

fall 2012

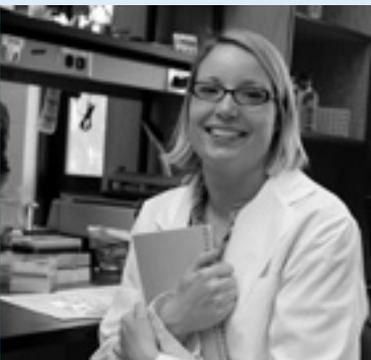
## Rosalind Franklin Young Investigator Awards Announced

Congratulations to GSA member Mary Gehring, PhD, of the Whitehead Institute for Biomedical Research and the Massachusetts Institute of Technology (MIT), and Valerie Horsley, PhD, of Yale University, the 2013 recipients of the Rosalind Franklin Young Investigator Awards funded by The Gruber Foundation and administered by GSA and the American Society of Human Genetics (ASHG). Each of the recipients will receive a \$75,000 (USD) award administered over three years (\$25,000 per year).

Mary Gehring, PhD



Valerie Horsley, PhD



continued on page five

## Election for 2013 Leadership Underway

Voting is an important privilege and responsibility, not just in your country and community, but also for the leadership of our professional community. Therefore, we urge you to cast your vote in determining the leadership of GSA.

The leadership of GSA determines the goals and objectives of the Society. The officers and Board of Directors represent the breadth of genetics, and they determine which activities will benefit geneticists as a whole. Some of the recent activities that have been initiated by the GSA Board include the following: establishment of a new journal, *G3: Genes | Genomes | Genetics* (see the President's Message on page 3); opportunities for young geneticists to have a greater voice within the GSA leadership (see the Executive Director's column on page 2); new travel awards for undergraduates presenting at GSA-sponsored meetings (see Donor Thanks on page 15); and increased policy activities including advocating for robust government support for basic science research. These programs and activities benefit all geneticists and establish GSA as the voice of the genetics community.

All members in good standing were e-mailed a ballot for the election of a vice-president (president-elect), a secretary, and four directors, whose terms will begin January 1, 2013 and run until December 31, 2015. Continuing on the Board are Michael Lynch (Indiana Univ) who will be the 2013 GSA president; Phil Hieter (Univ

of Brit Columbia) who will become past president; Treasurer Carol Newlon (UMDMJ – New Jersey Med Sch); Directors Bonnie Bartel (Rice Univ), Judith Berman (Univ of Minnesota/Tel Aviv Univ), Marnie Halpern (Carnegie Inst), Jeannie Lee (Mass Gen Hosp and Harvard Med Sch), Mohamed Noor (Duke), John Schimenti (Cornell); and the editors-in-chief of the GSA journals, Brenda Andrews (Univ of Toronto) and Mark Johnston (Univ of Colorado Hlth Sci Ctr).

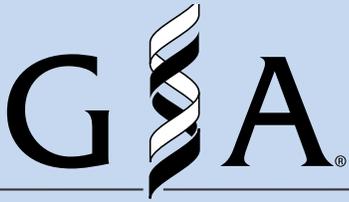
We ask you to join with us in thanking the individuals whose tenure on the GSA Board ends on December 31, 2012: Past President Paul Sternberg (Caltech); Secretary Mariana F. Wolfner (Cornell); and Directors Utpal Banerjee (UCLA), Beth De Stasio (Lawrence Univ, WI), Sue Jinks-Robertson (Duke), and Tom Silhavy (Princeton).

Please also join us in thanking the 2012 Nominating Committee for putting together a strong slate of candidates: 2012 Past President Paul Sternberg (Caltech), and members Nancy Craig (Johns Hopkins Sch of Med), Bill Gelbart (Harvard), Judith Kimble (Univ of Wisc-Madison), Chuck Langley (UC-Davis) Secretary Mariana Wolfner (Cornell; *ex officio*), and Executive Director Adam Fagen (*ex officio*).

Deadline for voting is October 19, 2012. E-mail ballots were mailed; if you have not already voted, you will continue to receive reminders.

**Be part of GSA's future. Vote.**

continued on page seven



## Genetics Society of America

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## Our Commitment to Early Career Geneticists

By Adam Fagen, Executive Director

Many of you may be surprised to learn that nearly half of the GSA membership is comprised of undergraduates, graduate students, and postdocs. While our regular and emeritus members provide continuity and historical perspective, our early career members ensure the Society's growth and help us look ahead. It's encouraging to see so many early career scientists become engaged in their professional community through membership in GSA. After all, the future of our discipline depends on those student and postdoc members.



Adam Fagen

You may also be interested in learning how GSA is engaging our student and postdoc members to better serve such a large and important segment of our community.

### Student, Postdoc Representatives

Beginning soon, one graduate student and one postdoc will be serving as advisory representatives to the GSA Board of Directors at its semiannual meetings, ensuring that the voices of the next generation are directly engaged in discussion about GSA plans and priorities. Graduate students and postdocs also responded to our recent invitation to participate in the work of Society committees, which provide leadership on our major programmatic activities including education, conferences, and public policy. We look forward to the good ideas and important perspectives from these early career members. Additionally, we hope that participation in these activities will help these students and postdocs to develop their own leadership and collaboration skills and help them connect with junior and senior colleagues across models systems and institutions.

GSA has become a sustaining member of the National Postdoctoral Association (NPA), an independent nonprofit organization that provides a national voice in enhancing the postdoctoral experience for all participants. We'll be collaborating with NPA on ways we can bring the work they're doing to the GSA community—and vice versa.

...many of our student and postdoc members would welcome career development workshops at GSA meetings...

### Group Discussions

At GSA-sponsored conferences this past year we have engaged small groups of randomly selected students and postdocs (both members and non-members) to find out their perspectives on science, training, publishing, professional societies, and more. We plan to continue these conversations at our meetings. If you're a student or a postdoc we hope you'll join us for these focus groups if you get the invitation.

One of the messages we've been hearing from these discussions is that many of our student and postdoc members would welcome career development workshops at GSA meetings that provide additional guidance on how to write a fellowship or grant proposal, and many would welcome more information about non-academic career opportunities, including connections with genetics PhDs in industry, policy, and other fields. We will seek to implement some of these ideas in 2013 and beyond.

We want to hear directly from the next generation of geneticists about how GSA can best serve your needs and help you be even more successful in your career. Please don't hesitate to be in touch with me at [afagen@genetics-gsa.org](mailto:afagen@genetics-gsa.org) or with Beth Ruedi, GSA's director of education and professional development, at [eruedi@genetics-gsa.org](mailto:eruedi@genetics-gsa.org).



Phil Hieter

## GSA Gems: *GENETICS* and *G3*: *Genes|Genomes|Genetics*

by Phil Hieter, GSA President

There has been much activity at the GSA these past eight months, including new initiatives in education (under the leadership of the Education Committee, chaired by Beth De Stasio, Lawrence Univ), enhanced engagement in advocacy (Public Policy Committee, Marty Chalfie, Columbia Univ), and plans for a strong future of GSA conferences (Conferences Committee, Jeannie Lee, Mass Gen Hosp and Harvard Med Sch). Adam Fagen, the new executive director, took the reins at our headquarters and is forging the priorities articulated by the Board of Directors into action items and leading the GSA staff and membership to implement them.

But what I wish to highlight in this president's message are GSA's publication jewels, *GENETICS* and *G3*: *Genes|Genomes|Genetics*. Activities related to the GSA journals are guided by the Society's Publications Committee (chaired by Tim Schedl, Washington Univ, St. Louis), the talented team of editors for each journal, and the editorial office led by GSA's executive editor, Tracey Depellegrin Connelly.

It has been particularly gratifying to see GSA's new open access journal *G3*:

*Genes|Genomes|Genetics* reach its first birthday this June in a strong and growing position. Together with our flagship journal *GENETICS*, now in its 97th year, these outstanding scholarly publication vehicles are two of GSA's crown jewels.

