ASPB News

THE NEWSLETTER OF THE AMERICAN SOCIETY OF PLANT BIOLOGISTS

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Inside This Issue

Bienvenue, Montréal!

I am delighted that, after 13 years, ASPB's annual plant biology meeting is returning to Canada in 2010 for another in our series of joint meetings with the Canadian Society of Plant Physiologists–La Société Canadienne de Physiologie Végétale (CSPP).

As beautiful and entertaining as the city of Montréal will undoubtedly be, what makes the Plant Biology meeting one of the premier international plant biology gatherings is not so much the location but the excellent science—whether presented in the major symposia or minisymposia or picked up at the posters and in networking conversations throughout the conference. Moreover, you will see that the program for Plant Biology 2010 responds to several of the suggestions you made following our 2009 meeting, including more condensed poster hours, child care options, and several new workshops. And just before the annual meeting, ASPB and CSPP will be running our second Laboratory Leadership Workshop, which will provide hands-on skills to plant scientists embarking on their independent research careers. You can find the many details about the meeting and associated events at our website (http://www.aspb.org), as well as elsewhere in this issue of the *ASPB News*.

I believe this year's program committee has developed a compelling conference that covers exciting research discoveries in plant biology. And I am sure that the agenda will appeal, whether you are a student or a scientist in academia, government, or industry.

I look forward to seeing and talking with you and your colleagues from around the globe in Montréal this summer.

Best,

Tuan-hua David Ho
ASPB President

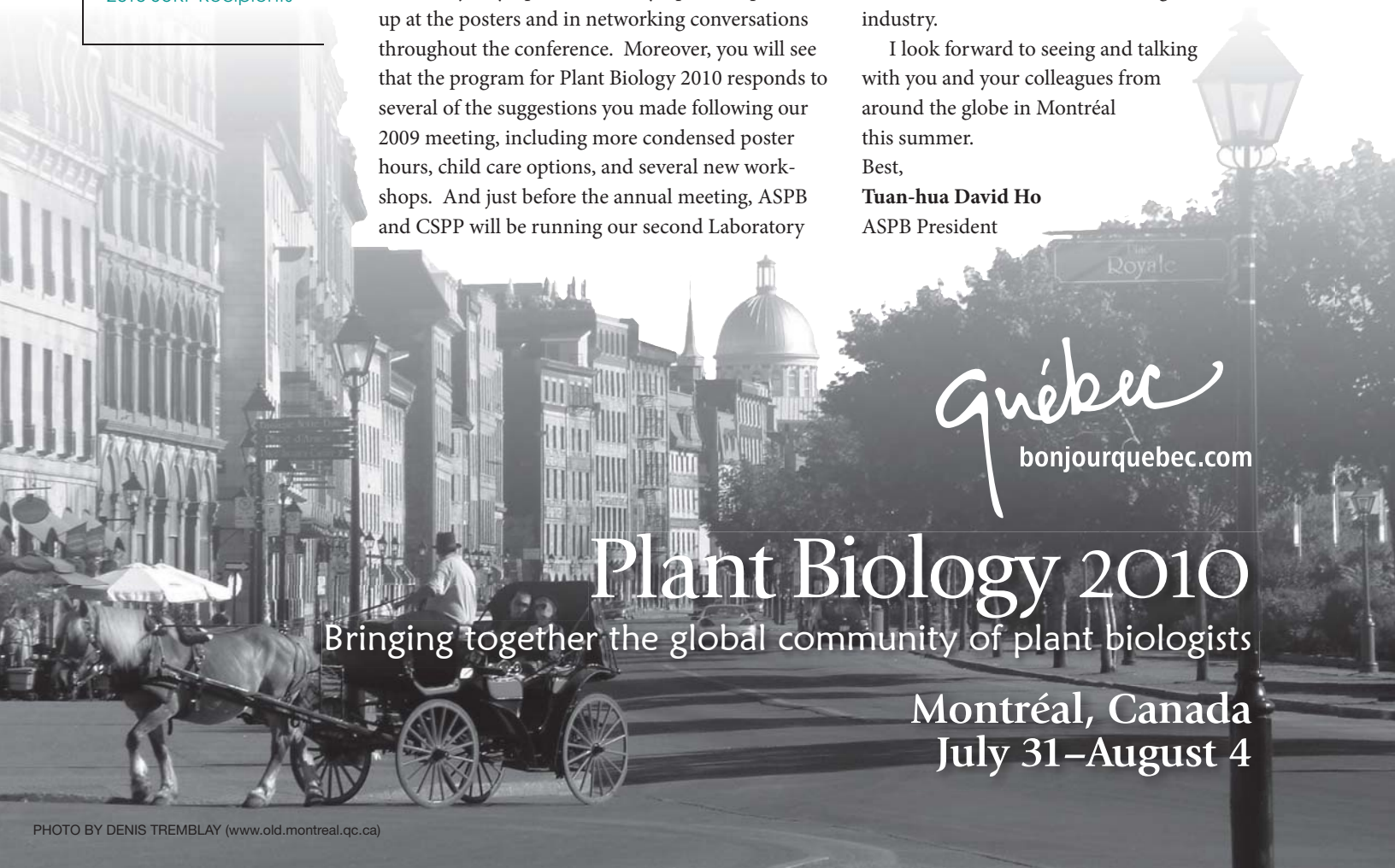

PHOTO BY DENIS TREMBLAY (www.old.montreal.qc.ca)

The *ASPB News* is delivered online as well as in print. Members will be alerted by e-mail when a new issue is posted. The *ASPB News* welcomes member feedback. Contact the editor at nancyw@aspb.org.

CONTENTS

Deadline for September/October 2010 *ASPB News:* August 5, 2010

ASPB Executive Committee & Staff

ASPB News

Headquarters Office
15501 Monona Drive
Rockville, MD 20855-2768 USA
Phone: 301-251-0560
Fax: 301-279-2996

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Contact: Nancy A. Winchester, Editor, ASPB News, 15501 Monona Drive, Rockville, MD 20855-2768 USA; nancyw@aspb.org; 301-296-0904.

