

THE GSA REPORTER

winter • spring 2012

New Executive Director Now on Board

Adam P. Fagen, Ph.D., stepped in as GSA's new Executive Director beginning December 1, 2011. Dr. Fagen previously was at the American Society of Plant Biologists (ASPB), where he was the director of public



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GSA Welcomes 2012 Board Members

The Genetics Society of America welcomes four new members elected by the general membership to the 2012 GSA Board of Directors. The new members are: **Michael Lynch** (Indiana University), who serves as vice president in 2012 and as GSA president in 2013 and **Marnie E. Halpern** (Carnegie Institution for Science); **Mohamed Noor** (Duke University); and **John Schimenti** (Cornell University), who will serve as directors.

In addition to these elected officers, **Brenda J. Andrews** (University of Toronto), Editor-in-Chief of GSA's journal, *G3: Genes | Genomes | Genetics*, which was first published online in June 2011, becomes a member of the Board of Directors. The bylaws have historically included the *GENETICS* editor-in-chief on the Board and as a result of a 2011 bylaw revision, the *G3* editor-in-chief will now also have a seat on the Board.

"We are delighted to have these prominent scientists and educators join the Board this year and look forward to their leadership as the Society continues to grow and evolve. We thank the outgoing Board members for their dedicated service and continued involvement," said GSA Executive Director Adam P. Fagen.

These new officers and directors began their tenure on January 1, 2012, and will remain on the GSA Board until December 31, 2014.

New Members of the GSA Board of Directors

VICE PRESIDENT:

Michael Lynch,
Distinguished Professor of Biology, Class of 1954 Professor, Department of Biology, Indiana University,



Bloomington. Dr. Lynch is a population and evolutionary biologist and a long-time member of GSA. Dr. Lynch sees GSA as the home for geneticists who study a broad base of topics and organisms, and as a forum where general discussion occurs, whether based on the principles of genetics, the most pressing issues within the discipline itself, or responses to societal concerns and/or conflicts within applied genetics. His professional interests focus on integrating the life sciences, from molecular to cellular to whole organism biology, and emphasizing the synthesis of empirical investigation with well-grounded mathematical theory, a bridge made possible by genetics.

DIRECTORS:

Marnie E. Halpern,
Staff Member, Department of Embryology, Carnegie Institution for Science; Adjunct



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2012 GSA Award Recipients Announced

GSA is pleased to announce the 2012 recipients of its five awards for distinguished service in the field of genetics. The recipients of these awards were nominated and selected by their colleagues. They are: Katherine V. Anderson for the Thomas Hunt Morgan Medal; Joanne Chory, for the Genetics Society of America Medal; Therese Markow for the George W. Beadle Award; David A. Micklos for the Elizabeth W. Jones Award for Excellence in Education; and, Dana Carroll for the Edward Novitski Prize.

GSA President Philip Hieter, said, "the individuals honored

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Michael Lynch, Vice President
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Carol S. Newlon, Treasurer
Mark Johnston, *GENETICS*,
Editor-in-Chief
Brenda J. Andrews,
G3: Genes/Genomes/Genetics
Editor-in-Chief

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Elizabeth A. De Stasio
Marnie E. Halpern
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Uniting Genetics for a Stronger GSA

by Adam Fagen, Executive Director

I'm very happy to be at GSA, working with the Board, membership, and staff to advance the interests of the genetics community and ensure a strong future for the Society. Coming to GSA brings me back to my roots: although my career path has brought me from the lab to science education and policy, genetics remains my scientific home in many ways (See New Director article on page 1).

It's also nice to reconnect with the many members of the GSA community who I worked with as an undergraduate and graduate student and in previous positions at the National Academy of Sciences/National Research Council and the American Society of Plant Biologists.

One of my goals for the Society is to make sure there are strong lines of communication among GSA members and with the staff and leadership. Towards this goal, we're making better use of our Facebook page (<http://www.facebook.com/GeneticsGSA>) and Twitter feeds (<http://twitter.com/GeneticsGSA>) and will be making changes to the GSA website this year to make it more useful and informative for GSA members and the public.

And, we want to hear from you about what GSA is doing well, what we could be doing better, and what more we could be doing.

Starting the Conversation

To start this conversation, I have a question I'd like to ask: **How do we bring the entire genetics community together across model systems while continuing to promote the strong sense of belonging among those who work with individual model organisms?**

"How do we bring the entire genetics community together across model systems...?"

Although the genetics community is strong and growing, it is also somewhat splintered. That is to say many of us identify at least as much with our own model organism as we do with the discipline of genetics. Yet there is something that binds us together as geneticists: there are similar kinds of questions we answer and similar approaches we use, whether working in fruit flies or fruit plants, zebrafish or zebra finches. We teach the same courses, apply for the same funding, and publish in many of the same journals—including and especially in *GENETICS* and *G3: Genes/Genomes/Genetics*.

I know that many associate your interactions with GSA from participation in a GSA-sponsored conference and join the Society at least partly because of discounts on meeting registration. But while GSA will continue to seek opportunities to bring in other model organism communities (e.g., GSA is coordinating the International Conference on Zebrafish Development and Genetics for the first time this year), geneticists are using dozens of model systems for studying questions of interest—and there's an increasing tendency to move across systems in order to follow the science where it leads. **How do we best represent the interests of geneticists whether or not there's a GSA-sponsored model organism conference for your research community?**

Of course, many within our community don't study specific model systems but focus on fundamental and applied aspects of genetics more generally. **How can the Society best serve and integrate those who study population genetics, genomics, evolution, education, systems biology, and many other areas that are not limited to particular organisms?**

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Phil
Hieter

Connecting, Communicating and Collaborating

How interaction among all geneticists strengthens our community

by Phil Hieter, GSA President

It is with great anticipation and excitement that I look forward to serving the GSA this year. We need to raise and maintain awareness of the value of model organism genetics to society in human health, agriculture, alternative energy, the environment, and industry, as well as in scholarship, discovery, and learning about the biological world.

The GSA must step up our efforts on several fronts, including supporting genetics research in plants, animals, and microbes, enhancing genetics training at all levels, fostering public outreach and education, and articulating the value of science to society. It's a critical mission, at a critical time. One of our goals must also be to stimulate interaction among geneticists. We need to make connections with each other, across the GSA model organism genetics communities, and across to the human genetics community as well.

In October 2009, I attended the American Society of Human Genetics (ASHG) Annual Meeting where the 150th anniversary of the publication of Darwin's *The Origin of Species* was celebrated. In the opening session, several talks reviewed how the determination and comparison of

One of our goals must also be to stimulate interaction among geneticists.

the entire genome sequence from as few as four patients suffering from an

"orphan disease" could reveal the single gene, mutated in each of the four genomes, that is the major genetic determinant. I realized for the first time we were at the brink of an unprecedented era of mutation discovery in humans. Who could have predicted, even four years ago, when Jim Watson's personal genome sequence was published in *Nature* using prior, much more expensive technology, that a human genome would be obtainable for less than \$10,000 today?

This was a quantum leap from the heyday of positional cloning in the late 1980s, when the first Mendelian disease genes were slowly and at great expense being discovered, only to find that the gene's function was largely unknown. Almost always, clues and strategies for further research came from model organisms, even though this principle was not universally appreciated.

Model Organisms and Understanding Human Disease

In the early 1990s, the relevance of model organisms — yeast, flies, zebrafish, and worms — to our understanding of human disease mechanisms was underappreciated or even questioned. Later in that decade, several key discoveries and the output of the genome sequencing projects

raised awareness.