*GENETICS* and *G3* are important not only to our scholarship and our field, but for the GSA, as the journals contribute substantially to the Society's activities across the board. GSA efforts to support education, pursue public policy initiatives, advocate on behalf of genetics, sponsor meetings, and the many other things the GSA does to support our profession could not happen without strong journals publishing important research in our field, coupled with a strong base of institutional subscribers who value the content in the journals. These long-standing, valuable contributions to our field are unique to journals led by your peers. **So every time you submit an article to *GENETICS* or *G3*, you are also supporting the entire genetics community by strengthening GSA.**

### ***G3*: The Newest Jewel**

Launched in June 2011, *G3* has published more than 170 articles! *G3* covers a broad range of topics, including genetics and genomics articles on *Drosophila*, *C. elegans*, yeast, mice, many species of crops and plants, humans, insects, fish, livestock, pathogens and fungi, and statistical genetics, population genetics, and many other articles.

*G3* is led by Editor-in-Chief Brenda Andrews (Univ of Toronto) and a team of five senior editors, including Dirk-Jan de Koning (Swedish Univ of Agricultural Sciences), Katrien Devos (Univ of Georgia), Susan Forsburg (USC), R. Scott Hawley (Stowers Inst), and Steve Scherer (Hosp for Sick Children, Toronto), plus more than 75 dedicated associate editors.

*G3* is fast, with an average turnaround time of about 30 days from submission to first decision. *G3* is also thorough: at least two peer editors look at

each manuscript and adjudicate the comments and opinions of the external peer reviewers. The editors' focus on the paper submitted; decisions are made on the manuscript based on its scientific value and revisions are kept to a minimum.

*G3* maximizes the impact of your findings. Manuscripts are carefully copyedited, and genetic terms for *S. cerevisiae*, *Drosophila* and *C. elegans* are linked to the model organism databases, SGD, FlyBase and Wormbase. *G3* provides readers with access to the primary data: the journal's data policy requires that all primary data be available either in the paper, as supplemental data, or hosted in a public repository—the same as for *GENETICS*. All *G3* articles are open access, indexed in PubMed, PubMed Central, Google Scholar, and many other important databases. For additional reach, *G3* is also included with all *GENETICS* institutional subscriptions.

### ***GENETICS*: The Precious Gem**

*GENETICS*, founded in 1916 as the first American journal for the field, blends an illustrious history with forward-thinking content. From Beadle, Muller, and McClintock to Hartwell, Horvitz, and Fire, its authors are familiar as founders and leaders of our field.

Serving our community requires agility, and *GENETICS* has been continually innovating and breaking new ground in the rapidly-changing publishing realm. The journal has been able to respond quickly to its authors and readers with initiatives that strive to increase the impact and usefulness of its articles. *GENETICS* papers link genetic objects and terms directly to relevant pages in WormBase, FlyBase, and SGD. And *GENETICS* was one of the first journals to offer early online publication, meaning that your paper is available to readers within two weeks of acceptance.

Decisions on manuscripts submitted to *GENETICS* have never been faster: first decisions come within 33 days of

continued on page nineteen

## Awesome Presentations Highlight 53rd Drosophila Conference

Beginning with what one tweeter described as an “awesome presentation” by **Stephanie Turner Chen**, recipient of the **Larry Sandler Award** for her PhD thesis work on *Drosophila* and mosquito olfaction, the 53rd Annual *Drosophila* Research Conference in Chicago boasted many outstanding presentations. There were 12 plenary sessions, 156 talks and 915 posters to keep the more than 1500 *Drosophila* research scientists attending the March 7-11, 2012 conference engaged with the latest findings and techniques on fly research. In addition, the conference offered workshop sessions and additional sessions on advocacy, education, and publishing. Multiple offerings assured there was something appropriate for undergraduate students to primary investigators (PIs).

### Scientific Sessions

Among the research highlights were several talks on stem cell development and cancer. Specifically, researchers are trying to determine how, within organs, cells specialize while stem cells maintain tissues and enable them to repair damage and respond to stress or aging. For example, Denise J. Montell's lab at Johns Hopkins University discovered that if re-feeding is started after starvation, some cells within the fly egg chamber that are far along the cell death pathway actually reverse that process and survive. The group documented this “reversal of apoptosis” in a variety of mammalian cell types including primary heart cells.

Other sessions showed how to use *Drosophila* to model human metabolic disorders, including diabetes and kidney stones. The latter, presented by Julian Dow, professor of molecular and integrative physiology at the University of Glasgow, United Kingdom, included



Opening Session at the 53rd Annual *Drosophila* Genetics Research Conference. For more *Drosophila* conference photos, visit <http://on.fb.me/OhEKNL>.

a time-lapse video showing kidney stones appearing and growing in the Malpighian tubule of a fly. “This was the first time in history that we saw kidney stones form – something that you cannot ethically do in humans,” he noted in his presentation.

Other speakers presented their research on the changes associated with the neurodegenerative disorder ataxia-telangiectasia (A-T), the neurodevelopmental disorder Rett Syndrome, and aging. For example, USC professor John Tower said that aging in flies, “appears to closely parallel that in humans”; as a result, his group is studying the expression of key genes to tell when a fly is close to death and to investigate those genes that promote longevity.

### Educational Activities

There were numerous educational activities at the *Drosophila* Research Conference with several specifically for undergraduate students. These included a mixer, an undergraduate research workshop, and an opportunity for undergraduates to hear from graduate students about the graduate school experience. The meeting also included the Genetics Conference Experience (GCE), which provided an opportunity for about two dozen undergraduates, who are not engaged in research and attending local institutions, to learn about current scientific research outside of a textbook. During this half-day



session, GCE participants were briefed by Jennifer Kennell (Vassar College) who provided background information on fruit flies and prepared the students for the conference sessions they would sit in on.

Typical for GSA-sponsored conferences, there was a career luncheon where undergrads and graduate students, along with postdoctoral researchers could sit and talk with PIs about questions and concerns they have about the next steps in their professional careers.

### Awards

In addition to the Larry Sandler Award mentioned above, several other awards were presented at the *Drosophila* meeting.

**Saori Haigo** of the University of California, Berkeley, and **Guruharsha Kuthethur** of Harvard Medical School received the **2012 *Drosophila* Image Awards**: Haigo for a video on “Revolving *Drosophila* egg chambers” and Kuthethur for “*Drosophila* Protein Interaction Map: a paradigm for metazoan proteome.” To see these award-winning images and those of all finalists, go to <http://www.drosophila-images.org/2012.shtml>.

In advance of the meeting, six

students received **Victoria Finnerty Undergraduate Travel Awards** which supported their attendance at the meeting. These students, all juniors or seniors in college were:

- **Selma Avdagic**, Saint Louis University School of Medicine, Missouri
- **Samantha Galindo**, University of Wisconsin–Madison
- **Kenneth B. Hoehn**, Duke University, Durham, North Carolina
- **Emily Hsieh**, University of Washington and Fred Hutchinson Cancer Research Center, Seattle
- **Jacqueline McDermott**, Hofstra University, Hempstead, New York
- **Mohammad Siddiq**, Indiana University, Bloomington

Nine poster awards were presented at the end of the meeting, three each for undergraduate students, graduate students, and postdoctoral researchers. These winners were:

#### Undergraduates:

- 1st Place: Kathryn Landy**, Rutgers University, Piscataway, NJ
- 2nd Place: Balint Z. Kacsoh**, Emory University, Atlanta, Georgia
- 3rd Place: Mickey Buckingham**, University of Oxford, United Kingdom

#### Graduates:

- 1st Place: Jimok Yoon**, University of Texas Southwestern Medical Center, Dallas
- 2nd Place: Qing Shih**, University of Texas Southwestern Medical Center, Dallas
- 3rd Place: Julie Tan**, University of Toronto, Ontario, Canada

#### Postdoctoral Researchers:

- 1st Place: Young-Jun Kim**, National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, Maryland
- 2nd Place: Maria Teresa Abreu-Blanco**, Fred Hutchinson Cancer Research Center, Seattle, Washington

**3rd Place: Rebecca Fox**, Johns Hopkins University School of Medicine, Baltimore, Maryland.

To round out the meeting, there were FlyBase and FlyMine demonstrations, a session on getting published in the GSA journals, *G3: Genes | Genomes | Genetics* and *GENETICS*, and an advocacy session to learn how to become a science advocate to support government funding of basic research.