Plant Biology 2010—Making It All Happen

Saturdays are generally very quiet at ASPB's headquarters building—just the usual deer, groundhogs, foxes, and assorted birds and squirrels milling about. But not so on Saturday, March 27, as ASPB's Program Committee made final preparations for the scientific sessions at Plant Biology 2010.

Abstracts, old program books, previous conference surveys, and, of course, abundant coffee were ready by 8:00 a.m., and at precisely 8:30 a.m. a van dropped off the nine members of Plant Biology 2010's Program Committee.

It was destined to be a long day. There were still decisions to make regarding the many requests for additional workshops and sessions at this year's meeting in Montréal. And, most important, there were 400 abstracts to be reviewed and condensed into 30 minisymposia (see the list on page 8). By the end of the day, a total of 112 abstracts would be selected.

The committee broke into teams to begin reviewing abstracts, and many hours later, at 5 p.m., it began putting the minisymposium sessions together. At 7 p.m. an outline of chairs and abstracts had been built. After a review of prior years' topics and speakers, each session was constructed with an eye toward offering the best science and representing a good range of perspectives. Gender and geographic diversity were also considered.

The minisymposia are always a highlight of each meeting, and they wouldn't be possible without the efforts of the Program Committee. While words are great, a picture is worth 1,000 of them. So here are photos of the committee as it spent that long, long day in March making it all happen. *THANK YOU to this year's Program Committee!*

Judy Callis
University of California *(chair), secretary, ASPB*

Nick Carpita
Purdue University, *president-elect, ASPB*

Carl Douglas
University of British Columbia, *president, CSPP*

Janet Braam
Rice University

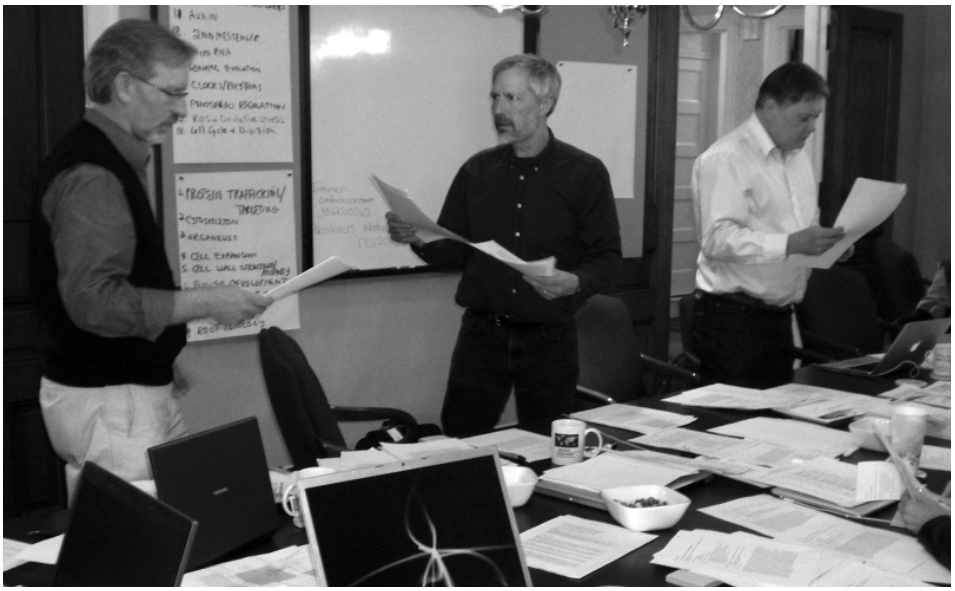
Anja Geitmann
University of Montréal
CSPP Program Representative

Jeffrey Harper
University of Nevada

Georg Jander
Boyce Thompson Institute

Todd Mockler
Oregon State University

Danny Schnell
University of Massachusetts



(from left) Danny Schnell, Carl Douglas, and Nick Carpita selecting minisymposia—the heartbeat of Plant Biology 2010.

Carl Douglas (left) and Nick Carpita. So many good abstracts, so little time.

Taking advantage of the unseasonably warm weather, (from left) Georg Jander, Jeffrey Harper, Carl Douglas, Nick Carpita, Danny Schnell, and Judy Callis enjoy lunch outside ASPB's Rockville headquarters.

PHOTO BY MARIE LECONTE (www.old.montreal.qc.ca)

Get More from Plant Biology 2010

Opening Address, ASPB/CSPP 2010 Awards Ceremony, and Award Speakers

Saturday, July 31, 1:00–3:15 p.m.

All attendees are invited to attend this prominent annual ceremony, which recognizes meritorious research and service in plant biology by the presentation of awards to deserving individuals. The ASPB and CSPP presidents will each present their society's 2010 awards. The ceremony is immediately followed by the ASPB 2009 award speakers: Charles Albert Shull Award—Steve Jacobsen; Stephen Hales Prize—Jeff Dangl; and the 2010 Perspectives of Science Leaders awardee—Nina Fedoroff, science and technology adviser to the secretary of state and to the administrator of USAID.

FUNDING

New! NIH 101

Monday, August 2, 7:30–9:30 p.m.

Speakers: Cheryl A. Kitt, PhD, deputy director, Center for Scientific Review, NIH; and Michael Bender, PhD, program director, Division of Genetics and Developmental Biology, National Institute of General Medical Sciences, NIH

NIH program and review representatives will present an overview of NIH research funding missions and application and review processes. Topics covered will be the intersection of the National Institute of General Medical Sciences (NIGMS) research mission with plant biology and recent changes in peer review of research grant applications at the NIH.

New! Government Agencies Room—Learn About Funding Opportunities from U.S. Government Agencies!

This year NSF, USDA, and DOE will have a meeting room dedicated to providing you with information about funding opportunities. Agency staff will be available throughout the meeting. Schedules will be available at registration and at the U.S. government agencies exhibit booth.