Comparison of the genome sequences of *E. coli*, yeast, worm, fly, mouse, and human directly demonstrated the striking extent to which all organisms are built from the same set of genes and highlighted the enormous value of model experimental organisms for the study of evolutionarily conserved gene function. These landmark accomplishments showed that few, if any, biological processes are unique to humans at the gene level.

It became clear that fundamental aspects of most human disorders can be informed through analysis of orthologous genes and pathways in experimentally tractable organisms by using sophisticated experimental toolboxes developed for each model organism. And the aggregate of model organisms was much more powerful than any one, because of the complementarity of their biology and experimental tools.

The 2012 MOHB Meeting: Cancer Genetics

Over the past decade, there has been an increasing trend towards "translational research," and in some cases, diminished appreciation of the importance of basic discovery and the multi-organismal approach to solving biological problems. Some ask, "what is the relevance of research on fruit flies or yeast to human health?" without recognizing that most of the fundamental discoveries on the biology of living organisms were made in model organisms.

In recognition of the need for enhanced cross-talk between model organism and human genetics researchers, the GSA's biennial meeting, "Model Organisms to Human Biology" (MOHB) will next convene June 17-20, 2012 in Washington, DC, with a focus on cancer research.

The "MOHB — Cancer Genetics" meeting will bring together

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Professor, Department of Biology, Johns Hopkins University. Dr. Halpern's research has spanned two model organisms – *Drosophila* and zebrafish. Currently working with zebrafish, Dr. Halpern studies neural development with specific interest in how differences are established between the left and right sides of the developing brain. Besides her research, Dr. Halpern is active in science outreach programs in the Baltimore area. Working with local science teachers in her community, she developed the "Women Serious About Science" program to encourage women and girls to pursue research careers in science.

Mohamed Noor,

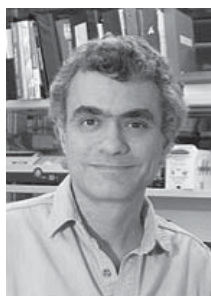
Earl D. McLean Professor and Associate Chair, Department of Biology, Duke University. An evolutionary geneticist, Dr. Noor focuses on



the genetic architecture of traits that contribute to species formation or maintenance, including behavioral discrimination, hybrid sterility, and hybrid inviability. His research focuses on the model organism *Drosophila*. Dr. Noor is active in community outreach and is committed to educating the public and policymakers about genetics, genetics researchers, and their work. He has experience on the boards of other professional genetics membership societies and has served as an associate editor on numerous editorial boards, including *GENETICS* (2001–2004).

John Schimenti, *Professor of Genetics, Department of Biomedical Sciences, Cornell College of Veterinary Medicine; Adjunct Professor, Department of Molecular Biology and Genetics; Director, Center for Vertebrate*

Genomics, Cornell University. Using the mouse model system, Dr. Schimenti's lab investigates the genetics of mammalian development, gametogenesis, and maintenance of genome integrity, all of which have implications in the development of cancers. Dr. Schimenti recognizes the need for educating trainees, the public, and policymakers about what geneticists do, why, and how genetics is revolutionizing our understanding of life and our health. He serves on editorial boards for numerous genetics publications, including *GENETICS*, where is a member of the Senior Editorial Board.



EDITOR-IN-CHIEF:

G3: Genes | Genomes | Genetics

Brenda J. Andrews,

Professor and Chair, Banting & Best Department of Medical Research; Director, Donnelly Centre, University of Toronto. Dr. Andrews began her tenure as editor-in-chief of GSA's new journal *G3: Genes | Genomes | Genetics* in 2010, before its inaugural publication in June 2011. The journal seeks to publish well-executed and lucidly-interpreted genetic studies of all kinds and is not bound by subjective editorial criteria of importance, novelty or broad appeal. Dr. Andrews is a yeast geneticist, whose lab uses functional genomics to explore mechanisms of cell cycle control, cell polarity, and gene regulation. She is also involved in projects that aim to systematically



explore genetic interaction networks in yeast and other model organisms.

These new officers and directors replace Past President R. Scott Hawley, (Stowers Institute for Medical Research), and Directors Jay C. Dunlap, (Dartmouth Medical School), Douglas E. Koshland, (University of California, Berkeley), and Susan R. Wessler (University of California, Riverside) whose tenure on the GSA Board ended on December 31, 2011. The new members join the following Board officers and directors who continue to serve the Society until the year noted (in parenthesis).

- President (2013) Philip Hieter, (University of British Columbia)
- Past President (2012) Paul Sternberg, (California Institute of Technology)
- Secretary (2012) Mariana F. Wolfner, (Cornell University)
- Treasurer (2013) Carol S. Newlon, (UMDNJ-New Jersey Medical School)
- Editor-in Chief, *GENETICS* (2013) Mark Johnston, (University of Colorado Health Science Center, Denver)
- Director (2012) Utpal Banerjee, (University of California, Los Angeles)
- Director (2013) Bonnie Bartel, (Rice University)
- Director (2013) Judith G. Berman (University of Minnesota)
- Director (2012) Elizabeth A. De Stasio, (Lawrence University, Wisconsin)
- Director (2012) Sue Jinks-Robertson, (Duke University Medical Center)
- Director (2013) Jeannie T. Lee, MD, (Massachusetts General Hospital)
- Director (2012) Thomas J. Silhavy, (Princeton University). ♦

From the GSA Journals:

News from *GENETICS* and *G3: Genes/Genomes/Genetics***G3 is now in PubMed**

Citations from *G3*:

Genes|Genomes|Genetics, GSA's open-access journal launched in June 2011, are now indexed in PubMed, the National Library of Medicine's catalog. In compliance with the National Institutes of Health (NIH) Public Access Policy, all *G3* articles are freely available at PubMed Central.

"Being included in PubMed and PubMed Central is a vote of confidence in the quality of the articles *G3* is publishing" said Brenda Andrews (Univ of Toronto), Editor-in-Chief of *G3*. "Increasing the visibility of this research is important, and part of the goals of *G3*, as an open-access journal."

G3 provides a forum for the publication of high quality foundational research, particularly research that generates useful genetic and genomic information such as genome maps, single gene studies, genome wide association and QTL studies, as well as mutant screens and advances in methods and technology. This new journal offers the opportunity to publish the puzzling finding or to present unpublished results that may not have been submitted for review and publication due to a perceived lack of a potential high-impact finding.

The GSA Journals

GENETICS and *G3*:

Genes|Genomes|Genetics are leading the way in creative electronic publishing with "beyond-the-book" content, including article links to FlyBase, WormBase,

and SGD. Stay tuned for news about upcoming article types, but two to notice are:

YeastBook

Publication of *YeastBook* started in November 2011 as a series of monthly chapters in *GENETICS* and continues over the next two years. These chapters will result in an updated encyclopedia of the reference eukaryotic cell, *Saccharomyces cerevisiae*. Besides organizing and analyzing *S. cerevisiae* data, *YeastBook* is a significant reference tool for non-specialists.

Alan Hinnebusch (NIH) serves as editor-in-chief of *YeastBook*, and leads a team of nine associate editors. *YeastBook* expands on the seminal monograph series *The Molecular Biology of the Yeast Saccharomyces*, published by Cold Spring Harbor Press in the early 1980s and last updated over 15 years ago. *YeastBook* articles are compiled on a separate website, www.genetics.org/content/current#YeastBook. The editors of *YeastBook* and *GENETICS* anticipate that the compendium will span 50 chapters. Because this is an online resource, additional chapters can be added to this electronic volume as the need arises.