To read the abstracts for all of the platform and poster sessions, go to [www.drosophila-conf.org/2012/abstracts/search.html](http://www.drosophila-conf.org/2012/abstracts/search.html).

Plans for the 54th Annual Drosophila Research Conference, April 3-7, 2013, in Washington, DC, are already underway. Nobel Laureate (2011) Jules Hoffmann (CNRS) will be the keynote speaker. The abstract submission site will open September 24, 2012. Hope to see you there!

*Ricki Lewis, author and freelance writer contributed to this article.*

## continued page 1 **Rosalind Franklin Young Investigator Awards Announced**

Dr. Gehring is awarded the Rosalind Franklin Young Investigator Award based on her work in Arabidopsis on epigenetic processes, the evolution and mechanisms of imprinting, the fidelity of epigenetics inheritance between generations, and the comparative genetics of imprinting among species. Her work deepens our understanding of the developmental program in plants and is likely to reveal shared features of methylation across plants and animals. This demonstrates a profound impact that foundational research can have on our understanding of epigenetics.

Dr. Horsley receives the Rosalind Franklin Award for her accomplishments in the genetic dissection of the regulation of skin stem cells and for her elegant and groundbreaking independent work using a genetic approach to

characterize the role of adipocyte cells in the skin stem cell niche.

The recipients were selected from among early career female applicants from all over the world. Their work and goals reflect the spirit and dedication of British scientist Rosalind Franklin, for whom the award is named. Their originality, scientific creativity and seminal discoveries within their fields, exemplify the innovative thinking Franklin used while working to determine the structure of DNA in the early 1950s.

The Rosalind Franklin Young Investigator Awards were developed by The Gruber Foundation to support and inspire the next generation of women in genetics. Two early career female scientists are selected every three years as recipients of these awards. One award is for research in genetics

of humans and other mammals, and one award is for research in genetics of other model organisms. Recipients must be within their first three years of an independent research position in any area of genetics. For more information on the program, see the GSA website at <http://www.genetics-gsa.org/pages/rosalind.shtml> and The Gruber Foundation at [http://www.gruberprizes.org/GruberPrizes/YoungScientists\\_RosalindFranklin.php](http://www.gruberprizes.org/GruberPrizes/YoungScientists_RosalindFranklin.php).

Drs. Gehring and Horsley will be acknowledged at the 62nd ASHG Annual Meeting in San Francisco, on Friday, November 9, 2012, in conjunction with the Gruber Genetics Prize presentation. For more information on the recipients of these awards and their research, see [http://www.genetics-gsa.org/pdf/PR\\_RFAwardeesAnnounced\\_2012.pdf](http://www.genetics-gsa.org/pdf/PR_RFAwardeesAnnounced_2012.pdf).

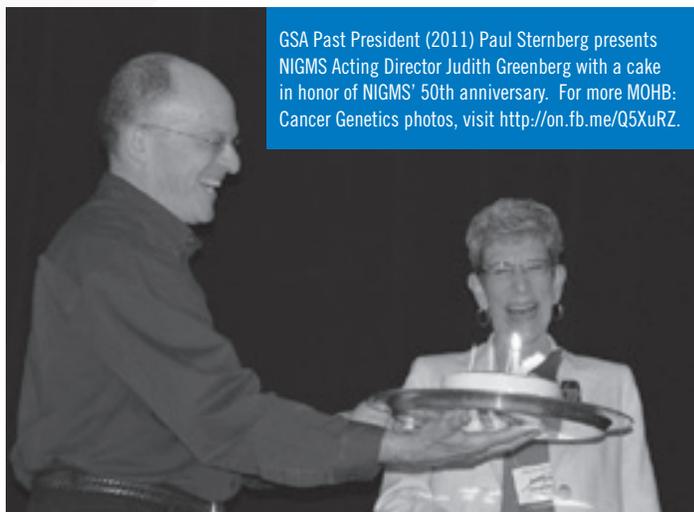
# Causes, Spread and Treatment of Cancers Discussed at 2012 Model Organism to Human Biology Meeting

Nobel Laureates mingled with graduate students as top research scientists studying cancer in model organisms and humans presented and discussed their research at GSA's Model Organisms to Human Biology (MOHB): Cancer Genetics Meeting, June 17-20, 2012 in Washington, DC. Zebrafish, yeast, mice, *Drosophila*, *C. elegans* and humans were among the many organisms featured in talks and posters at this GSA meeting, which, "showcased the power of the multi-organismal approach to understanding gene function relevant to disease, and particularly cancer," said Phil Hieter (Univ of British Columbia) GSA President and co-chair of the meeting with GSA Past President Paul Sternberg (Caltech).

"We study model organisms to improve the health of people," said Judith Greenberg, acting director of the National Institute of General Medical Sciences (NIGMS) at the National Institutes of Health (NIH), who spoke at the meeting. "They enable us to identify the root causes of disease, track disease progression, and test out potential therapies. These days, as scientists sort through the ever increasing wealth of genomic data, model organisms are more important than ever to help us understand the molecular underpinnings of cancer and other complex diseases."

Eric Green, director of the National Human Genome Research Institute (NHGRI) at NIH along with Nobel Laureate (2005) Robert Waterston (Univ of Washington, Seattle) and Gary Karpen (Lawrence Berkeley National Lab), gave presentations on the model organism Encyclopedia of DNA Elements (modENCODE) project. ModENCODE "greatly enhanced our knowledge of genome function in model systems, which is foundational knowledge for deciphering the biological consequences of cancer-associated changes," according to Green. The NHGRI modENCODE project, completed this year, was designed to create a comprehensive catalog of functional elements of *C. elegans* and *Drosophila* genomes.

Individual sessions at this engrossing meeting included talks about model organisms such as zebrafish that are providing insight into human melanoma; single cell movements by *Caenorhabditis elegans*, that mimic the migration of tumor cells in humans; fruit flies with the same set of sequential mutations that cause cancer in human colons; and, yeast with telomeres that fail to whittle down in cancer cells and consequently enable the cells to ignore the clocks that normally regulate cell division.



GSA Past President (2011) Paul Sternberg presents NIGMS Acting Director Judith Greenberg with a cake in honor of NIGMS' 50th anniversary. For more MOHB: Cancer Genetics photos, visit <http://on.fb.me/Q5XuRZ>.

## model organisms to human biology - cancer genetics

The nearly 260 registrants were treated to keynote addresses from Bert Vogelstein (Johns Hopkins Univ), which focused on cancer genomes and their implications for basic and applied research; from Eric S. Lander (Broad Institute of MIT and Harvard and co-chair of the President's Council of Advisors on Science & Technology), who spoke on

the secrets of the human genome; and from Angelika Amon (MIT), who discussed the consequences of aneuploidy.

In addition to these special talks, several of the 2012 GSA award recipients were at the meeting to receive their awards including: **Kathryn Anderson** (Memorial Sloan-Kettering Cancer Ctr) who received the **Thomas Hunt Morgan Medal**; **David Micklos** (Cold Spring Harbor Lab) who received the **Elizabeth W. Jones Excellence in Education Award**; and **Dana Carroll** (Univ of Utah) who received the **Edward Novitski Prize**. For more information about the award recipients and the awards they received, see the Winter/Spring 2012 issue of *The GSA Reporter* at [http://www.genetics-gsa.org/pdf/newsletter\\_spring12.pdf](http://www.genetics-gsa.org/pdf/newsletter_spring12.pdf).

Many participants remarked on the tremendous value of bringing together researchers from a variety of model systems with each other and with human cancer researchers in a highly interactive setting. GSA will continue to look for opportunities to foster new collaborations among scientists across the breadth of genetics.

*Ricki Lewis, author and freelance writer contributed to this article.*





★ VOTE ★

**Advanced Degree:** PhD Genetics, University of Wisconsin–Madison (1983)

**Career Summary:** *Postdoctoral Training:* University of Chicago (1983–86). *Faculty Appointments:* Assistant Professor (1987–93), Associate Professor (1993–99), Professor (1999–2006), Department of Biology, Emory University; Professor (2006–present), Department of Molecular Genetics and Microbiology, Duke University Medical Center.