Date	Start Time	End Time	Agency
Saturday, July 31	9:00 a.m.	1:00 p.m.	DOE
	1:00 p.m.	5:00 p.m.	NSF
Sunday, August 1	8:30 a.m.	12:00 p.m.	DOE
	2:30 p.m.	6:00 p.m.	USDA
Monday, August 2	8:30 p.m.	12:00 p.m.	NSF
	1:30 p.m.	5:00 p.m.	USDA
Tuesday, August 3	8:30 a.m.	12:30 p.m.	USDA
	2:00 p.m.	5:30 p.m.	DOE
Wednesday, August 4	8:30 a.m.	12:30 p.m.	USDA

continued on page 6

continued from page 5

NETWORKING

Opening Reception/Mixer

Saturday, July 31, 7:00–9:00 p.m.
(complimentary for attendees; non-registered guests $10)
Visit with friends and colleagues and check out the exhibits while enjoying a relaxing evening.

ASPB Women in Plant Biology–Sponsored Lunch and Speaker

Monday, August 2, 12:00–1:30 p.m.
(pre-purchased ticket required; $12 for students/postdocs, $28 for regular members)

Speaker: Shirley Malcom, head of the Directorate of Education and Human Resources of AAAS—*Women's Career Choices: Finding the Third Way*

What are the factors that determine women's career choices in science? Indications are that women don't find their way into academic positions in equal proportions to men. Why is this? Is this choice a reflection of reduced ambition? Or is it that the research institutions in which they are trained do not create an environment that welcomes women as long-term players? In addressing these questions, Dr. Malcom will provide background information, discuss helpful approaches, and identify policies that have been shown to result in greater inclusion of women in science departments.

ASPB Minority Affairs Committee–Sponsored Dinner and Speaker

Monday, August 2, 7:30–9:00 p.m.
(pre-purchased ticket required; $12 for students/postdocs, $28 for regular members).

Speaker: Tyrone Hayes, University of California, Berkeley—*From Silent Spring to Silent Night: A Tale of Toads and Men*

The herbicide atrazine is a potent endocrine disrupter that chemically castrates and feminizes exposed male amphibians. Further, atrazine exposure results in neural damage and hyperactivity and induces a hormonal stress response that leads to retarded growth and development and immune suppression. The immune suppression results in increased disease rates and mortality. Though many factors likely contribute to amphibian declines, pesticides (such as atrazine) likely play an important role even in populations that appear to decline for other reasons, such as disease. Pesticides like atrazine are ubiquitous, persistent contaminants, and though more pronounced in amphibians, the effects described above occur in all vertebrate classes examined (fish, amphibians, reptiles, and mammals) via common mechanisms. These observations demonstrate the critical impact that pesticides have on environmental health. Furthermore, reproductive cancers and birth defects associated with exposure to many of these same chemicals (e.g., atrazine) via identical mechanisms demonstrate that the impact on environmental health is an indicator of a negative impact on public health. Many of these mechanisms are being revealed only now in the scientific literature, and agencies (such as the U.S. Environmental Protection Agency) are ill-equipped to deal with this emergent science and translate it efficiently into health-protective policies. In particular, ethnic minority and lower socioeconomic communities are at risk as they are more likely to live in contaminated communities and work in occupations that increase hazard exposure and less likely to have educational and health care access. Given the importance of this science and its relevance to public health, there is a strong need to translate this information and provide public access to this knowledge. Command of the science and active involvement by the public in policy decisions are vital.

Undergraduate Networking Poster Session

Saturday, July 31, 11:00 a.m.–12:00 p.m.

View the future of plant biology as undergraduates display their posters during this special session. Undergraduates may move their posters to the exhibit/poster hall after this event if an abstract was submitted for the regular poster sessions.

Small Colleges/PUI Networking Lunch

Monday, August 2, 12:00–1:30 p.m.
(pre-purchased ticket required; $15, $20 on-site, includes lunch)

This workshop is targeted toward scientists working at or interested in PUIs who want to network, discuss issues of common interest, find out about PUI-related opportunities, and provide feedback on ASPB programs for PUIs.

USDA Reception

Sunday, August 1, 7:00–8:00 p.m.

All employees of the U.S. Department of Agriculture are invited to attend this annual reception. Enjoy the opportunity to share a beverage and mingle with this diverse group.

Final Party

Tuesday, August 3, 9:00 p.m.–12:00 a.m. at the Palais des Congrès
(complimentary for attendees; non-registered guests $10)

Get totally tubular! Come enjoy 80s dancing, dessert, and drinks.

CAREERS

Career Workshops I & II

Held concurrently on Sunday, August 1, 7:00–10:00 p.m.
(pre-purchased ticket; $12, includes dinner)

The ASPB Women in Plant Biology Committee will present two career workshops at Plant Biology 2010. These workshops are open to all annual meeting attendees.

Career Workshop 1: Getting the Most Out of Graduate School

Graduate students often enter graduate school with little knowledge of the skills they will need for success in a scientific career. Not only do they need excellent lab skills, but they also need to be reading the literature, reading and writing manuscripts, reading grant proposals, developing teaching skills, and attending meetings where they present their data and get experience in

networking. In addition, graduate students need to work well with their mentor and others in their research program. This workshop will bring in experienced PIs and postdocs to discuss strategies for success in graduate school.

Career Workshop II: Is Industry the Right Choice for You?

Industry is often considered as a career option, but academic labs rarely have much knowledge of careers in industry. This workshop will bring together scientists who work in small and large companies to provide an insider's guide to the pros and cons of a job in industry.

EDUCATION

New! Education Booth Hot Topic Discussions

In addition to other formal events, the ASPB Education Committee will be hosting "hot topics in science education" discussions during the Plant Biology meeting this year. These 30- to 60-minute informal sessions will take place in the Education Booth and will focus on strategies for broadening the impact of your research, assessing student learning, and other education-related topics of interest to the members. Please watch for announcements of these sessions on the website and during the meeting. If you would like to suggest a topic or facilitate a discussion, please email Erin Dolan (edolan@vt.edu), ASPB Education Committee chair.