The Mouse Collaborative Cross

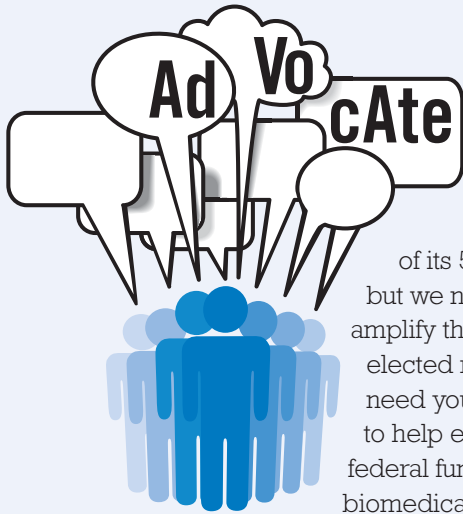
Another of GSA's innovative publishing models was a group of 15 articles focused on the mouse Collaborative Cross (CC) resource and published in the February 2012 *GENETICS* and *G3* journals. The editorial on collaborative science in journals and the *Perspectives*, "Ten Years of the Collaborative Cross" were published in both GSA journals. The other articles were either published in *GENETICS* or *G3*, as the editors considered appropriate.

The mouse CC, developed by an international resource consortium, has 90 percent of the genetic diversity present in laboratory mice, which mirrors the genetic diversity in humans. The 15 articles highlight the contributions of the CC – and a companion mouse resource called the "Diversity Outbred" (DO) resource – to a number of important areas of human health.

"Publishing these papers in GSA's sister journals enables those interested in this research to access a large body of information quickly and easily," said Lauren McIntyre (Univ of Florida), Senior Editor of *GENETICS*. "The journals have made all the data associated with the papers openly available, and are committed to the widest possible distribution. This group of research articles should help accelerate the development of new treatments and drugs."

In Memoriam, James F. Crow (1916-2012)

Just after the New Year on January 4, GSA was saddened to learn of the death of James F. Crow (Univ of Wisconsin-Madison), who was not only a leading figure in 20th century genetics but also an esteemed member of GSA and a long-time editor of *GENETICS*. He was an associate editor of *GENETICS* for five years, and along with William F. Dove founded the feature called, *Perspectives*, and edited it for more than a decade. Jim himself wrote many of the *Perspective* articles, some in only a few days, when a promised manuscript did not materialize. In 2000, GSA published an anthology, *Perspectives on Genetics*, edited by Jim and Bill Dove. (To purchase, contact Mary Shih at mshih@genetics-gsa.org.) For the obituary in *GENETICS*, written by Daniel Hartl, see www.genetics.org/content/190/3/1149.full ♦



Become a Scientist Advocate

GSA is increasingly engaged in advocacy on behalf

of its 5,000 members, but we need your help to amplify that message to your elected representatives. We need you to work with GSA to help ensure adequate federal funding for basic and biomedical research at the

National Institutes of Health (NIH), the National Science Foundation (NSF), and other federal agencies. You'll find that it's easy and rewarding.

The Role of an Advocate

Scientist advocates have several roles. For starters, advocates can voice their opinions on pending funding or policy legislation being considered by Congress. You're in the best position to describe how increasing the budget for basic research will help the scientific community or budget cuts will hurt it. As a constituent, you can send the most effective message to your local representative about how federal support and policies will affect you personally, your lab, your institution, and your community.

Advocates can educate congressional representatives, the vast majority of whom are not scientists and don't understand the value of scientific research, including the crucial role of model organisms. As an advocate, you can inform your representative about what you do and its importance within the bigger research picture, especially if your research provides the foundation for research on human health, agricultural productivity, or other applications the non-scientist can easily understand. Working with your college or university government affairs office, you can invite your elected representative to visit your laboratory to explain your research and its significance. This eye-opening experience can be one of the most effective ways to engage your representatives in supporting research investments.

Advocates can educate the public. Most people do not understand why research is being done on fruit flies or any model organism and are in the dark about genomics or population genetics. Four years ago during the presidential campaign Sarah Palin's infamous dig about fruit fly research having little or nothing to do with the public good probably seemed accurate to much of the lay public. As a researcher, you can help the average citizen understand the importance of your work by speaking to classroom and community

groups and by writing letters to the editor when genetics and model organism research is misrepresented in the media.

Sign Up for Congressional Action Alerts

Through its relationship with the Federation of American Societies for Experimental Biology (FASEB) (www.faseb.org) the Coalition for the Life Sciences (CLS) (www.coalitionforlifesciences.org/), and the American Institute of Biological Sciences (AIBS) (www.aibs.org), GSA offers members easy opportunities for individuals to engage in advocacy, whether you have a whole day or just a few minutes.

For example, the FASEB Congressional Toolbox provides talking points, "how-to" guides, and other materials that scientist advocates can use to communicate with your elected officials. You also can sign up to receive e-action alerts that will tell you when and how to contact members of Congress at key times throughout the year.

The Congressional Liaison Committee of the CLS also offers GSA members the opportunity to be an advocate – for 10 minutes, for 30 minutes or for a day. Learn at their website, www.coalitionforlifesciences.org/, what you can do to help support funding for NIH and NSF.

You can also sign up to receive FASEB's *Washington Update*, a twice monthly e-newsletter that provides information and analysis on Congressional and government actions that impact the biological research community. Of course, all of these lists are free of charge.

In addition, FASEB and the CLS offer "Hill Days," providing opportunities for researchers to meet face-to-face with your congressional representatives in their offices in Washington, D.C. If you're able to participate, you'll receive background information and training in advance of these meetings to help you be as effective as possible in the limited time you will have available with your representatives and their staff. Getting your point across quickly and in language understandable to the representative or their staff is of the essence.

Advocacy Luncheons at GSA Meetings

Through its relationship with FASEB, GSA will be offering advocacy luncheons at many of its upcoming meetings. Learn firsthand from Jennifer Zeitzer, FASEB's Director of Legislative Relations, how to become an advocate and how hearing from constituents really does make a difference to congressional representatives when they vote on appropriations or policy. ♦

Perspective on the Federal Budget

by Jennifer L. Zeitzer, Director of Legislative Relations
in FASEB's Office of Public Affairs (jzeitzer@faseb.org),



Fiscal Year 2012

Despite challenging fiscal times and Capitol Hill's commitment to restrain federal spending, the final fiscal year (FY) 2012 budget provided a small increase for the National Institutes of Health (NIH). In December 2011 President Barack Obama approved an FY 2012 Omnibus Appropriations Bill that included \$30.64 billion for the National Institutes of Health (NIH), a \$240 million (0.08 percent) increase above the FY 2011 level.

A summary circulated by the House Appropriations Committee indicated that the NIH funding level was \$30.69 billion (a \$299 million increase over FY 2011) but that did not include a 0.189 percent across-the-board cut that was added to the bill to bring overall spending within the limits established by the *Budget Control Act* (BCA).

NIH also received authority to establish the National Center for Advancing Translational Sciences (NCATS) and eliminate the National Center for Research Resources (NCRR). Existing NCCR programs will be transferred to other institutes and centers. The total NCATS budget also includes up to \$10 million for the Cures Acceleration Network (CAN) authorized by the health reform legislation (no funds were provided for CAN in FY 2011).