**Honors and Awards:** Phi Beta Kappa; Albert E. Levy faculty research award (1992); Winship Distinguished Research Professor (2005); Fellow, American Academy of Microbiology (2010); Fellow, American Association for the Advancement of Science (2011)

**Professional Service Activities:** *Meeting Organization:* Vice-chair (1999), Chair (2001), *Recombination and Genome Rearrangements* FASEB Summer Research Conference; Vice-chair (2004), Chair (2006), Mutagenesis Gordon Research Conference. *Board Member:* Genetics Society of Georgia (1987–91), Genetics Society of America (2009–12). *Editorial Boards:* Associate Editor, *GENETICS* (1993–97); Editorial Board (2001–08), Associate Editor (2008–present), *DNA Repair*, Associate Editor, *PLoS Genetics* (2012–present). *Review Activities:* NIH-BIOL-1 Study Section (1996–2000), Genetics Study Section (2002–04), MGC Study Section (2004–06; Chair, 2005–06).

**Major Research Interests:** Regulation of genome stability, using budding yeast as a model genetic system. Current interests include the regulation of mitotic recombination fidelity and outcome; molecular mechanisms of spontaneous mutagenesis; effects of high levels of transcription on genome stability.

**Website:** <http://jinks-robertsonlab.duhs.duke.edu/>

## Anne M. Villeneuve, PhD

Professor of Developmental Biology and Genetics, Department of Developmental Biology, Stanford University School of Medicine, CA



**Candidate Statement:** I am a dyed-in-the-wool geneticist, using genetic approaches to study the mechanisms of chromosome inheritance. I have benefited greatly from the activities of the GSA ever since I was a graduate student. I have participated in multiple GSA-sponsored conferences, had a conference travel grant awarded to one of my postdocs, and have published numerous research papers, including some of my most influential articles, in *GENETICS*. Consequently, I have an abiding, vested interest in promoting and sustaining the crucial mission of the GSA, and I welcome the opportunity to do so in the role of GSA Secretary. Areas of particular interest include: ensuring the continued success of the GSA-sponsored journals, which provide an essential means for disseminating both high-quality rigorous research in the field of genetics and creative approaches to genetics education; advocating for continued government support for crucial resources such as genetic stock centers and databases that are essential both for sustaining ongoing research and for preserving the legacy of a century of genetics research; and advocating for support for basic science research.

**Advanced Degrees:** BS in Biochemistry, University of Notre Dame (1981); PhD in Biology, Massachusetts Institute of Technology (1989).

**Career Summary:** Helen Hay Whitney Postdoctoral Fellow (1990–93); American Cancer Society Senior Postdoctoral (1993–94); Assistant Professor, Associate Professor, Professor, (1995–present) Stanford University.

**Honors and Awards:** Katharine McCormick Fund Award, Stanford University (1990); Baxter Foundation Beginning Faculty Investigator Award (1995); Searle Scholars Award (1996–99); Esther Ehrman Lazard Faculty Scholar (1996, 1997, 1998); HHMI Junior Faculty Scholar Award (1999); Kirsch Investigator Award (2003–04).

**Professional Service Activities:** *GSA or GSA-related:* GSA Board of Directors Nominating Committee (2001); Associate Editor, *GENETICS* (2004–10). *Selected Other:* Conference Organization: Chair, Gordon Research Conference on Meiosis (2002); Co-chair, Minisymposium on Meiosis and Germ line, ASCB Annual Meeting (2002); Meiosis Session Chair, FASEB Conference on Genetic Recombination and Chromosome Rearrangements (2003, 2009); Meiosis Session Chair, EMBO Workshop on Recombination Mechanisms (2006); Organizing Committee, EMBO Workshop “European Meiosis Meeting in Japan” (2007); Co-Chair, Minisymposium on Meiosis and Germ line, ASCB Annual Meeting (2012); *Grant Review Panels:* NIH-CSR, (2010–11, 2011–12) MGC Study Section (2010–11), MGB Study Section (2011–12), *ad hoc* reviewer for MGC, CMIR; *Additional Editorial:* Guest Editor, *PLoS Genetics* (2010, 2011). *Memberships:* GSA, ASCB.

**Major Research Interests:** Mechanisms underlying chromosome inheritance during meiosis, including homolog pairing, genetic recombination and chromosome segregation. Sexual reproduction and germline function in *C. elegans*.

**Website:** <http://villeneuve.stanford.edu/research.html>

Be part of  
GSA's future.  
Vote.

continued on page ten



★ VOTE ★

**Advanced Degrees:** BSc (1976), BSc (Hons) *cum laude* (1977), University of Natal, South Africa; MPhil (1980), PhD (1983) in Biology, Yale University (Supervisor: Doug Kankel); postdoctoral fellow, Biochemistry Department, Stanford University (1983–86) (Supervisor: David Hogness).

**Career Summary:** Assistant Professor (1986–92), Associate Professor (1992–95) Biology, California Institute of Technology; Professor (1995–present) University of Toronto; Senior Scientist (1995–present), Hospital for Sick Children Research Institute, Toronto; Associate Director for Faculty Development (1997–2001), Hospital for Sick Children Research Institute; Head (2001–2005), Program in Developmental Biology, Hospital for Sick Children Research Institute; Chair (2005–present), Department of Molecular Genetics, University of Toronto; Associate Director (2007–2010), Donnelly Centre for Cellular & Biomolecular Research, University of Toronto.

**Honors and Awards:** Damant Science Prize, University of Natal (1975); South African National Scholarship (1978–1980); Helen Hay Whitney Foundation Postdoctoral Fellowship (1983–1986); Searle Foundation Scholar (1988–1991); Fellow, American Association for the Advancement of Science (1990); Canada Research Chair, Tier 1 (2001–2008); Honorary Professor of Biochemistry, University of Hong Kong (2012–present).

**Professional Service:** *Editorial:* Associate Editor, *Zygote* (1993–present); Editorial Board, *Differentiation* (2000–present); *Developmental Dynamics* (2004–present); Associate Editor, *G3: Genes | Genomes | Genetics* (2011–present); *Board Service:* Society for Developmental Biology Board of Directors (2000–06); *Drosophila* Board (2006–09); International Scientific Advisory Board, Israel Cancer Research Fund, New York (2008–present). *Conference Organization:* Vice Chair (1996), Chair (1998, 2000) FASEB Summer Research Conference on Intracellular RNA Localization;

FASEB Research Conference Advisory Committee (2001–03; Chair, 2003); Co-chair, 45th Annual *Drosophila* Conference (2004); Organizing Committee, EMBO Conference on Molecular & Developmental Biology of *Drosophila* (2010–present). *Grant Review Panels:* NIH, NSF, ACS & ICRF in USA; NCIC & CIHR in Canada.

**Major Research Interests:** Genetic and genomic analysis of the maternal-to-zygotic transition in *Drosophila*. Role of RNA-binding proteins and small RNAs in post-transcriptional control of gene expression.

**Website:** <http://www.utoronto.ca/flylab>

### DIRECTORS (vote for one)

#### Sarah C. R. Elgin, PhD

Viktor Hamburger Professor of Arts and Sciences; Professor of Biology, of Genetics, and of Education, Washington University in St Louis, MO

#### Candidacy

**Statement:** Working with *Drosophila melanogaster*, I am constantly reminded of the importance of our collective efforts, which have made model organisms into the powerful research systems that they are. The GSA plays a critical role in advocating for these shared resources – stock centers, central data bases, etc., – and I believe this advocacy is of utmost importance in financially difficult times. Equally important, we need to enhance the teaching of genetics at all levels (including outreach to policy makers and the general public) to build an appreciation of the scientific contributions from model organisms to our understanding of issues ranging from human health to the health of the planet. Bringing “personal genomics” into the genetics curriculum is a critical need. Activities in conjunction with our GSA meetings, and partnership with other scientific societies, should be pursued to further these aims.