Education Workshop—Education and Outreach: Strategies for Broadening the Impact of Your Research

Sunday, August 1, 7:30–9:30 p.m.
(Free—pre-reserved ticket is required)

Are you looking for ways to integrate your research into your undergraduate teaching? For lab lessons that illustrate plant biology concepts without reading like a cookbook recipe? For ways to get children and the public excited about science? Then come to the Education Workshop and learn why and how to broaden the impact of your research through K–16 education and K–12 outreach. The workshop will feature hands-on activities and examples of open-ended investigations, as well as advice about finding funding for education and outreach efforts and evaluating their impact.

RESOURCES & INFORMATION

Plant Ontology and Gramene's Gene Annotation Workshop

Saturday, July 31, 8:00 a.m.–12:00 p.m.
(Free—pre-reserved ticket required)

Sponsored by NSF Funded Projects, Gramene Database & Plant Ontology

As more and more plant species are getting sequenced and large-scale phenotyping screens are being set up, we see a diversity of annotation types and descriptors being used for these experiments. Having a new genome and large datasets provides an excellent way forward to find novel ways to learn about plant development and behavior. However, in doing so we also realize that many of the descriptors are very species specific and/or do not meet the community standards of functional characterization by use of various ontologies such as gene ontology and plant ontologies. In addition to that, not every plant community has sufficient personnel and resources to manage the annotation of its genome. Therefore, these communities depend heavily on the high-quality annotations of the Arabidopsis, rice, and corn datasets. Henceforth, in order to create gold-standard datasets that can be used in annotations, we want to train plant biologists with an emphasis on young investigators, students, postdocs, and especially those representing the minority and underrepresented institutions to help us foster good practices and build a community of curators that will undertake the task of creating a gold-standard dataset for plant biologists. **A few laptops will be available, but bringing your own is encouraged. Internet access will be provided.**

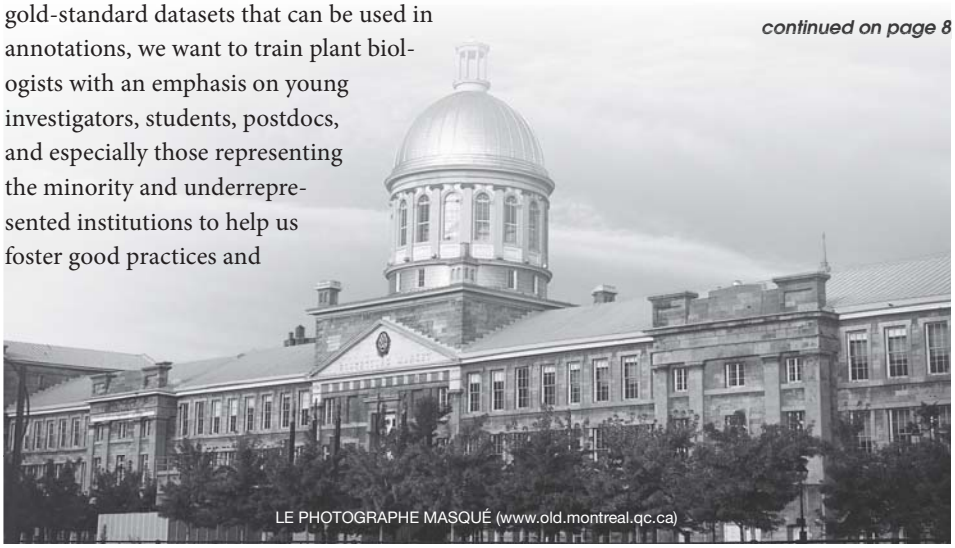
The iPlant Collaborative: New Tools for Innovative Plant Biology Research

Sunday, August 1, 12:00–2:30 p.m.
(Free—pre-reserved ticket required, lunch provided)

Sponsored by iPlant Collaborative

This workshop will provide an overview of the iPlant Cyberinfrastructure (CI), details on two Grand Challenge projects, and iPlant's education and outreach activities. iPlant is building CI that will include user-centric, configurable "Discovery Environments" (DEs) designed to address Grand Challenge problems, data repositories available to the community, new and refactored tools optimized for growing demands, and developer toolkits to harness the power of the underlying system. iPlant is currently building CI in support of two Grand Challenges. iPlant's Tree of Life (iPToL) project seeks to enable construction of phylogenetic trees for up to 500,000 species of green plants to enable the dissemination of data associated with large trees, visualize large trees, and implement scalable "post-tree" analysis tools to foster integration with other sciences. The iPlant Genotype to Phenotype (iPG2P) project seeks to support an analytical process that

continued on page 8


LE PHOTOGRAPHE MASQUÉ (www.old.montreal.qc.ca)

Plant Biology 2010 Minisymposia!

This year's topics and presentations have been selected from nearly 400 abstracts.

Monday, August 2

1. Education Outreach
2. Protein Trafficking & Targeting
3. Plant-Insect Interactions
4. Transcriptional Networks
5. Oxidative Stress
6. Minority Affairs
7. Cytoskeletal Dynamics
8. Auxin
9. Regulation of Gene Expression
10. Plants & Human Health

Tuesday, August 3

11. Organelle Biology
12. Organ Development
13. Second Messengers
14. Enzyme Regulation
15. Metabolic Pathways
16. Cell Expansion
17. Genome Evolution
18. Phosphoregulation
19. Enzyme Structure & Function
20. Membranes & Ion Transport

Wednesday, August 4

21. Cell Wall Structure & Assembly
22. Clocks & Rhythms
23. Cell Cycle & Division
24. Gravitropism
25. Plant-Pathogen Interactions
26. Root Biology
27. Light Signaling
28. Pollen Biology
29. Hormone Cross-Talk
30. Abiotic Stress

View abstracts online at http://abstracts.aspb.org/pb2010/public/

Get More from Plant Biology 2010
continued from page 7

allows one to begin with a trait of interest in a species possessing limited genetic resources and progress toward the ability to predict trait scores for known genotypes in given, nonconstant environments. iPlant's CI will also serve as the foundation for development of educational software, in which students can use the same tools and data resources that are available to professional scientists.

