et al*. found evidence for actively transcribed genes on a plant B chromosomes. They show that at least one type of rRNA gene family located on these chromosomes is actively transcribed, and in doing so demonstrate that these chromosomes are not in fact transcriptionally inert.

**Title: Genetic instability induced by overexpression of DNA ligase I in budding yeast**

Authors: J. Subramanian, S. Vijayakumar, A. E. Tomkinson, and N. Arnheim

The rapid expansion of microsatellite arrays in humans plays an important role in the generation of disease and the development of some types of cancers. Norm Arnheim and his collaborators show that the overexpression of DNA ligase I increases the rates of trinucleotide repeat expansion and contraction in budding yeast. Surprisingly, this effect is not due to the increase in ligase activity, since mutant proteins that lack catalytic activity have the same effect, but only if they possess a functional PCNA binding site. Their analysis shows that this occurs by disrupting the normal interplay of PCNA with other proteins such as Fen1.

**Title: Molecular genetic analysis of the nested *Drosophila melanogaster Lamin C* gene**

Authors: S. R. Schulze, B. Curio-Penny, Y. Li, R. Imani, L. Rydberg, P. K. Geyer, and L. L. Wallrath

The *Drosophila LamC* gene produces an A-type lamin. Because mutants in the human A-type lamin gene lead to diseases called laminopathies, the authors set out to determine whether mutants in the fly *LamC* gene might serve as a useful model to study lamin biology and disease mechanisms. They generated transgenic flies expressing mutant LamC proteins modeled after human disease-causing lamins. These flies display a nuclear lamin aggregation phenotype remarkably similar to that observed when human mutant A-type lamins are expressed in mammalian cells, suggesting that *Drosophila* may well be a useful model for the study of disease.

**Title: A genetic linkage map for the tiger pufferfish, *Takifugu rubripes***

Author: W. Kai, K. Kikuchi, M. Fujita, H. Suetake, A. Fujiwara, Y. Yoshiura, M. Ototake, B. Venkatesh, K. Miyaki, and Y. Suzuki

Because of its compact genome, the tiger pufferfish, *Takifugu rubripes*, *(fugu)* has become an important model organism. Although a "draft" level sequence is available, it is highly fragmented due to the lack of a genetic or physical map. Kai *et al*. have repaired this deficiency by constructing the first genetic linkage map for *fugu*. Such a map is a necessary 'next step' for the development of a complete physical map of the genome of this new model organism.

# Abstracts, Art and Comedy at *C. elegans* Meeting

*by Tim Schedl*

The *C. elegans* community converged on the UCLA campus June 25 to 29 for their 15th International Meeting. The biennial meeting was attended by 1800 researchers and was packed with four plenary sessions, 17 concurrent symposia, and eight workshops. More than 1000 posters were displayed throughout the meeting in Pauley Pavilion, the historic basketball stadium.

The meeting featured 2002 Nobel Laureate Robert Horvitz as the keynote speaker, who was introduced with personal observations and stories by Martin Chalfie, Columbia University. Horvitz presented the history of research that led to the Nobel Prize awarded to him and Sydney Brenner and John Sulston. He also discussed the current state of biomedical research funding for model organisms and implored attendees to lobby their members of Congress to, at a minimum, keep funding apace with the biomedical inflation rate, if not increase it. Congressional lobbying by GSA members is facilitated through The Joint Steering Committee for Public Policy (see http://www.jscpp.org/ to sign up for a free membership). Additionally, Paul Sternberg of the California Institute of Technology took the opportunity to belatedly present Horvitz with the 2001 GSA Medal for outstanding contributions in genetics.

Other highlights of the meeting included the 4th Biennial *C. elegans* Art Show, organized by Ahna Skop, University of Wisconsin, Madison and the Worm Comedy Show presented by Morris Maduro, University of California, Riverside, and Curtis Loer, University of California, San Diego.

The art show featured approximately 40 works including photos, drawings, paintings and mixed media representations of worms. Prizes were awarded based on votes received from meeting participants. The organizers of the show are grateful for sponsorship from Chroma Technologies, Zeiss, Improvision, Open Biosystems, Midwest Scientific, Invitrogen, Addgene and Integrated DNA Technologies.

At the Worm Comedy Show, Maduro and Loer developed vignettes using song, dance, and slides to playfully poke fun at their colleagues (as well as themselves). They pointed out that a *C. elegans* researcher could be easily recognized as the individual with the old Toyota but a brand new PowerBook. Those who missed this side-splitting show can learn how to obtain the DVD and find highlights at http://www.faculty.ucr.edu/~mmaduro/ws05.htm. For the full meeting program and abstracts see the GSA Web site at http://genetics.faseb.org/genetics/Celegans/.