In an explanatory statement accompanying the omnibus bill, the Appropriations Committees strongly urged NIH to ensure that its policies "continue to support a robust extramural community and make certain sufficient research resources are available" to NIH-supported scientists across the country. Additional language was included "affirming the critical importance of new and competing

research project grants to the mission of NIH." The agency was instructed to support as many scientifically meritorious new and competing grants as possible, at a reasonable award level, while maintaining extramural research funding at a minimum of 90 percent of the NIH budget in FY 2012. Appropriators also noted that they assumed that the number of research project grants issued in 2012 would remain at the same level as 2011.

The President's Budget for FY 2013

Although NIH fared well in the 2012 budget debate, the celebration may not last long. In early February, President Obama released his FY 2013 budget proposal. Although the White House summary notes that the budget makes key investments in innovation, research, and education, funding for NIH would remain at \$30.7 billion, the same as the FY 2012 level.

With a flat budget, NIH estimates that it will be able to support 9,415 new and competing research project grants (RPGs) in FY 2013, which begins on October 1, 2012. This would represent an increase of 672 (approximately seven percent) above FY 2012. The total number of RPGs is expected to be 35,888. NIH-wide, the average size of new and competing RPGs in FY 2013 is estimated to be about \$431,000.

In order to maximize resources for investigator-initiated grants, and to continue to focus on resources for new and early-career investigators, NIH intends to discontinue inflationary allowances for competing and continuation grants, reduce non-competing continuation grants by one percent below the FY 2012 level, and negotiate the budgets of competing

grants to avoid growth in the average award size.

NIH will also continue the current policy of equalizing success rates of new investigators and established investigators. In addition, the agency will establish a process for additional scrutiny and review by the Institute or Center Advisory Council of awards to any principal investigator with existing grants of \$1.5 million or more in total costs.

Congressional Review of FY 2013 Budget

Members of Congress are now in the process of reviewing the President's budget request as the first step in completing the annual appropriations (funding) bills. Similar to last year, concern about the growing federal deficit and a desire to cut spending even further are echoing throughout the discussions about the 2013 budget.

Appropriations Committee consideration of the individual FY 2013 bills that allocate funding for each federal agency and program is expected to begin later this spring even though Congress is likely to defer final action on the budget until after the November elections. Senate Appropriations Committee Chairman Daniel Inouye (D-HI) instructed his subcommittee chairmen to start working on the FY 2013 spending bills using the \$1.047 trillion overall discretionary cap established by the BCA.

Each Appropriations Subcommittee will receive a specific spending allotment known as a 302(b) allocation which will then be divided between agencies

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Careers in Genetics: Scientific Curator

by Elizabeth Ruedi, Ph.D., GSA Director, Education and Professional Development

There are jobs outside academia that value a person with a Ph.D. in any life science area including

genetics, but they may require more creative searching than a position in academia.

Eurie Hong found one of those positions and was interviewed by GSA's Education and Professional Development Director, Beth Ruedi.

In the excerpt below, Hong describes her education, skills and the general work environment of her position. The complete interview can be found at the GSA website, http://www.genetics-gsa.org/pages/career_series.shtml#d1.

Eurie Hong, Ph.D.
Senior Research Scientist
Saccharomyces Genome Database (SGD)
Stanford, California

The GSA Reporter: Can you provide us with your basic job description?

Eurie Hong: First, let me explain the different curator positions I have had at SGD over the years.

Initially I was hired as a scientific curator. The main responsibilities included summarizing experimental results from the scientific literature, answering questions from the scientific community, and helping update and maintain the website. At SGD we get about 100-150 new research papers per week. I would read the literature in order to identify key, novel experimental results that characterize the activity, biological role, or localization of a gene product. I would take these data and create an



Eurie Hong

annotation using a controlled vocabulary system; in other words, I would take the gene functions that have been described using free-text language and represent that using a format that a computer program could also use.

The Gene Ontology is one of the controlled vocabulary systems used at SGD so I worked on expanding the biological concepts that are represented in the GO. I also answered questions from the scientific community about how to access the data at SGD or direct them to other helpful online resources. In addition, I worked on updating the website. Scientific curators work with the software group to create new pages to display new data types, as well as test all the webpages for usability.

After three years of being a scientific curator, I became the head curator. In addition to continuing to do the jobs of a Scientific Curator, I managed the entire curation process. I was focused on setting curation priorities, improving the efficiency and accuracy of creating annotations, and making sure that projects moved forward.

I currently hold a senior research scientist position at SGD. I like to refer to the position as an "academic

"Being a curator gives you the opportunity to see science on a global scale.

curator," where I am focusing on how to develop new processes to improve curation. This includes the novel application of tools that have been used in other areas of science to try to improve the efficiency of curation. I am not managing other curators, rather I am trying to see how new curation methods might work, and I am doing a lot of collaboration with other groups that have good tools and software.

TGSAR: What type of education/training is required for your field?

EH: Having a Ph.D. is a requirement. The majority of our team did postdoctoral work, but I did not. The key factor is that you have to be a good scientist; we need to ensure that the data being put into databases is of good quality.

TGSAR: Do you have special talents or skills that contribute to your career?

EH: Being a curator gives you the opportunity to see science on a global scale. It is important to have intellectual curiosity, the ability to learn a new area of science quickly, to be able to critically evaluate the data in that new area of science, and to see the bigger picture of how data are connected.

TGSAR: What is the average income range for people working in your field (entry level through experienced persons)?

EH: This depends so much on where you are working. On the West coast, a scientific biocurator would start at \$60,000, while senior scientific

biocurators would make between \$80,000 and \$90,000.

TGSAR: How many positions are at your current place of employment? Do you know approximately how many similar positions there are in the United States?

EH: There are a total of 12 curators at SGD, representing approximately 9 full-time employees. It is hard to guess the total number of positions in the United States. [Note: *The International Society of Biocuration affiliations list would place it around several hundred*].

TGSAR: How does your current position compare to working in other settings, like academia or industry?

EH: It is similar to academia in that we have a very open office environment, and flexible hours are acceptable. However, unlike academia, as a scientific curator you can put in your 40 hours per week and do your work, but depending on your responsibilities, you may have few requirements outside of work.

I can't really directly compare curation to industry, but I can tell you from observing my friends in industry that their position can be very stressful for them. At SGD it is stressful at times, but there is always a direct end-goal, which is to make the best possible data available in a way that is accessible and searchable.

TGSAR: Why did you choose this career?

EH: When I finished grad school, I wanted to find something where I was exposed to a diverse range of science. I saw the SGD position pop up on their home page, and I applied. Fortunately, it has been a great fit for what I was interested in.

TGSAR: In what ways does your degree help you with this job?

EH: When I was in grad school, there was lots of new genomic technology, and I was enamored by it. My advisor didn't discourage me from thinking about using these new tools, but he made me think about the questions that I would address with them. He taught me to evaluate tools based on their biological usefulness. This point helps with curation—when I read a paper with a new technology, I hear his voice asking what biological questions can be answered using the technology and this helps me not get swept up in the novelty of the technique.

TGSAR: What would be your career advice to someone who is currently in a genetics Ph.D. program? What about to someone who is currently a postdoctoral associate?

EH: To graduate students I would say: take the time to explore! Slow down. Don't try to get through it as fast as you can if you are enjoying yourself. If you don't think that you'll have the luxury of freedom in graduate school, maybe put off going to grad school for a year. I know at that age a year seems like such a long time. But there is really no better time! ♦



"When I finished grad school, I wanted to find something where I was exposed to a diverse range of science."