Metabolic Pathway Databases and Tools: PMN/MetaCrop/KEGG Joint Workshop

Sunday, August 1, 7:30–10:00 p.m.

Sponsored by The Plant Metabolic Network, Carnegie Institution

PMN—*Speaker:* Peifen Zhang
PMN develops and curates plant metabolic pathway and enzyme databases. We provide single-species databases that were reconstructed from sequenced plant genomes as well as one comprehensive all-plant reference database called PlantCyc. Tools provided at PMN allow users to display and examine large-scale "omics" data in a metabolic context, to compare pathways between species, and to BLAST against specific enzyme datasets.

MetaCrop—*Speaker:* Falk Schreiber
MetaCrop is a manually curated repository of high-quality information concerning the metabolism of major crops with high agronomical importance. This includes pathway diagrams, locations, transport processes, reaction kinetics, taxonomy, and literature. The web interface and services connect MetaCrop with many tools. MetaCrop also allows model creation and automatic data export, therefore supporting systems biology approaches.

KEGG PLANT—*Speaker:* TBA
We introduce recent topics of the KEGG database from the viewpoint of linking genome and metabolome of plants as implemented in the KEGG PLANT interface. KEGG PLANT not only integrates plant-related resources in KEGG, but also interfaces to various analytical tools such as KAAS for genome and EST annotations and PathPred for predicting biosynthesis pathways of plant secondary metabolites.

Tips and Troubleshooting for Quantitative and Qualitative Immunoblotting of Photosynthetic Organisms Workshop

Monday, August 2, 12:00–1:30 p.m.
(Free—pre-reserved ticket is required, lunch provided)

Sponsored by Agrisera and Environmental Proteomics NB Inc.

Given by Dr. Amanda Cockshutt, CEO of Environmental Proteomics and assitant professor of biochemistry at Mount Allison University, this workshop will go over a number of western blotting techniques and application with specific emphasis on working with photosynthetic samples. The workshop will discuss sample harvesting, protein extraction methods, electrophoresis methodology, sample loading considerations, antibody choices, and incubation parameters. There will be an interactive section on troubleshooting with an attempt to engage the audience in their own challenges and experiences. This workshop is relevant and important, as much of the literature and applications of immunoblotting techniques are for animal studies. Special considerations and conditions need to be applied to immunoblotting protocols for photosynthetic organisms. We will present material relevant to those working on plants and algae.

Guidelines for Preparing Digital Art Workshop

Monday, August 2, 7:30–10:00 p.m.

Speaker: Michael Hepp of The Sheridan Group
Sponsored by *Plant Physiology* and *The Plant Cell*

There are a lot of variables when creating digital art. What software are you using? What size should the figure be? In which format should it be saved? We can help you create publication-ready figures from the

beginning so you won't have to spend time fixing problems later. This presentation will address the basics of digital art preparation for less experienced attendees, and it will also expand to more advanced topics for those who are more experienced. There also will be time at the end of the session for questions. There will be demonstrations in Adobe Photoshop and Illustrator, along with information on how to prepare figures that will reproduce the finest detail and most accurate color both online and in print. The presenter will be Michael Hepp, technology strategist for The Sheridan Group, the company that produces *Plant Physiology* and *The Plant Cell*.

TAIR & SGN Workshop

Monday, August 2, 8:00–9:30 p.m.

The Arabidopsis Information Resource (TAIR) and Sol Genomics Network (SGN) curators will introduce researchers to the rich datasets present in these model organism databases to promote basic and applied plant biology research. The presenters will demonstrate how to connect research in Arabidopsis and the Solanaceae clade (including tomato, potato, and petunia) and how to link these databases to many other model and crop species. Additional topics to be covered include the TAIR10 genome release, tomato genome resources, evaluating the reliability of Arabidopsis gene structure and function data, linking Solanaceae genomes to phenomes, TAIR's new community annotation interface, and SGN's community curation tools.

Be Prepared! ASPB's Lab Leadership Workshop Is Coming to Montréal

Are you a postdoc on the hunt for that most elusive of beasts, a tenure-track assistant professor position? Are you a newly appointed faculty member wondering how to balance the demands of research, teaching, and service? Or are you a mentor to a junior colleague who is on the academic job market or just starting their first faculty appointment?

ASPB and our sibling society to the north, the Canadian Society of Plant Physiologists, are committed to supporting the professional development of early-career plant scientists. Together, the two societies will be offering a Lab Leadership Workshop that will run from Thursday, July 29, to Saturday, July 31, immediately prior to their joint annual meeting (Plant Biology 2010). The workshop is designed to bring together young scientists pursuing (or already beginning) careers in academia as independent researchers. This workshop is modeled after the courses offered in the early noughties by the Howard Hughes Medical Institute (HHMI) and the Burroughs Wellcome Fund (BWF), but it is tailored to plant biologists. This is the second time that the workshop has been offered, and the 2010 workshop will build on the success of (and feedback from) the first event, which was held in 2007 in Chicago.

> "Attending the (2007) lab leadership workshop was an extremely valuable experience. The in-depth discussions provided excellent opportunities to learn from experts about many facets of the academic job…(and) I have put much of this information to use as a faculty member."
>
> **Aaron Liepman**
> Assistant Professor
> Eastern Michigan University

So, come get advice on the academic job search from plant biologists who have been through the application, interview, and negotiation processes at institutions of various sizes and types. Join sessions on teaching, getting published, and grantsmanship that will provide guidance to help you navigate the tenure process. Learn how to effectively manage your time and increase your productivity, how to identify mentors who can assist you in your career progression, and how you can provide effective mentorship and inspiration to the members of your burgeoning research group. We'll also discuss the nuts and bolts of laboratory management and how you can foster an excellent and diverse research environment through effective laboratory leadership. Ultimately, science takes place in the broader context of society, and we will discuss ethics in science as well as the wonderful opportunities available for scientific outreach to the broader public.