**1** Robert Horvitz, left, receives the GSA Medal from Paul Sternberg. **2** GSA Mentor Lunch led by Piali Sengupta. **3** Art show organizer, Ahna Skop with some of the submitted works of art. **4** Morris Maduro, left, and Curtis Loer, right, perform their Worm Comedy Show. Photo by Katy Lin. **5** Conference organizers Tim Schedl, Washington University, St. Louis, MO and Monica Driscoll, Rutgers University, Piscataway, NJ, conferring at the 15th International *C. elegans* Meeting.

# Drosophila Genome Update

*compiled by William Gelbart, Doug Smith and Thom Kaufman*

The sequencing of several *Drosophila* genomes is nearly complete, and we are now in the process of identifying the reference sets of genes, syntenic relationships and chromosomal maps, that will serve as a resource to the *Drosophila* community. These reference data sets will be the major focus of the initial publication on these genomes. We urge interested individuals in the community to contribute to this effort or to publish their initial findings in a special journal issue timed to appear at the same time as the initial genome center publication.

So as to not constrain analysis by the community, we intend to:

- coordinate downstream analyses and publication of the results by acting as liaisons with one or more journals;
- keep track of who is planning to do what analyses and make that information available.

Individual participating groups should plan on completing their analyses and submiting their manuscript for peer review and publication in early 2006.

Two approaches are being employed to create sequence assemblies of the euchromatin:

- Bill Gelbart's group is evaluating the feasibility of using syntenic information to align supercontigs into chromosome arm-sized units (ultracontigs).
- Sequence tagged genetic markers (e.g., recombinationally mapped cloned genes, microsatellite markers, SNPs) will be used to associate the supercontigs and/or ultracontigs with the linkage map of each species. *In situ* hybridization to polytene chromosomes of markers from anchor points on the superscaffolds and/or ultracontigs will be used to correlate the sequence and cytogenetic maps of each chromosome. Thom Kaufman (kaufman@bio.indiana.edu), Bryant McAllister (bryant-mcallister@uiowa.edu) and Teri Markow (tmarkow@public.arl.arizona.edu) are organizing this effort, which is expected to be completed in October. They have identified the following people to take the lead on organizing their species community for this effort:
- *melanogaster* species group (*simulans, yakuba, sechellia* and *erecta*): Michael Ashburner (ma11@gen.cam.ac.uk) and Thom Kaufman (kaufman@bio.indiana.edu)
- *ananassae*: Muneo Matsuda (matsudam@kyorin-u.ac.jp) and Kiyohito Yoshida (majin@ees.hokudai.ac.jp)
- *pseudoobscura*: Steve Schaeffer (swschaeffer@psu.edu)
- *persimilis*: Mohamed Noor (noor@duke.edu)
- *willistoni*: Claudia Rohde (claudiarohde@yahoo.com)
- *virilis*: Bryant McAllister (bryant-mcallister@uiowa.edu) and Jorge Vieira (jbvieira@ibmc.up.pt)
- *mojavensis*: Teri Markow (tmarkow@public.arl.arizona.edu)
- *grimshawi*: Patrick O'Grady (pogrady@uvm.edu).

| Dros. species | Sequencing & Assembly Status | Sequencing Center |
|---|---|---|
| *virilis* | >8-fold WGS complete & assembled | Agencourt |
| *ananassae* | >8-fold WGS complete & assembled | Agencourt |
| *mojavensis* | >8-fold WGS complete & assembled | Agencourt |
| *erecta* | >8-fold WGS complete & assembled | Agencourt |
| *grimshawi* | ~8-fold WGS (BAC paired ends currently being sequenced; assembly to be released by Sept 15) | Agencourt |
| *willistoni* | ~6-fold WGS (BAC paired ends currently being sequenced; assembly to be released by Sept 15) | Venter Institute |
| *persimilis* | ~3-fold WGS complete (not yet assembled) | Broad Institute |
| *sechellia* | ~3-fold WGS complete (not yet assembled) | Broad Institute |
| *yakuba* | ~6-fold WGS complete (assembly in GenBank) (additional coverage - automated sequence improvement expected Fall '05) | Washington Univ. |
| *simulans* | ~3-fold WGS of w501 strain & 1-fold coverage of 6 other strains complete (2 assemblies currently available; deeper coverage of w501 strain expected Fall '05) | Washington Univ. |

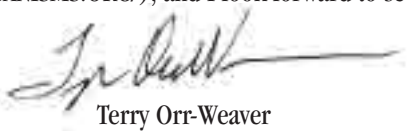
# From the President's desk:

*Continued from page 1*

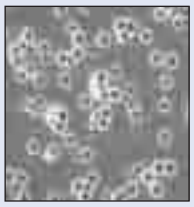
organisms. This is now more important than ever because of the increasing emphasis being placed on translational and applied research. The visit of the GSA Board of Directors to Capitol Hill was successful in reminding members of Congress to keep research funding high on their agendas by supporting the NIH and NSF.