**Advanced Degrees:** BA *magna cum laude*, Pomona College (1967); PhD, California Institute of Technology (1971).

**Career Summary:** PhD, with James Bonner, (1967–71); Postdoctoral Training, with Leroy Hood, (1971–73) Caltech. *Faculty Appointments:* Assistant Professor (1973–77), Associate Professor (1977–81), Biochemistry and Molecular Biology, Harvard University; Associate Professor (1981–84), Professor (1984–present), Department of Biology, Professor of Biochemistry and Molecular Biophysics, (1984–present), Professor of Education (2001–present), Professor of Genetics (2003–present), Viktor Hamburger Professor (2006–present), Washington University in St. Louis. HHMI Professor (2002–present).

#### Honors and Awards (selected):

Fellow, Jane Coffin Childs Memorial Fund for Medical Research (1971–73); Fellow, AAAS (1988); Distinguished Faculty Award, Washington University (1993); Overseas Fellow, Churchill College, University of Cambridge, UK (1995); Women in Cell Biology 1996 Senior Awardee; Elizabeth W. Jones Award for Excellence in Education, Genetics Society of America (2009); Member, American Academy of Arts and Sciences (2012).

#### Professional Service Activities

**(selected):** Council, ASCB (1983–85, 1992–94); Member-at-Large, Biological Sciences, AAAS (1991–95); Member, Working Group on Science Curriculum Standards, NAS/NRC (1992–95); Chairman, Gordon Conference, “Chromatin Structure, Nuclear Proteins, and Gene Expression,” (1996); Scientific Advisory Board, “The Epigenome,” European NoE, (2004–10). *Editorial Boards:* current: *Molecular Cell*, *Current Opinion Genetics & Development*, *Epigenetics & Chromatin*; *CBE-Life Science Education*, Co-Editor-in-Chief, (2002–05), now Senior Editor; prior service included *Nucleic Acids Research*, *Molecular & Cellular Biology*. *Peer Review:* Member, Genetic Basis of Disease Review Committee, NIGMS (1977–80); Member, Molecular Biology

continued on page twelve

★ VOTE ★

## continued page 11 Election for 2013 Leadership Underway

Study Section (1986–89). Member, National Advisory General Medical Sciences Council, NIH (1996–99); *ad hoc* reviewer for Study Sections in Cell Development & Function, Genomes, Molecular Genetics B, several times; Scientific Advisory Panel, ENCODE, NHGRI, NIH (2004–06). HHMI, chaired Review Panel, Undergraduate Science Education Competition (2008).

**Major Research Interests:** My research centers on chromatin structure and function, using *Drosophila melanogaster*. Earlier work centered on discovery of key chromosomal proteins, notably Heterochromatin Protein 1 (HP1a), and on the disposition of nucleosomes around genes, in particular, organization of DNase I hypersensitive sites associated with regulatory elements. Our current focus is on the assembly and function of heterochromatin; how heterochromatin formation is targeted to the appropriate domains in the genome, with concomitant silencing. We have recently participated in the modENCODE consortium to map chromosomal proteins and histone modifications across the *Drosophila* genome. The evolution of the “dot” chromosome (Muller F element) is being studied in collaboration with the faculty and students of the Genomics Education Partnership.

**Website:** <http://wubio.wustl.edu/elgin>

### Philip M. Meneely, PhD

Professor,  
Department of  
Biology, Haverford  
College, PA

#### Candidacy

**Statement:** Having been a faculty member at both a research institution and a liberal arts college, I bring an unusual breadth of experience to the GSA Board. As a member of the Board, my primary contribution can be with genetics education in



undergraduate courses; in particular, the next generation of geneticists will have a wealth of genomic information to inform all experimental questions, and should be comfortable with classical genetics and genomic-based approaches. The availability of genome information has only begun to make an impact on how genetics is taught. GSA also has an important role in ensuring a genetically literate public and in accurately communicating the excitement of genetics research to a broad audience, in addition to its roles in serving the community of geneticists.

**Advanced Degrees:** BS *summa cum laude*, Geneva College, PA (1975); PhD, Department of Genetics and Cell Biology, University of Minnesota (1980).

**Career Summary:** *Postdoctoral Training:* University of Colorado, MCD Biology (1980–84). *Faculty Appointments:* Assistant and Associate Member, Fred Hutchinson Cancer Research Center (1985–95); Associate and Full Professor, (1995–present), Associate Provost (2005–08), Haverford College. Visiting Scholar, Dept of Genetics, Mendel Institute, University of Vienna (2003). Visiting Scholar, Genetics Unit, Oxford University (2008).

**Honors and Awards:** Distinguished Lecturer, Davidson College (2011); George Saul Distinguished Lecturer, Middlebury College (2007).

**Professional Service Activities:** GSA Education Committee (2004–07); Member, Committee of Examiners Graduate Record Exam, (2004–13), Chair (2010–13). *Peer Review Service:* NSF panel on genetic mechanisms (2011, 2009, 2008, etc.), HHMI Program for undergraduate institutions (2007–08); American Cancer Society panel on model organisms (1992–96).

**Major Research Interests:** Textbook author, *Advanced Genetic Analysis: Genes, Genomes, and Networks in Eukaryotes*, published by Oxford University Press, 2009; second edition

scheduled for publication in 2014. *Current Research Projects:* Genetic analysis of meiosis in *C. elegans*. *C. elegans* has a model for *E. coli* pathogenesis.

### DIRECTORS (vote for one)

#### Anna Di Rienzo, PhD

Professor,  
Department of  
Human Genetics,  
University of  
Chicago, IL



#### Candidacy

**Statement:** As a member of the GSA Board, my research and teaching experience at the interface between evolutionary and disease genetics will allow me to foster integration of efforts among our diverse communities: model organism geneticists, ecological geneticists, human geneticists. Among many issues of concern to the genetics community, efforts of particular interest to me include: 1) the teaching of genetics and evolution, 2) dissemination of research findings to the general public, with the goal of increasing understanding of the importance of basic research and its broad relevance to society, 3) promoting our journals *GENETICS* and *G3* and expanding their scope to reflect changes and new opportunities in our discipline, and 4) promoting the funding of basic genetics research and improving the evaluation process.

**Advanced Degrees:** BS in Biological Sciences (1980), PhD in Medical Genetics (1984), University of Rome “La Sapienza,” Italy.

**Career Summary:** *Postdoctoral Training:* Institute of Cell Biology, National Research Council, Rome (Italy) (1985–88); Department of Biochemistry, University of California, Berkeley (1988–91); Department of Psychiatry, University of California, San Francisco (1991–92). *Faculty Appointments:* Assistant Professor,

★ VOTE ★

Department of Anthropology, Northwestern University (1993–94); Staff Scientist, Institute of Cell Biology, National Research Council, Rome, Italy (1995–96); Research Associate (Assistant Professor) (1996–2000), Associate Professor (2001–07), Professor (2007–present), Department of Human Genetics, University of Chicago; Member: Committee on Genetics, Genomics and Systems Biology (1999–present), the Committee on Clinical Pharmacology and Pharmacogenomics (2001–present), the Comprehensive Cancer Research Center, Program 6 Clinical Cancer Genetics and Prevention (2001–present), Committee in Molecular Metabolism and Nutrition (2007–present), University of Chicago; Fellow, Institute for Genomics and Systems Biology, Argonne National Laboratory and University of Chicago (2006–present).

**Honors and Awards:** European Molecular Biology Organization postdoctoral fellowship (1988–90).

**Professional Service Activities:**

*Editorial Boards:* *Human Genomics* (2003–present), *GENETICS* (2007–present), *Genome Research* (2010–present), *Human Biology* (2010–present), *Molecular Biology and Evolution* (2012–present). *Meeting Organization:* International Congress of Genetics (Berlin, Germany, July 12–17, 2008). *Peer Review Service:* NIGMS Working Group of the Human Genetic Cell Repository at the Coriell Institute (2002–05); ZRG1 F08 (20) L Fellowship Study Section Genes, Genetics, Genomics, NIH (2005–06); Genomics and Translational Epidemiology and Observational Epidemiology Peer Review Committee, American Heart Association, (2011–12); European Research Council, 7th Framework Programme (2009), Starting Grant 5th Call (2012); Research Competitiveness Program at the American Association for the Advancement of Science, (2011–12)

**Major Research Interests:**

Characterize patterns of genetic variation in humans and elucidate

the forces that shape and maintain this variation, including changes in population size and structure and adaptations to local environments. Current interests include the genetic architecture of traits and diseases that vary across human populations by analyzing intermediate phenotypes, such as variation in the transcriptional response mediated by nuclear hormone receptors at the genome-wide level.