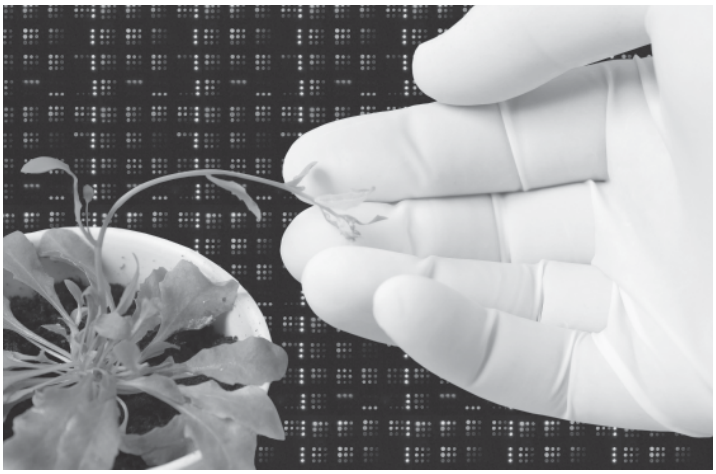
The format is primarily panel discussions and workshops, but there will be many opportunities for informal discussions and networking. Space is limited and will be available on a first-come, first-served basis, so register today!

Additional information is available on the ASPB website at http://www.aspb.org/meetings/pb-2010/Labmanagement.cfm.

Organizers

Mark Brodl
Greg Brown
Allison McDonald
Laura Olsen
Crispin Taylor
Mary Tierney
Tamara Western

You have the gene... now what does it do?



Now you can easily add physiology measurements to your assay toolkit.

You know the reasons that make *Arabidopsis thaliana* an excellent model for gene expression studies (short generation time, sequenced genome, mutant collection, ease of cultivation, etc.). It is essential to add physiological assessment of *in situ* function to validate regulatory or functional genes identified by genomic, molecular or bioinformatics results. Regulation or loss/gain of function effects on photosynthetic and/or respiratory pathways can be measured through gas exchange with the LI-6400XT Portable Photosynthesis System and the new 6400-17 Whole Plant Arabidopsis Chamber. Gas exchange measurements are rapid, non-destructive and repeatable over the life span of the plant.

To learn more about the 6400-17 and 6400-18, go to

www.licor.com/Arabidopsis

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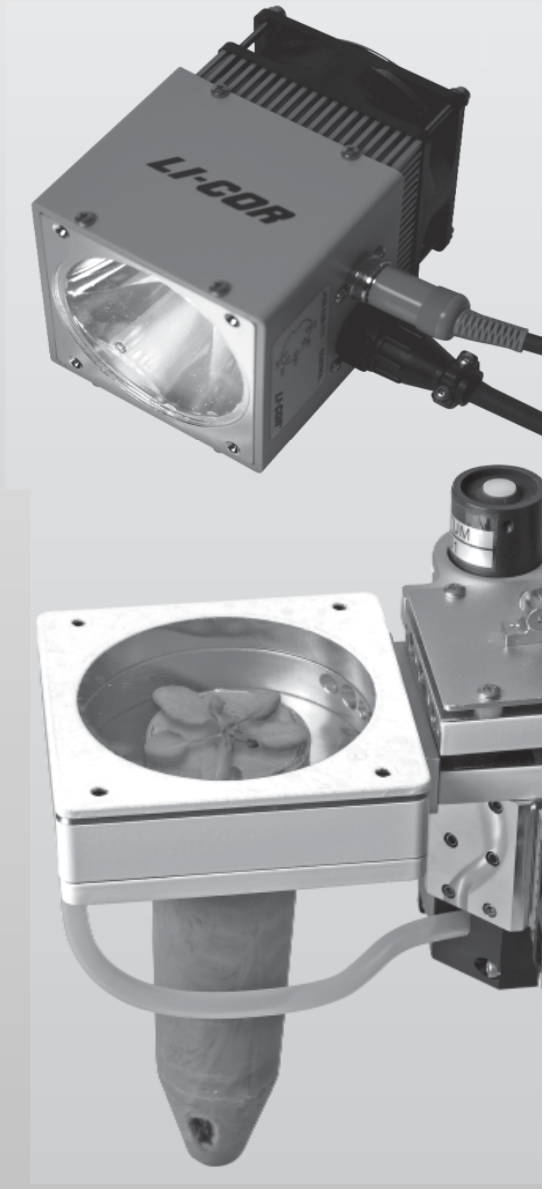
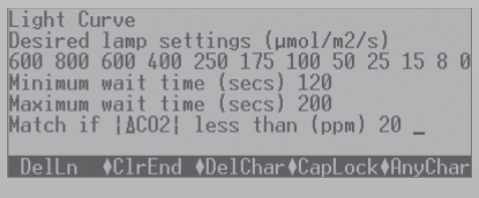
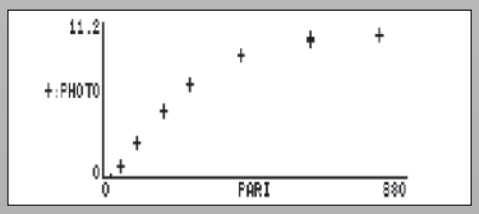


The 6400-17 can be combined with the new 6400-18 RGB Light Source to form a powerful tool for measuring whole plant gas exchange and light response on Arabidopsis or other plants with small growth habits.





Winners and Champions of ASPB

Three factors have most likely contributed to the broadened and enhanced participation in the selection process for this year's ASPB award winners. First, thanks to the staff, the nomination procedures have been streamlined, and submission of nominations via the ASPB website was widely adopted by the membership. Second, chairs and members of award committees have worked very hard to solicit potential nominations. Finally, ASPB members at large have participated more widely in this process. Consequently, we have received more than twice as many nominations than in past years. With this enlarged "talent pool," the award committees have chosen an excellent and balanced group of winners and champions of our community for this year. During the opening ceremony of the upcoming Plant Biology meeting in Montréal (Saturday, July 31, 1p.m.), these awardees will be formally honored. I hope you all will be able to attend this important event.