Uniting Genetics for a Stronger GSA

continued 2

Representing the Entire Genetics Community

GSA is trying to do things that help the entire community of genetics and to represent the collective interests and concerns of the community at large. For example, we hope you have been following the development of a robust set of educational resources and activities (see <http://www.genetics-gsa.org/education/>), and we're about to participate in our first large-scale outreach event: the USA Science & Engineering Festival in Washington, DC, this spring. (We hope those near DC will help out by volunteering for a shift in the GSA booth.)

The Society has just formed a Public Policy Committee to advocate on behalf of genetics, including support for scientific funding and policies that foster research and education across the discipline. We have also just formed a Women in Genetics Committee that will seek ways to enhance the diversity of the genetics community and foster the career development of both men and women in genetics. These new activities cut across our discipline and will hopefully engage all of you—and bring new members into GSA.

Contact GSA with Your Suggestions

If you have other thoughts and suggestions, we want to hear them. Feel free to contact me or any member of the GSA staff or leadership directly. My e-mail address is afagen@genetics-gsa.org, and all of our contact information is on the GSA website (http://www.genetics-gsa.org/pages/contact_us.shtml). Or look for me, GSA leadership and staff at any of the upcoming GSA conferences. We look forward to meeting and hearing from you. ♦

**June 17-20, 2012,
Washington, D.C.**



model organisms to human biology - cancer genetics

GSA's Model Organisms to Human Biology — Cancer Genetics Conference

Connecting research scientists who study model organisms with those investigators studying human diseases has been the objective of the biennial GSA Model Organisms to Human Biology (MOHB) conference since its inception in 2006, but this year's meeting has a focus: cancer genetics. The objective is to have basic research scientists studying cancer relevant biology in model organisms to meet with investigators studying cancer in humans.

"Last year, the GSA Board decided that the value of MOHB meetings would be enhanced if we focused on a broad disease area, rather than span the entire scope of human disease as in the earlier MOHB meetings. With this new format, investigators working on a particular human disease area will be engaged during all sessions, and we are looking forward to dynamic cross talk with model organism biologists throughout the entire meeting," said Phil Hieter, GSA's President.

He added that "cancer was chosen as the first disease research area in this new MOHB format because of the unprecedented pace of discovery of

the genetic variants contributing to cancer progression. And the response from both the model organism and cancer biology communities has been overwhelmingly positive. This will be a very exciting meeting that will stimulate communication and collaboration that we hope will lead to breakthroughs."

The Model Organisms to Human Biology – Cancer Genetics meeting (www.mohb.org/2012) will be held Sunday, June 17 – Wednesday, June 20, 2012 at the Omni Shoreham Hotel in Washington, D.C. and promises to be an intense, informative and exciting meeting. Each of the 10 sessions will pair an invited model organism researcher with one studying cancer in humans—and four talks will be chosen from the submitted abstracts.

These 10 sessions will be accompanied by keynote addresses by Bert Vogelstein (Johns Hopkins University), Angelika Amon (MIT) and Eris S. Lander (Broad Institute of MIT and Harvard). In addition, the program includes a mini-symposium on modENCODE with presentations by Eric Green, Director of the National Human Genome Research Institute

at the National Institutes of Health (NIH) and Chris A. Kaiser, the newly-announced Director of the National Institute of General Medical Sciences at NIH. Finally, MOHB will feature several robust poster sessions in order to give ample time for model organism and human cancer researchers to interact informally and learn more about each others' work.

The MOHB – Cancer Genetics meeting immediately precedes the NIH-sponsored symposium marking the completion of the modENCODE project. The NIH symposium will take place on the NIH campus on Wednesday afternoon, June 20 and Thursday morning, June 21. MOHB – Cancer Genetics participants can register for this symposium free of charge.

The organizing co-chairs for this meeting are GSA President Phil Hieter and Past President (2011) Paul Sternberg.

For more information about MOHB, see the website at www.mohb.org/2012. Don't forget that GSA members receive a significant registration discount.

model organisms to human biology – cancer genetics

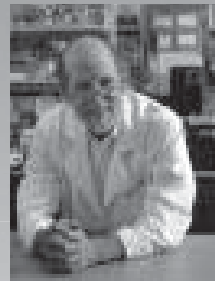
Keynoters:



Angelika Amon, MIT



Eric S. Lander,
Broad Inst of MIT
and Harvard



Bert Vogelstein,
Johns Hopkins Univ

Presentation



Chris Kaiser,
Director-Designate,
National Inst of
General Medical
Sciences/NIH

Photo credit, Kent Dayton

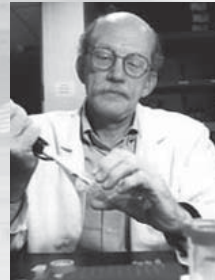
modENCODE Symposium

Moderator and
speaker:



Eric Green, Director,
National Human
Genome Res Inst/NIH

Speakers:



Bob Waterston,
Univ of Washington,
Seattle



Gary Karpen,
Lawrence Berkeley
National Lab

SESSION 1

**Understanding
Tumor
Genomes:
A View Into the
Abyss**

Co-chairs and
speakers:



Elaine Mardis,
Washington Univ



Lynda Chin, MD
Anderson Cancer Ctr

SESSION 2

**Cell Defects 1:
Cell
Proliferation
and Cell Cycle
Regulation**

Co-chairs and
speakers:



Stephen Elledge,
Harvard Univ



Jacqueline Lees, MIT

Mardis: Photo credit, Robert Boston, Washington Univ Medical Public Affairs

continued on page twelve

model organisms to human biology - cancer genetics

SESSION 3

Cell Defects 2: Genome Stability and DNA Repair

Co-chairs and
speakers:



Michael Kastan,
Duke Univ



Sue Biggins,
Fred Hutchinson
Cancer Res Ctr

SESSION 7

Stem Cells and Cancer

Co-chairs and
speakers:



Allan Spradling,
Carnegie Institution
of Washington



John Dick,
Ontario Cancer Inst

SESSION 4

The Tumor Epigenome

Co-chairs and
speakers:



Steve Baylin, Johns
Hopkins Univ



Shiv Grewal, National
Cancer Inst/National
Inst of Health

SESSION 8

Tumor Evolution and Mestastasis

Co-chairs and
speakers:



Joan Massague,
Sloan-Kettering
Cancer Ctr



Denise Montell,
Johns Hopkins Univ

SESSION 5

Non-Coding RNA and Cancer

Co-chairs and
speakers:



Victor Ambros, Univ
of Massachusetts
Med School



Phil Sharp, MIT

SESSION 9

Therapeutics 1: Oncogene- Targeted Therapies

Co-chairs and
speakers:



Charles Sawyers,
Sloan-Kettering
Cancer Ctr

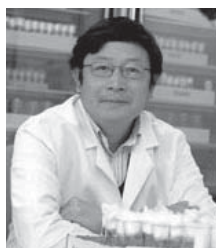


Scott Lowe, Cold
Spring Harbor Labs

SESSION 6

Signaling and Tumor Micro- environment

Co-chairs and
speakers:



Tian Xu, Yale Univ



Zena Werb,
Univ of California,
San Francisco

SESSION 10

Therapeutics 2: Non-oncogene Based Therapies

Co-chairs and
speakers:



Alan Ashworth,
Inst of Cancer Res,
London



Mike Tyers,
Univ of Montreal



Erin S. Keebaugh



Laura H. Okagaki



Kyle R. Pomraning



James E. Robinson



Matthew E. Wolak

13 Young Researchers Receive DeLill Nasser Travel Awards

Thirteen young researchers – five graduate students and eight postdocs – were selected in November 2011 for a 2012 DeLill Nasser Award for Professional Development in Genetics. The award, \$1,000 for each recipient, is a travel grant to attend any national or international meeting, or to enroll in laboratory courses that will enhance their careers.