In addition to these public policy efforts, the GSA has undertaken initiatives to support the education and training of students and postdocs. GSA-sponsored prizes for poster presentations at model organism meetings are now in their second year and have had an important impact in recognizing the research and supporting the careers of the young scientists who are our future. At the recent *C. elegans* meeting in Los Angeles, the GSA sponsored mentor lunches in which students and postdocs could meet and discuss with professors the next steps in their careers. These were well attended and proved to be extremely informative and helpful. This lunchtime activity will be repeated at all GSA-sponsored meetings because the interest was so high among attendees. The lunch session provided a networking opportunity for students and postdocs who will undoubtedly continue these conversations with mentors after the meeting.

The GSA meeting "Genetic analysis: From model organisms to human biology" (Jan. 5-7, 2006 in San Diego) will provide further opportunities to learn about and appreciate the implications of discoveries made using model organisms. (See article and photos on pages 6-7.) Registration is now open for this meeting (http://www.GSA-MODELORGANISMS.ORG/), and I look forward to seeing you there.



Terry Orr-Weaver



## Yeast Arrays Available

Jef Boeke (Johns Hopkins) reports that the long anticipated oligonucleotide arrays of the sequences that "bar-code" each deletion mutant in the Yeast Gene Knockout Collection are now available for purchase for a reasonable price. These arrays enable profiling of the entire Knockout Collection, and are expected to be a boon to yeast researchers. Learn how to obtain this useful reagent by visiting http://barcode.princeton.edu/

*Do you know of resources that would be useful to your colleagues? Please let us know at pedelman@genetics-gsa.org so we can include the announcements in future newsletters.*

# Public Policy Update

*Continued from page 12*

## NIH/NSF Appropriations Update

The Labor/HHS Appropriations bill, which funds the NIH, received $1.1 billion less than last year in President Bush's proposed FY 2006 budget, which was sent to Congress in early February. Funding for nearly all health programs was cut or flat-funded. The NIH was one of the few winners, receiving a proposed increase of $142 million (0.5%) for NIH funding for a total of $28.8 billion.

The House Labor/HHS Appropriations Subcommittee basically followed Bush's proposed funding level for NIH with $142.5 billion, or $163 million (0.1%) less than last year. The full House approved the bill in June on a vote of 250-151. The Senate was more generous: Labor/HHS Subcommittee Chairman Arlen Specter (R-PA) and Senator Tom Harkin (D-IA) made medical research their top priority, and recommended for the NIH an increase of $1.05 billion (3.7%) over last year for a total of $29.4 billion or $909 million more than the House bill provides.

NSF is funded under the Science/State/Justice/Commerce Appropriations bill in the House. The House bill, approved in mid-June, provides NSF with $5.64 billion, an increase of $171 million over last year and $38 million above the President's request. The Senate Commerce/Justice/Science Appropriations bill provides NSF with $5.5 billion, an increase of $58.1 million over last year.

To iron out the discrepancies between the House and Senate appropriations, both funding bills will have a final mark-up in House/Senate conference committees. Final appropriation bills should reach both houses of Congress by October for the 2006 budget.

**Join the CLC**

Contribute your voice to the science policy debate by joining the Congressional Liaison Committee of the Joint Steering Committee at www.jscpp.org/clc.cfm.

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# Public Policy Update

*by Matt Zonarich, formerly of the Joint Steering Committee for Public Policy*

## PROPOSED NIH & NSF FUNDING DISAPPOINTING

## Senate Confirms Kathie Olsen To Be NSF Deputy Director

Shortly before its summer recess in August, the Senate confirmed Kathie Olsen, as deputy director of the National Science Foundation. President Bush nominated Olsen, a former associate director for science in the White House Office of Science and Technology Policy (OSTP), on May 24th. Prior to working at OSTP, she was NASA's chief scientist. Olsen replaces outgoing deputy director Joe Bordogna.

## Senate Majority Leader Frist Backs Embryonic Stem Cell Research

Senate Majority Leader Bill Frist (R-TN) stunned Washington during a floor speech on July 29 by urging his colleagues to support S. 471, the Stem Research Enhancement Act of 2005, which would expand the number of stem cells lines available to federally funded researchers. Frist, while supporting S. 471, acknowledged the bill would need to be rewritten because it lacks a "strong ethical and scientific oversight mechanism."

Frist, a heart-lung transplant surgeon, had previously ignored repeated calls from the scientific community and his colleagues in Congress to support and schedule a floor vote on the legislation, which passed the House of Representatives on May 24. Frist's position puts him in direct opposition to the President, who has vowed to veto the legislation.

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