Our heartfelt congratulations to these winners and champions. Their contributions to excellence in research, education, and service have made ASPB what it is today.

Adolph E. Gude, Jr. Award

- Ralph Quatrano, Washington University, St. Louis

ASPB–Pioneer Hi-Bred Graduate Student Fellowship

- Ashley Galant, Washington University, St. Louis

Charles Albert Shull Award

- Dominique Bergmann, Stanford University

Charles F. Kettering Award

- Sabeeha Merchant, University of California, Los Angeles

Charles Reid Barnes Life Membership Award

- J. Derek Bewley, University of Guelph

Corresponding Member Award

- Geoffrey B. Fincher, University of Adelaide
- Hartmut Lichtenthaler, University of Karlsruhe
- Sudhir K. Sopor

Early Career Award

- R. Keith Slotkin, Ohio State University

Excellence in Education Award

- Jane Ellis, Presbyterian College

Fellow of ASPB Award

- Julia Bailey-Serres, University of California, Riverside
- Mark Brodl, Trinity University
- Alice Cheung, University of Massachusetts
- Gloria Coruzzi, New York University
- Elizabeth Hood, Arkansas State University
- Elliot Meyerowitz, California Institute of Technology
- A.S.N. Reddy, Colorado State University
- Stanley Roux, University of Texas
- Gary Stacey, University of Missouri
- David Stern, Boyce Thompson Institute

Lawrence Bogorad Award for Excellence in Plant Biology Research

- Nam-Hai Chua, Rockefeller University

Stephen Hales Prize

- Athanasios Theologis, University of California

Tuan-hua David Ho
ho@wustl.edu

2nd Pan American Congress on Plants and BioEnergy

August 8–11, 2010 • São Pedro–SP–Brazil

The Brazilian scientific community is proud to welcome some of the top researchers in the Americas to discuss the science and technologies that can improve our use of renewable energy from plants.

After the first meeting in Merida in 2008, we decided to make this meeting a Pan American tradition and committed to hold a Pan American Congress on Plants and BioEnergy every two years, each time in a different country on the continent.

In 2010, we invite you to São Pedro, near Piracicaba in the state of São Paulo, the largest center for production of sugarcane and bioethanol in Brazil, producing one-quarter of the world's ethanol output.

Besides hearing talks from top scientists in the field from the Americas and Europe, we will round out our program with presentations selected from abstracts.

We hope to see you in São Pedro to participate in this exciting and extremely important meeting. The congress is supported by the Society of Botany of São Paulo (SBSP) and the American Society of Plant Biologists (ASPB).

Thanks to support from the U.S. Department of Energy, Office of Science, and the National Science Foundation, Plant Genome Research Program, stipends will be available to support the travel of graduate students, postdoctorals, and pre-tenured faculty to this meeting. For application details visit (www.plantsandbioenergy.com.br).

New Web Page Honors the Work of ASPB's Highly Cited Authors

The journals had a lot to celebrate in 2009, and we owe *all* our authors a big thank you.

Plant Physiology was recognized as one of DBIO's 100 most influential biology and medicine journals over the past 100 years and continues to be the most highly cited plant biology journal. And *The Plant Cell* celebrated its 20th birthday, having published more than 4,200 articles and having been cited more than 250,000 times. It has for many years been the highest-impact primary research journal in plant biology.

As our journals continue to publish the best plant biology research from around the globe, ASPB wants to draw special attention to the work of our top authors. To that end, we are building a new web page dedicated to highlighting those authors who are among ISI's most highly cited.

We continue to be proud of our journals and their international scope. Our European and North American author campaigns are nearly complete, and we are now turning to Australasia and Asia.

We at ASPB look forward to continuing our tradition of publishing the very best in plant biology research. Go to www.aspb.org/publications/ to view biographies and photos of our European and North American highly cited authors.

New Research Coordination Network on Integrative Pollen Biology

Alice Cheung (University of Massachusetts, Amherst), Ann Loraine (University of North Carolina, Charlotte), and their colleagues* announce an NSF-supported Research Coordination Network (RCN) on Integrative Pollen Biology starting in summer 2010.

Pollen is the male gametophyte whose function is to deliver sperm to fertilize the egg and the central cell. Thus, pollen is crucial for plant reproduction, agricultural productivity, and species preservation. The pollen tube that transports the sperm is widely recognized as an excellent model system with which to study polarized cell growth. Interactions between pollen and pistil provide excellent models for cell–cell communication studies. In recent years, advances stimulated by the adoption of new tools in molecular genetics, functional genomics, and live-cell imaging have attracted increasing numbers of new and established investigators with backgrounds in different areas of biology.

The RCN on Integrative Pollen Biology is a community effort initiated by a 12-person working group to provide a coordinated forum for the expanding pollen community to work synergistically, exchange information, share tools and resources, and discuss working models. The network will focus on activities to nucleate and broaden the research community and facilitate collaborative experimental and computational approaches to achieve a systems understanding of pollen. The RCN sponsors the following activities:

- A short course on basic pollen research methods to help lower the barriers for newcomers to the field
- A website to provide a central location for pollen-related data extracted from various public databases to expedite searches for the rapidly increasing information in the field
- A "wiki pollen" site to facilitate integration of biochemical, physiological, and cellular data obtained from different laboratories toward a pilot effort in modeling pollen tube growth
- Summer internships for graduate students to bridge training at the interface of biology and computer science—the interns will develop data mining, analysis, and integration projects, and the outcomes of these projects will be accessible on the RCN website
- Travel subsidies to facilitate collaborations between groups to pilot projects based on complementing interests and expertise
- Mutual visits of faculty and students between primarily undergraduate institutions (PUIs) or minority-serving institutions and research universities within the network laboratories
- Summer internships and workshops for high school teachers.