Past President (2011) Scott Hawley, who knew DeLill Nasser personally said, "The students and the postdocs selected for these awards exemplify those qualities that DeLill Nasser promoted – high levels of inquiry on research that opens windows to further investigation."

The 13 recipients of 2012 DeLill Nasser Awards, their institutions and the conference or lab course they intend to attend are:

Graduate Students:

- **Erin S. Keebaugh**, Emory University, Atlanta, GA, 53rd Annual Drosophila Research Conference, Chicago, IL, March 7-11, 2012.
- **Laura H. Okagaki**, University of Minnesota, Minneapolis, Keystone Symposium: Fungal Biology, Sante Fe, NM, January 15-20, 2012.
- **Kyle R. Pomraning**, Oregon State University, Corvallis, 11th European Conference on Fungal Genetics, Marburg, Germany, March 30-April 2, 2012.

- **James E. Robinson**, University of California-San Diego, Neurobiology of Drosophila, Cold Spring Harbor Labs, June 29-July 19, 2012.

- **Matthew E. Wolak**, University of California-Riverside, Fourth International Conference on Quantitative Genetics, Edinburgh, Scotland, UK, June 17-22, 2012.

Postdoctoral Researchers:

- **Sarah A. Gilmore, Ph.D.**, University of California, San Francisco, Keystone Symposium on Eukaryotic Transcription, Snowbird, UT, March 31-April 5, 2012.
- **Eugene A. Gladyshev, Ph.D.**, Harvard University, Cambridge, MA, Neurospora Conference, Monterey, CA, March 8-11, 2012.
- **Andrea K. Kalis, Ph.D.**, Carleton College, Northfield, MN, Developmental Biology Teaching Workshop, Darling Marine Center, Walpole, ME, June 19-23, 2012.
- **Richard P. Meisel, Ph.D.**, Cornell University, Ithaca, NY, Society of Molecular Biology & Evolution, Dublin, Ireland, June 23-26, 2012.
- **Justine A. Melo, Ph.D.**, Massachusetts General Hospital, Boston, MA, Keystone Symposium, "Innate Immunity: Sensing Microbes & Damage Signals," Keystone, CO, March 4-9, 2012.



Sarah A. Gilmore, Ph.D.



Eugene A. Gladyshev, Ph.D.



Andrea K. Kalis, Ph.D.



Richard P. Meisel, Ph.D.



Justine A. Melo, Ph.D.



Clarissa J. Nobile, Ph.D.



Annalise B. Paaby, Ph.D.



Michael E. Talkowski, Ph.D.

- **Clarissa J. Nobile, Ph.D.**, University of California, San Francisco, 11th European Conference on Fungal Genetics, Marburg, Germany, March 30-April 2, 2012.

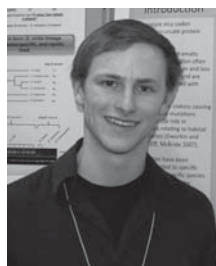
continued on page fourteen



Selma Avdagic



Samantha Galindo



Kenneth B. Hoehn



Emily Hsieh



Jacqueline McDermott



Mohammad Siddiq

Six Undergrads Receive Finnerty Travel Awards to DROS Conference

The Genetics Society of America and the *Drosophila* community of geneticists awarded six undergraduate students the Victoria Finnerty Undergraduate Travel Awards. The awards were used by the students to travel to the 53rd Annual *Drosophila* Research Conference in Chicago, March 7-11, 2012, where they presented research posters. These students, all juniors or seniors in college are:

- **Selma Avdagic**, Saint Louis University School of Medicine, Missouri, (abstract #671).
- **Samantha Galindo**, University of Wisconsin-Madison, (#971).
- **Kenneth B. Hoehn**, Duke University, Durham, North Carolina, (#482).
- **Emily Hsieh**, University of Washington and Fred Hutchinson Cancer Research Center, Seattle, (#483).
- **Jacqueline McDermott**, Hofstra University, Hempstead, New York, (#730).

- **Mohammad Siddiq**, Indiana University, Bloomington, (#503).

"It is inspiring to see these undergraduates conducting cutting-edge research so early in their scientific careers," said Adam Fagen, Ph.D., GSA Executive Director. "We at GSA have no doubt that the future of genetics is strong with such talented young people leading the field."

This is the first time these students have attended a professional scientific research conference where they are describing their research to doctoral students, postdoctoral fellows, and principal investigators from research laboratories all over the world. The experience, described by one student as "both exciting and intimidating," is an opportunity for them to explore the field of genetics research as a possible career.

"Victoria Finnerty was an outstanding scientist and a dedicated teacher and mentor who conveyed her passion for

Drosophila genetics in her creative approaches toward undergraduate education and research. We view this award as an important way to encourage our young scientists to pursue research careers and become our future scientific leaders," said Elizabeth Gavis, Ph.D., Past President of the *Drosophila* Board of Directors and Professor at Princeton University.

The Victoria Finnerty Undergraduate Travel Awards were established last year in memory of its namesake, who was a long-time GSA member, a dedicated undergraduate educator at Emory University for 35 years, and an active member of the *Drosophila* research community and the genetics community at large. The six undergraduates are the first to receive this funding to attend the annual *Drosophila* Research Conference.

To read the students' abstracts, go to www.drosophila-conf.org/2012/abstracts/search.html and search by the program number listed above. ♦

continued 13 13 Young Researchers Receive DeLill Nasser Travel Awards

- **Annalise B. Paaby, Ph.D.**, New York University, NY, Fourth International Conference on Quantitative Genetics, Edinburgh, Scotland, UK, July 17-22, 2012.
- **Michael E. Talkowski, Ph.D.**, Massachusetts General Hospital, Swamscott, MA, Advances in Genome Biology and Technology, Marco Island, FL, February 15-18, 2012.

These awards are named in honor of DeLill Nasser (1929-2000), who was instrumental in promoting genetics research, championing the genome sequencing of *Arabidopsis* and research in *Drosophila* during her 22 years as a program director with the National Science Foundation. She was particularly supportive of young scientists, those at the beginning of their careers, and those trying to open new areas of genetic inquiry.

The DeLill Nasser Awards for Professional Development are awarded twice a year – in the fall for meetings or labs taking place the following January to June and in the spring for meetings or labs from July through December of the current year – to graduate students and postdoctoral fellows. For more information, see www.genetics-gsa.org/pages/delill.shtml. ♦

continued 1 2012 GSA Award Recipients Announced



his year exemplify the seminal contributions that genetics makes to our fundamental understanding of living systems, helping point the way toward such applications as developing new treatments for human disease and increasing the yields of agricultural crops. We are delighted to honor these geneticists who have added so much not only to our field, but to society as a whole."

These five researchers and educators have a broad range of research and professional interests. More information about the recipients and their awards are listed below:

The Thomas Hunt Morgan Medal for lifetime contributions in the field of genetics is named in honor of the classical geneticist who was among those researchers who laid the foundation for modern genetics. Morgan received the 1933 Nobel Prize in Physiology or Medicine for his studies of *Drosophila* chromosomes and the role chromosomes play in heredity.



Kathryn V. Anderson,
Memorial Sloan-Kettering Cancer Center.

Dr. Anderson is a developmental

biologist who has spent decades discovering the genes and proteins that interact during embryonic development to control embryonic patterning in both *Drosophila* and mice. Her work with genetic screening has led to seminal discoveries including genes controlling developmental patterns of the *Drosophila* nervous system, the immune system response in fruit flies, and the early development of mammalian embryos.