**Website:** <http://genapps.uchicago.edu/>

**Lynn B. Jorde, PhD**

H. A. and Edna Benning Presidential Endowed Chair, Department of Human Genetics, University of Utah School of Medicine



**Candidacy Statement:** I believe that my broad background in genetic research and education, as well as my strong connections with the human genetics community, would make me a good candidate for the GSA Board of Directors. My evolutionary research is focused on human genetic variation. We have applied our research in a variety of contexts, including human evolutionary history, forensics, and the analysis of mobile elements. My laboratory is also involved in disease-gene identification. We have used a variety of approaches (most recently, whole-genome sequencing) to identify disease-causing genes. We were part of a team that derived the first direct estimate of the human mutation rate from whole-genome sequence data. For the past 30 years, I have been actively involved in providing genetics education to medical and graduate students. For the past 15 years, I have been part of a non-profit organization that has educated more than 4,000 state and federal judges about genetics and its applications in the courtroom.

**Advanced Degrees:** BA (1974), MS (1977), PhD (1979), in Biological Anthropology, University of New Mexico, Albuquerque.

**Career Summary:** *Faculty*

*Appointments:* Department of Human Genetics (1979–present); Chair (2009–present), University of Utah School of Medicine.

**Honors and Awards:** Outstanding Pre-Clinical Professor from the graduating medical classes (2002, 2003, 2004, 2005), the Leonard W. Jarcho Distinguished Teaching Award (2003), the University of Utah Distinguished Teaching Award (2006), and other teaching awards, University of Utah School of Medicine; Award for Excellence in Education (with Drs. Louisa Stark and John Carey) (2008), American Society of Human Genetics.

**Professional Service Activities:**

*Advisory Panels:* National Science Foundation; National Institutes of Health. Member, Mammalian Genetics review panel (1996–2001), NIH. Member, (2001–03) Board of Directors; President (2011), American Society of Human Genetics. Member: (2006–10) Center for Inherited Disease Research Access Committee; 1000 Genomes Advisory Committee (2008–present), National Human Genome Research Institute. *Scientific Advisory Boards:* Burroughs Wellcome Foundation; (2007–present) Institute for Systems Biology (2009–11). Expert witness in court cases involving DNA evidence. *Editorial Boards:* *Human Biology*; *the American Journal of Human Biology*; *Gene*; *GENETICS*; and *the American Journal of Human Genetics*. *Lead Author:* *Medical Genetics*, a textbook now in its 4th edition.

**Major Research Interests:** Studies of human genetic variation, mobile element evolution, the genetic basis of human limb malformations, and the genetics of common diseases such as hypertension, juvenile idiopathic arthritis, and inflammatory bowel disease. I have published more than 200 scientific articles on these and related subjects.

continued on page fourteen

continued page 13 **Election for 2013 Leadership Underway**

**Websites:** <http://jorde-lab.genetics.utah.edu/>; <http://www.bioscience.utah.edu/faculty/molecular-biology-faculty/jorde/jorde.php>

**Jeffrey Lawrence, PhD**

Professor,  
Department  
of Biological  
Sciences,  
University of  
Pittsburgh, PA

**Candidacy Statement:**

I hope to contribute to the mission of the GSA by strengthening our role in promoting research in the genetics and genomics of prokaryotes. Bacteria and phage have long been the standard bearers for shedding light on essential molecular processes, and solving their genome sequences paved the way for the genomics era. Yet *GENETICS* is not a primary vehicle for publication of research in prokaryotic genetics or genomics. As a researcher and teacher in prokaryotic genetics and genomics, membership on the GSA Board will afford an opportunity to strengthen our position in this field.

**Advanced Degrees:** BS, Case Western Reserve University; PhD, Washington University (1991).

**Career Summary:** *Doctoral Thesis:* (with Dan Hartl) Washington University in St. Louis (1986–91); *Postdoctoral Training:* (with John Roth) University of Utah (1991–96). *Faculty Appointments:* Assistant Professor (1996–2001), Associate Professor (2001–07), Professor (2008–present), Department of Biological Sciences, University of Pittsburgh.

**Honors and Awards:** Alfred P. Sloan Fellow (1996); David and Lucille Packard Fellow (1997); Chancellor's Distinguished Research Award (2003), University of Pittsburgh; Fellow, American Academy of Microbiology (2012).

**Professional Service Activities:**

ASM Division R Chair (2004–05), NIH GVE Study Section Member (2007–12), Associate Editor of *GENETICS* (2006–present)

**Major Research Interests:** Bacterial genome evolution, bacterial speciation, evolution of codon selection, horizontal gene transfer.

**Website:** <http://www.biology.pitt.edu/person/jeffrey-lawrence>

**Deborah A. Siegele, PhD**

Associate Professor,  
Department of  
Biology, Texas A&M  
University, College  
Station

**Candidacy Statement:**

If elected to the GSA Board of Directors, I will bring my perspective as a prokaryotic biologist who has worked with bacteria (*Escherichia coli*) and phage (bacteriophage lambda) throughout my career. The GSA is active in promoting the teaching of genetics and I would like to further those efforts. As a teacher at a land-grant university with ~40,000 undergraduates, I see the need for developing teaching methods/tools that will give students opportunities to participate in real-life research activities and that are also scalable to large student populations.

**Advanced Degrees:** BA, Northwestern University (1976); PhD, University of Wisconsin–Madison (1989).

**Career Summary:** *Postdoctoral Training:* Harvard Medical School (1989–92). *Faculty Appointments:* Assistant Professor (1992–97), Associate Professor (1997–present), Graduate Advisor (2004–06), Department of Biology, Texas A&M University; Member (1998–present) Intercollegiate Faculty of Genetics, Texas A&M University.

**Honors and Awards:** Trainee on NIH Cell and Molecular Biology Training Grant, University of Wisconsin (1984–87); NIH Postdoctoral Fellowship (1990–92); NIH James A. Shannon Director's Award (1994–96).

**Professional Service Activities:**

*University-level Service:* Member (2000–06), Vice Chair (2002–04) Executive Committee, Intercollegiate Faculty of Genetics; Member (2001–06) College of Science Faculty Advisory Committee, College of Science, Texas A&M University; Member (2007–09), Chair (2009–12) Graduate Appeals Panel, Texas A&M University. *Editorial Board Member:* *Journal of Bacteriology* (1996–present). *Peer Review Service:* NSF *ad hoc* reviewer.

**Major Research Interests:** Over the past five to six years, my students and I have moved from doing bench work to database work. I am one of the co-PIs for porteco.org, an NIH-funded project to develop a virtual model organism database for *Escherichia coli*, its phages, plasmids, and mobile genetic elements by tying together existing databases and building new tools for analysis of high throughput data. A major part of my effort in the project is directed to the promotion of community annotation, in particular by incorporating annotation activities into teaching. I am also involved in a project to develop an ontology for microbial phenotypes (microbialphenotypes.org).

**Websites:** [http://ecoliwiki.net/colipedia/index.php/Welcoming\\_to\\_EcoliWiki](http://ecoliwiki.net/colipedia/index.php/Welcoming_to_EcoliWiki)

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# Thank You to the GSA Donors

The Genetics Society of America is grateful to the more than 100 donors who from January through August 2012 contributed more than \$17,000 in financial support to the Society. These funds are essential in enabling GSA to provide a greater number of student travel and poster awards than the GSA operating budget can support and represent only part of the \$75,000 provided annually for these student awards. That is why your gift to GSA is so important. If you have not already made a tax deductible contribution for 2012, we urge you to do so.

During this past year, GSA introduced its **Undergraduate Travel Awards** programs, supporting undergraduate students who are presenting at GSA-sponsored conferences. These awards provide new opportunities and incentives to the young investigators who will be the next generation of geneticists. Expanding our travel award program at this time was especially important because many other sources for funding have become increasingly constrained in recent years.