The Genetics Society of America Medal was established by GSA in 1981 to recognize mid-career researchers for outstanding contributions to the field of genetics during the previous 15 years of their careers.



Joanne Chory,
Salk Institute for Biological Studies

A long-time member of GSA, Dr. Chory is a leading molecular

and cellular plant biologist, using genetic approaches in *Arabidopsis thaliana* to elucidate the molecular mechanisms underlying plant development. Dr. Chory's research helps understand how plants detect and respond to changes in their environment, particularly light, which has implications for the growth and development of agricultural crops in challenging environments.

The George W. Beadle Award for outstanding contributions to the community of genetics researchers, was established by GSA in 1999 and named for its past president (1946), who received the 1958 Nobel Prize in Physiology or Medicine for his discovery of the role of genes in regulating biochemical events within cells. In addition to his pioneering genetics research, Beadle was also a leader in the educational and scientific communities, serving as president of the University of Chicago (1961–1968) and as a member of numerous influential national committees.



Therese Markow,
University of California, San Diego.

Dr. Markow is a professor of evolutionary biology and ecology, studying speciation, the evolution of mating systems, and adaptation to novel environments. Her research on cactus-breeding *Drosophila* in the Sonoran Desert has broad implications for the field of population genetics, particularly the genetic and ecological factors driving reproductive isolation, which eventually leads to the development of distinct species.

In addition to research in her own lab, Dr. Markow is director of the *Drosophila* Species Stock Center, a living collection of more than 1,600 strains and 250 species of *Drosophila* supported by the National Science Foundation. This center is an invaluable resource for genetics researchers worldwide who use *Drosophila* to answer fundamental questions in evolution, ecology, developmental biology, physiology, neurobiology, comparative genomics, and genomics.

The Elizabeth W. Jones Award for Excellence in Education, which recognizes significant and sustained impact in genetics education, was established in 2006 as the GSA Excellence in Education Award, but was renamed for its first recipient after her death in 2008. The award honors Jones, who during her decades-long tenure at Carnegie Mellon was director of the HHMI Undergraduate Biological Science Program and a mentor to many in the field of genetics.



David A. Micklos, *Cold Spring Harbor Laboratory*

Mr. Micklos, a science educator and writer, founded

the DNA Learning Center (DNALC) at Cold Spring Harbor Laboratory (CSHL) in 1987 as the nation's first science center solely devoted to public education in genetics. Through this center, Mr. Micklos has brought the excitement of DNA science into the educational curriculum for thousands of students, high school teachers, and undergraduate faculty. With his books and the DNALC website, he has brought genetics and genomics resources to students and teachers nationwide and is helping to develop an educated citizenry in genetics.

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investigators who study cancer-relevant problems in model organisms with those who study human cancer. (see page 10) It will be a unique meeting that provides the opportunity for investigators working with model organisms and with humans to communicate with each other, exchange ideas, and forge new collaborations. A diverse set of biological processes and experimental systems will be highlighted because the principles of cross species analysis of basic gene function extend to the study of all human disorders. I hope you will join me in attending this exciting meeting, and help spread the word to your colleagues in the biological and medical fields.

Interaction Among Geneticists

Just this past October, I had the opportunity to attend the 2011 International Congress of Human Genetics (ICHG) and was struck again at how next generation sequencing has blown the roof off the pace of discovery of human genetic variation and its association with human disease.

Again, there seemed to be a cry for information about gene function, so that the mutation mapping discoveries could lead to potential therapies. How do we translate genomic information to advancements in diagnosing, preventing, and treating human disease?

The answers are in the elucidation of gene function and in the understanding of how biological mechanisms are affected by specific mutations. Here is where model organism genetics, coupled with dynamic cross-talk and collaboration between medical scientists and basic researchers, will illuminate and be critical for years to come.

One of the most memorable sessions at ICHG was when two prestigious awards were presented — the International Gruber Prize in Genetics to Ron Davis for fundamental breakthroughs in yeast



GSA President Phil Hieter, left, with GSA members and Gruber Genetics Prize winners, Ronald Davis (2011) (Stanford Univ Sch of Med), center, and Maynard Olson (2007) (Univ of Washington, Seattle) at the International Congress of Human Genetics in Montreal in October 2011.

genetics and the Curt Stern Award to David Altschuler for groundbreaking work in human genetic variation and its application to disease.

In presenting the Gruber Prize, Maynard Olson (2007 Gruber Prize winner) described an amazing series of breakthroughs by Davis and his collaborators over several decades. Notably, both Olson and Davis are recipients of the GSA Medal (1992 and 1998, respectively), and it was gratifying to see the value of fundamental yeast genetics research recognized by the Gruber Foundation and to see these two GSA members at center stage before the human genetics community.

In his acceptance speech for the Stern award, David Altschuler articulated the value of unbiased genetic mapping experiments in defining the variants that contribute to human phenotypes of interest. He described how the history books will show that from 1980 to 2020 genetic mapping revealed a vast number of causal factors for human disease — a “genetic anatomy of human diseases.” But that in the foreseeable future, we must focus on a new “grand challenge”— figuring out the functions of many genes, how they cause disease, and how to use this information to prevent and treat disease.

Altschuler then described his observations, as a medical student at Harvard, of basic researchers in the neighboring labs of Fred Winston and Gary Ruvkin (also GSA members),

who were discovering fundamental mechanisms of biology in yeast and worms that have proven to be relevant to human disease. His final conclusion: collaboration will be the key to addressing the grand challenge.

He summed up by saying, “As we shift from gene discovery to function and therapy, the nature of the collaborations will change, but the need for collaboration will increase, not decrease.” Here he was talking about the interface between human geneticists and basic biologists, to elucidate gene and genome function and thereby enable rational approaches to disease prevention and therapy.

Building an Integrated Genetics Community

I also had the opportunity to meet with Mary-Claire King, the current president of ASHG. In our discussions, we agreed that GSA and ASHG have many common goals and are interdependent in many ways: increased collaboration across the societies would be mutually beneficial and productive.

Mary-Claire also visited the GSA Board meeting last November, where she described the current issues being addressed by ASHG, articulated the urgent need for gene function analysis in the human genetics field, and communicated her desire to explore ways of interfacing the two societies better. One outcome is that the GSA will sponsor a mini symposium on “Model Organism Genetics, Human Biology, and Human Disease” at the November 6-10, 2012 ASHG Annual Meeting in San Francisco.

If we are to maximize benefit and inspire students, government, and the general public, support of GSA programs across all areas of genetics must be creative and collaborative, and must involve our membership.

I invite you to join me in engaging closely with our Society in 2012 and beyond, to further the GSA's critical mission. ♦

Thank You to Our Donors

GSA Fund Donors: August 2011 – December 2011

The Genetics Society of America says “thank you” to the nearly 150 members who contributed \$10,000 to the Society from August-December 2011 to support our general and special funds. Your financial support goes directly to the next generation of geneticists. In 2011 GSA disbursed more than \$75,000 in travel and poster awards to hundreds of young scientists who are in the beginning stages of their careers. We appreciate our members' generous support, but the need is always great. We ask those of you who have not yet contributed to consider making a tax-deductible donation or adding to your previous giving.

“Especially in this time of constrained federal, state, and institutional budgets, it is more important than ever for GSA to support the next generation,” said Adam Fagen, GSA's Executive Director. “GSA travel grants provide vital opportunities to engage young scientists in the professional community, and awards can provide the encouragement and recognition students and postdocs need to continue in their careers.”