The **DeLill Nasser Awards for Professional Development in Genetics**, established by GSA in 2001 in memory of DeLill Nasser (1929-2000), a long-time member of the GSA and a National Science Foundation program director in eukaryotic genetics, has grown significantly since its establishment. Over the last decade, this travel award program for graduate students and postdoctoral researchers to attend any national or international meeting or to enroll in a laboratory course that will further their career, has awarded more than 100 travel grants to early career researchers. Nearly half of those awards were made in the last two years, when GSA expanded the program from five to 25 awards annually. The young researchers who receive these awards are extremely grateful for the educational and career opportunity the DeLill Nasser Award provides.

## Special Funds: Helping Our Communities

In addition to programs which support the entire genetics community, GSA has also supported efforts that promote the careers of early-career scientists within model organism communities.

This past year, GSA worked with the zebrafish community to establish the **Chi-Bin Chien Award**, named in memory of Chi-Bin Chien (1965-2011), a prominent researcher and active volunteer within the zebrafish community. The award honors an outstanding graduate student, postdoctoral researcher, or recently appointed faculty member who has made significant contributions to the field of zebrafish research and has exhibited the generosity and openness that characterized and motivated Dr. Chien in his lifetime. David Kokel, PhD, a postdoctoral researcher at Massachusetts General Hospital,

Boston, was named this year as the first recipient of this award (see meeting recap on p. 17).

GSA also supports the **Victoria Finnerty Memorial Undergraduate Travel Awards**, which supports undergraduate participation in the Annual Drosophila Research Conference. The award is named in memory of long-time Drosophila community member, Victoria Finnerty (1938-2011), who trained many undergraduates in her 35 year career as a teacher and research scientist at Emory University. The Vickie Finnerty Awards were distributed for the first time in 2012, enabling six undergraduates to present their research at the Drosophila conference in Chicago this past spring (see meeting recap on p. 4).

## Make the Commitment

For GSA to continue to support these programs to support the students and postdocs who are the future of our field, **we urge every member to make the commitment to make an annual contribution to GSA**. Your support is essential for ensuring a strong future for these programs, which are in turn essential for the future of our discipline.

**To donate by credit card, please go to [www.genetics-gsa.org/donate](http://www.genetics-gsa.org/donate).**

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 (which supports undergraduate travel awards, among other activities), 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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Editor: **Bonnie L. Bassler**, *Princeton University*

The *Annual Review of Genetics*, in publication since 1967, covers significant developments in the field of genetics. These include biochemical, behavioral, cell, and developmental genetics; evolutionary and population genetics; chromosome structure and transmission; gene function and expression; mutation and repair; genomics; immunogenetics; and other topics as related to the genetics of viruses, bacteria, fungi, plants, and animals, including humans.

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The *Annual Review of Genomics and Human Genetics*, in publication since 2000, covers significant developments in the field of genomics as they apply to human genetics and the human genome. The journal places particular emphasis on the areas of genomic technology, genome structure and function, genetic modification, human variation and population genetics, human evolution, and, importantly, all aspects of human genetic disease, including individualized medicine.

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# Fish Make a Splash in the Madison Heat

by *Kate Whitlock, Universidad de Valparaiso, Chile, and 2012 Conference Organizing Committee*

As the June heat rose in Madison, Wisconsin, zebrafish researchers returned once again to make a splash at the celebration of its biennial International Conference on Zebrafish Development and Genetics. The meeting hosted 946 scientists from 24 countries, and for the first time included high school students and teachers participating in the education workshops. This tenth meeting featured two keynote talks: one by Cornelia Bargmann (The Rockefeller Univ) and one by Rudolf Jaenisch (Whitehead Inst and MIT).

New this year was the **Chi-Bin Chien Award** honoring the brilliant zebrafish investigator Chi-Bin Chien (1965-2011) who passed away last year at the height of his career. Chi-Bin not only ran a successful research lab at the University of Utah School of Medicine, but he was a generous source of resources to the community. The inaugural award was presented to postdoc **David Kokel** (Peterson Lab, Massachusetts General Hospital) for his innovative work on neuroactive drug screens in zebrafish using behavioral assays.

In addition to the five plenary sessions, 18 concurrent sessions, and three days of poster presentations, the meeting also hosted 10 workshops covering a variety of topics such as emerging technologies, disease models, and education.

In the opening plenary talks, the beauty of translucent zebrafish embryos was highlighted by the adaptation of the Brainbow technique by Albert Pan (postdoc Schier Lab, Harvard Univ). Originally developed in mouse to label neuronal populations through the random expression of the different derivatives of the GFP protein, this



Cecilia Moens (FHCRC) congratulates David Kokel as the first recipient of the Chi-Bin Chien Award. For more Zebrafish conference photos, visit <http://on.fb.me/0t32dt>.

technique has now been adapted to zebrafish, hence “Zebrabow.”

Notable this year were the number of presentations, both oral and poster, relating to the development and regeneration of cardiac and vasculature tissues. Taking advantage of the accessibility of the heart during early development as well as sophisticated lineage tracing techniques, graduate student Vikas Gupta’s elegant studies showed the complex proliferative behaviors that underlie shape changes during heart development (Poss Lab, Duke Univ Med Ctr).

An innovative use for zebrafish as a tool to study hormonal regulation and environmental effects on living systems was evident in a study reported by Daniel Gorelick (postdoc, Halpern Lab, Carnegie Inst) using the estrogen receptor reporter construct driving GFP to monitor estrogen responses in different tissues. This technique might come in handy for researchers like Michael Barresi (Smith College) who, working with undergraduate students, has used the zebrafish as a practical tool to show that the crude oil leaked from the Deepwater Horizon



oil spill has teratogenic effects on developing embryos.

In a concurrent session on emerging technologies, it was noted that great strides have been made in increasing the efficiency of targeted mutations to knock out genes of interest using the TALEN technology (see TALEngineering.

org for more information). When the first Zebrafish

Meeting was held in Cold Spring Harbor in 1994, very little was known about the zebrafish genome. Now, as indicated in a poster presentation by Kerstin Howe of the Genome Reference Consortium (GRC), there are sophisticated tools based on the zebrafish genome, a genome that continues to be refined by the GRC with the correction of misrepresented regions and filling in gaps that remain in the genome (see [www.genomereference.org](http://www.genomereference.org)).

Over the last 18 years, the meeting of the zebrafish world has presented an ever increasing number of talks and posters related to human health and disease. This year those talks showed the potential of zebrafish research to uncover mechanisms for healing spinal cord injury, inflammatory bowel disease (IBD), certain types of leukemia and lymphoma, and other cancers. These changes show the rapidity with which zebrafish has emerged as a premier model system, not only to study the genetic basis of development in vertebrate animals, but also a crucial model system to discover the underpinnings of human disease.

Yeast meeting participants review research amid poster session participants. For more Yeast meeting photos, visit <http://on.fb.me/ShydDU>

# Yeast Genetics 2012: Beyond Beer, Bread, and Wine

Among the public, yeast is best known as an ingredient for beer, wine, and many types of bread, but for the more than 500 yeast researchers at the Genetics Society of America's Yeast Genetics and Molecular Biology Meeting, it is a scientific model organism. From July 31-August 5, 2012 at Princeton University in New Jersey, yeast showed off both its utility as a "model" model organism, and its deliciously practical use during social events.

## Research

The five day biennial Yeast conference, which featured platform and poster sessions, special lectures, workshops, exhibits, and award presentations, showed how yeast is being used to study various cancers, neurodegenerative diseases, evolution, and many other genetic and molecular functions.

In a platform session presentation, Matthew Bochman and his colleagues at Princeton explained how they are using budding yeast, *Saccharomyces cerevisiae*, to study the functions of an enzyme called Hrq1. Defects in its human homologue (RecQ4) have been associated with certain skin and skeletal disorders characterized by a predisposition to certain types of bone and skin cancers. Dr. Bochman hopes that the effects of abnormal Hrq1 can be explored further, increasing knowledge on how RecQ4 mutation causes predisposition to cancers.

Alison Gammie, also at Princeton, is using yeast to study hereditary nonpolyposis colorectal cancer (HNPCC). Gammie identified mutated versions of the main DNA mismatch repair protein, MSH2, from patients with HNPCC and recreated those mutant proteins in yeast to understand the consequences of the mutations.

The effects on yeast when stressed by changes in their environment are informing researchers about neurodegenerative diseases in animals and humans. Randal Halfmann (Univ of Texas –Southwestern Med Ctr) discussed how environmental changes in yeast result in prion changes, which then lead to the development of amyloids. Prions are the causative agent of Mad Cow disease, and amyloids are also found in non-prion diseases like Alzheimer's and Parkinson's.

Changes in the environment also affect the evolution of yeast, as explored by John Koschwanez at Harvard. He designed experiments asking, "WWED –What Would Evolution Do?"

Growing yeast for many generations, he limited their access to sugar and found that they evolved multiple strategies for overcoming this difficulty, almost all of which involved forming multi-cellular communities. Koschwanez is asking whether the populations evolve using the same solution to a particular problem every time.



## Awards

In addition to contributed sessions, four researchers were honored with awards and/or special lectures. They were:

• **John R. Pringle** (Stanford Univ), **Lifetime Achievement Award** for contributions in the field of yeast

genetics and outstanding community service.

• **Angelika Amon** (MIT), **Ira Herskowitz Award** for outstanding contributions in the field of yeast research in the last 20 years, usually given to scientists under age 50.

• **Andrew Murray** (Harvard), **Winge-Lindgren Address**, which is a thought provoking perspective given by a leader in the field of yeast genetics.

• **Stan Fields** (Univ of Washington, Seattle), **Lee Hartwell Lecture**, given by a noted researcher in the field who has used yeast in a way that has had an obvious impact on other fields.

There also were four recipients of \$250 **GSA poster awards**: graduate students **Birgit Ploier** (Graz Univ of Technology, Austria), **Zhihao Tan** (Institute for Systems Biology, Seattle, WA), **Deborah Thurtle** (UC-Berkeley), and **Xin Wang** (Princeton).

## Education

The Yeast conference, like all GSA-sponsored conferences, included educational activities for all levels of researchers. Graduate students and postdoctoral researchers participated in the popular GSA Career Luncheons where they had informal conversations with senior career scientists on topics ranging from academic and non-academic career opportunities to searching for jobs and postdocs.

The GSA Education Special Interest Group (SIG) mixer provided an opportunity for faculty to meet and mingle with other educators and to learn about recent GSA education initiatives.

continued on page 19

submission, on average, and many are turned around in under four weeks.

*GENETICS* is led by Editor-in-Chief Mark Johnston (Univ of Colorado School of Med); senior editors Gary Churchill (Jackson Lab), Chuck Langley (UC-Davis), Terry Magnuson (UNC), Lauren McIntyre (Univ of Florida), Rasmus Nielsen (Univ of Copenhagen) and Krista Nicholas (NOAA Fisheries); and a talented team of associate editors.

Not resting on its long history, *GENETICS* continues to add new content. The first Primer article, authored by Primer Editor Beth De Stasio and designed to bring *GENETICS* research into the classroom, appeared in August 2012 (see article on p. 20). Genetic Toolbox Reviews, the brainchild of Editor Oliver Hobert (Columbia Univ), describe available resources — both practical and intellectual — for studying underappreciated experimental organisms; the September issue of *GENETICS* features a Toolbox Review

of the sea squirt, *Ciona intestinalis*, an increasingly popular organism for developmental biologists.

Nearly half of the planned 50 chapters of YeastBook, an encyclopedia of the reference eukaryotic cell, have now been published. And the Reviews and long-running Perspectives series continue to keep readers informed on topics that are thoughtful, topical, and (sometimes) provocative.

### Editorial Synergy

As sister journals, *G3* and *GENETICS* offer unique opportunities for synergy under the GSA umbrella.

For example, in February 2012, *GENETICS* and *G3* published a block of 15 articles across both journals on the Mouse Collaborative Cross under the leadership of Senior Editors Lauren McIntyre (*GENETICS*) and Dirk-Jan de Koning (*G3*), providing value to readers and authors that is greater than the sum of the individual parts. A special focus on genomic selection was launched in the April 2012 issues of *GENETICS* and

*G3*. And additional such multi-journal blocks are in the works.

And papers submitted to *GENETICS* that report solid research but are judged outside its scope often find a suitable home at *G3*. Authors report a seamless experience made easier by a quick decision and automatic transfer of manuscripts and reviews from *GENETICS* to *G3* by the editorial office.

Both journals foster the philosophy of practicing scientists setting the standards of the field. Both GSA journals are *peer edited*: all decisions are made by practicing scientists who know what it takes to tell a significant story [see *GENETICS* February 2009 181:355-356; doi:10.1534/genetics.109.100818, www.genetics.org/content/181/2/355.full].

I invite you to submit your best stories to GSA's gems, *GENETICS* and *G3*, and to join me in engaging with our Society — now, during 2013 and beyond, to further the GSA's critical mission to strengthen our community and advance our field.

## continued page 18 Yeast Genetics 2012: Beyond Beer, Bread, and Wine

Students from local undergraduate institutions who are not involved in scientific research attended GSA's Genetics Conference Experience (GCE) and had a half-day glimpse at the real world of genetics research. The GCE gives these students an opportunity to witness first-hand communication of scientific research. Several students from Queensborough Community College in Bayside, NY and Brookdale Community College in Lincroft, NJ, attended this event.

### Other Activities

Other presentations at the Yeast meeting included sessions on how to get published—including in the GSA journals, *GENETICS* and *G3: Genes | Genomes | Genetics*—and how individual scientists can become advocates for scientific policy and funding issues. There were also more than 300 posters to review, six workshops to attend and several exhibitors to stop by and talk with.

The next Yeast Genetics and Molecular Biology Meeting will be on the West coast at the University of Washington, Seattle in July of 2014. See you in two years!

*Thanks to Elizabeth Andrew (Newcastle Univ, UK), Patrick A. Gibney (Princeton) and Diedre Ribbens (Johns Hopkins Univ Sch of Med) for contributing to this article.*

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## New *GENETICS* Resources Enhance Journal Content

The GSA journal *GENETICS* now offers readers two new resources: the "Primer," intended to help educators incorporate current primary research into the classroom, and the "Genetic Toolbox" series of reviews, which describes materials and tools available for the study of less commonly used experimental model organisms.

The Primer, launched in the August issue of *GENETICS*, serves as a teaching companion piece to a current research article in *GENETICS*. These articles are designed to bring cutting-edge research into the classroom by making scientific papers accessible to students. The first Primer, "Suppressors, Screens, and Genes: An Educational Primer for Use with 'A Network of Genes Antagonistic to the LIN-35 Retinoblastoma Protein of *Caenorhabditis elegans*'" written by Primer section Editor Elizabeth De

Stasio (Lawrence Univ, Appleton, WI), accompanies an article by University of Wyoming, Laramie, researchers Stanley Polley and David S. Fay. The Primer introduces concepts of reverse genetics and RNAi, suppressor screens, synthetic phenotypes and phenocopy.

This Primer is the first of several such articles De Stasio expects the Journal to publish annually. "We will be highlighting articles that teach and reinforce genetic principles and approaches, while concentrating on current, rather than classic discoveries," De Stasio said. "Focusing the Primers on contemporary scientific literature will engage students in the learning process and guide them toward the process of scientific discovery," she added. In addition to Primers focusing on a current research article, the Journal will publish Primers covering specific model organisms.

In its September issue, *GENETICS* launched a "Genetic Toolbox" series, reviews that describe available resources for studying less commonly used model organisms. The first article, "Genetic and Genomic Toolbox of the Chordate *Ciona Intestinalis*," by New York University researchers Alberto Stolfi and Lionel Christiaen, discusses tools and techniques for studying the sea squirt, *Ciona intestinalis*. The Genetic Toolbox series highlights the increasingly important role such organisms play in our broad understanding of genetics. Additional articles are planned on Medaka fish and Planaria. The Journal expects to publish Toolbox articles four times a year.

Visit the journal *GENETICS* at <http://www.genetics.org/content/current> and at <http://www.genetics.org/content/191/4.toc> to see these new resources.