GSA has several funds open to contributions:

- The **GSA General Fund** provides support for GSA poster awards, which are made to outstanding undergraduates, graduate students, and postdoctoral researchers at of the GSA-sponsored conferences. It also helps support GSA's newly-established undergraduate travel awards that enable undergraduate students presenting posters to attend many of the GSA-sponsored conferences.

- The **DeLill Nasser Fund for Professional Development** was established in 2001 and is named in

memory of DeLill Nasser (1929-2000), who was a long-time member of GSA and National Science Foundation program director in eukaryotic genetics. The awards are to support travel costs for graduate students and postdoctoral trainees who attend national or international meetings or who enroll in laboratory courses. For the past two years, GSA has awarded \$1,000 each to 25 deserving young scientists.

- The **Victoria Finnerty Memorial Fund for Undergraduate Travel Awards** was established in 2011 to honor the memory of Victoria Finnerty (1938-2011), who was a long-time GSA member, a dedicated and creative professor of undergraduate genetics at Emory University, and a supportive and contributing member to the *Drosophila* community. This year, six undergraduate students received travel awards through this fund to attend the 53rd Annual *Drosophila* Research Conference in Chicago, IL. (See page 14 for article.)

- The **Chi-Bin Chien Award** is new this year to honor research by a student, postdoctoral researcher or a recently appointed faculty member. The award was developed in recognition of the enthusiasm, love of discussion of scientific ideas, and collaboration that Chi-Bin Chien (1965-2011), a professor of neurobiology and anatomy at the University of Utah, modeled within the zebrafish community. A cash award and an invitation to speak at the biennial International Conference on Zebrafish Development and Genetics will be presented to the recipient.

We hope that you will give generously so GSA can continue to support young geneticists, helping ensure a bright future for our discipline. To donate by credit card, please go to https://secure.genetics-gsa.org/gsa_donation/donate.shtml. Or send a check, payable to the Genetics Society of America. In the “note” of the check indicate whether

this is for the general fund, DeLill Nasser, Victoria Finnerty or Chi-Bin Chien awards. Mail your check to GSA, 9650 Rockville Pike, Bethesda, MD 20814-3991, Attn: Adam Fagen, Executive Director.

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continued on page nineteen

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The Edward Novitski Prize, which recognizes an extraordinary level of creativity and intellectual ingenuity in solving a significant problem(s) in genetics research was established in 2007 by the family of *Drosophila* geneticist Edward Novitski (1918–2006). The prize honors geneticists who tackle difficult problems using innovative experimental approaches, just as Novitski did in his research on chromosome mechanics.



Dana Carroll, *University of Utah*

Dr. Carroll was the first to adapt an enzyme (specifically, zinc finger nucleases) to generate targeted chromosomal breaks at specific locations in a DNA sequence, utilizing the natural cellular DNA repair mechanisms to introduce new genetic

material in that region. This technology allows researchers to introduce engineering changes in genes of interest into living experimental organisms for the first time. This method of targeted mutagenesis and gene replacement is currently being used in a wide array of eukaryotes, and applications of this technology range from elucidating gene function to correcting genetic diseases in humans.

For more information about each award and for a list of past recipients, please visit the GSA Awards page at <http://www.genetics-gsa.org/pages/awards.shtml>. ♦

continued 7 Perspective on the Federal Budget

within their jurisdiction. The allocations for each subcommittee will provide the first look at how the spending cap could affect specific agencies such as NIH.

Additional Budgeting Complications

The Joint Committee on Deficit Reduction's (JCDR) failure last fall to reach agreement on a plan to reduce the federal deficit by \$1.2 trillion as mandated by the BCA adds an additional layer of complexity to the completion of the FY 2013 budget.

Since the JCDR did not produce a deficit reduction plan, a budget process known as "sequestration"



will go into effect in January 2013 to reduce the deficit through immediate spending cuts split equally between defense and non-defense discretionary spending; nearly all federal research support is in this latter category and would receive significant reductions under sequestration. It will be up to Congress to decide how to implement the cuts required by

the sequestration process, an issue that lawmakers will likely debate throughout 2012.

If cuts are applied equally across the agencies, the Congressional Budget Office has estimated that NIH would face a 7.8 percent reduction in FY 2013

under sequestration. Democrats on the House Appropriations Committee did their own analysis and projected that NIH would have to cut between 2,500 and 2,700 grants, and the impact on new awards would likely be severe.

While some members of Congress have begun efforts to exempt certain agencies (especially the Defense Department) from the cuts, President Obama has said he would veto any effort to undo the "sequestration" process and urged Congress to develop a balanced plan to cut \$1.2 trillion from the federal deficit. It remains to be seen whether lawmakers will be able to put aside their differences and agree on a plan to find the savings needed to avoid the mandatory funding cuts. ♦

continued 1 **New Executive Director Now on Board**

affairs with chief responsibility for government relations, education and communication.

"We are delighted to welcome Dr. Fagen to GSA as Executive Director," said Paul Sternberg, GSA Past President. "He brings a breadth of experience in science policy and leadership, including several areas of particular importance to GSA members: science education and training, outreach, and government relations. More generally, his knowledge of genetics, understanding of the scientific community, energy, vision, and communications skills will bring a fresh intensity to GSA in helping us meet our goals and ensure a vibrant future for the society."

At ASPB, Dr. Fagen served as its chief representative to policymakers

at federal agencies and Congress, advocacy partners, educators, the media, and the public. Prior to joining ASPB in 2010, Dr. Fagen was a senior program officer with the Board on Life Sciences at the National Academies where he directed National Research Council studies, workshops, and other activities on a wide range of topics from postdoctoral training to stem cell research, biosecurity to undergraduate education. He earned a Ph.D. in molecular biology and education from Harvard University and a master's, also from Harvard, in molecular and cellular biology, which is based on laboratory research in molecular evolutionary genetics. He holds a BA in biology and mathematics from Swarthmore College. Dr. Fagen was a National Science Foundation (NSF) Graduate

Research Fellow and NSF Graduate Teaching Fellow in K-12 Teaching.

Dr. Fagen served as co-director of the 2000 National Doctoral Program Survey, an on-line assessment of doctoral programs organized by the National Association of Graduate-Professional Students (NAGPS), supported by the Alfred P. Sloan Foundation, and completed by over 32,000 students. He was honored with two NAGPS President's Awards and the NAGPS Lifetime Achievement Award.

Dr. Fagen replaced Phyllis Edelman who served as acting executive director during the search process and who has stepped into her previous position as GSA Manager of Communications and Public Relations. ♦

continued 17 **Thank You to Our Donors** **GSA Fund Donors: Dec 2010 – March 2011**

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APRIL	MAY	JUNE
4 DeLill Nasser Award for Professional Development in Genetics Application Deadline for Summer/Fall 2012 Meetings	10 Model Organisms to Human Biology – Cancer Genetics, Registration and Housing Deadline	8 Rosalind Franklin Young Investigator Award Application Deadline
18 10th International Conference on Zebrafish Development and Genetics – Travel Award Deadline	15 Zebrafish Meeting –Early Registration and Housing Reservation Deadline	17-20 Model Organisms to Human Biology – Cancer Genetics Meeting
19 Rosalind Franklin Young Investigator Award Application Site Opens		20-24 10th International Conference on Zebrafish Development and Genetics Meeting
26 Yeast Genetics & Molecular Biology Meeting –Abstract Submission Deadline; Travel Award Application Deadline; Microphone Runner Application Deadline		24 Yeast Meeting Housing Deadline