The RCN is a five-year project that began May 1, 2010. We anticipate starting to support most of the above activities in the first project year in summer 2010. The first pollen short course will be offered in summer 2011. Information about how to apply to each of these activities will be posted on the RCN website (http://www.pollennetwork.org). Applications will be reviewed by a steering committee.

*RCN working group members: Alice Y. Cheung (University of Massachusetts, Amherst), Ann Loraine (University of North Carolina, Charlotte), Sheila McCormick (PGEC, Albany, California), Bruce McClure (University of Missouri, Columbia), Heven Sze (University of Maryland, College Park), Mark Johnson (Brown University, Rhode Island), Jeff Harper (University of Nevada, Reno), Zhenbiao Yang (University of California, Riverside), Erik Nielsen (University of Michigan, Ann Arbor), Anna Edlund (Lafayette College, Easton, Pennsylvania), Jose Feijo (Gulbenkian Institute of Science, Oeiras, Portugal), and Weihua Tang (Institute of Plant Physiology and Ecology, Shanghai, China).

MAS–ASPB Spring Meeting at Bowie State University

The annual spring meeting of the Mid-Atlantic section of ASPB was held at Bowie State University, Maryland, on March 26, 2010. The meeting drew nearly 100 participants from the region. ASPB member George Ude (Bowie State University), with the support of George Acquaah (Dean of College of Arts and Sciences at BSU), hosted the meeting organized by MAS–ASPB chair Steve Mount (University of Maryland, College Park), and the MAS–ASPB secretary-treasurer, Les Erickson (Salisbury University, Maryland). Research talks given by undergraduate and graduate students were interspersed with talks by established investigators. The section was excited to hear Dominique Bergmann from Stanford University give the keynote address on "Approaching the Whole of the Hole: Multi-scale Approaches to Plant Stomata." The best talk presented by an undergraduate student was awarded to Kevin Fedkenheuer from Jon Monroe's lab at James Madison University. Kevin presented his research on the "Expression and Characterization of Arabidopsis Beta-Amylase." The best talk presented by a graduate student was awarded to Heba Ibrahim, who is enrolled in the Genetics Department at Cairo University (Giza, Egypt) and is currently working in Ben Matthews' lab at the USDA–ARS (Beltsville, Maryland). Heba presented research on the "Analysis of Gene Expression in Soybean Roots in Response to Root Knot Nematode Using Microarray and KEGG Pathways."

The MAS–ASPB meeting was followed the next day by the 11th Annual Plant Biology Minisymposium held on the College Park campus of the University of Maryland (UMCP). This annual event is organized by ATRIUM *(Arabidopsis thaliana* Research nitiative at University of Maryland), which comprises a group of interactive laboratories at UMCP and nearby universities such as Howard University. ATRIUM was established in 2000 to advance UMCP's strength in plant research and its focus on graduate and undergraduate training in plant biology. The annual symposium held back-to-back with the MAS–ASPB spring meeting provides an opportunity for plant scientists in the region to interact and network in a relaxed and informal setting. Speakers and participants included investigators from the Mid-Atlantic region to the West Coast, scientists from USDA–ARS, and program directors from federal funding agencies, including NSF and NIFA. The meeting was organized this year by Shunyuan Xiao with support from Caren Chang, Zhongchi Liu, June Kwak, Jianhua Zhu, Steve Mount, and Heven Sze.

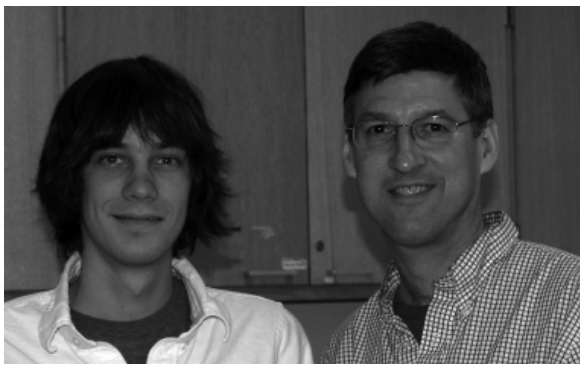
Heven Sze
hsze@umd.edu

George Ude hosted the MAS-ASPB meeting in March at Bowie State University in Maryland.

Heba Ibrahim (left; Cairo University, Egypt) received the award for the best talk given by a graduate student. She is currently working in the laboratory of Ben Matthews at the USDA-ARS in Beltsville, Maryland.

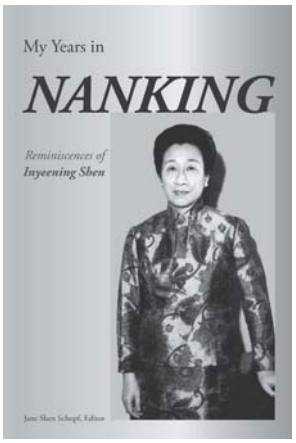
Dominique Bergmann (right) of Stanford University was the keynote speaker at the annual spring meeting of MAS–ASPB. She and Erik Nielsen from the University of Michigan were two of the invited speakers at the 11th Annual Plant Biology Minisymposium held at the University of Maryland, College Park.

Mark Brodl (second from left) and Jane Silverthorne (third from left) from the National Science Foundation with Jianhua Zhu (far left) and June Kwak from the University of Maryland. Jane presented a talk titled "What's New at NSF?"



Congratulations to Kevin Fedkenheuer (left) and mentor Jon Monroe of James Madison University in Harrisonburg, Virginia. Kevin received the award for the best talk presented by an undergraduate student.

Shen-Miller Edits Memoir of Republic of China's Last Days by Nanking's First Lady



ASPB member Jane Shen-Miller has edited the remarkable personal memoir of Nanking's former First Lady, and Jane's mother, Inyeening Shen. The book, *My Years in Nanking: Reminiscences of Inyeening Shen,* tells Inyeening's story as she helped her husband, Dr. Shen Yi, the mayor of Nanking, lead the national capital through the turmoil of the country's final days. In the late 1940s, after the Sino-Japanese War and the Nanking Massacre, Mao Zedong's Communist People's Liberation Army surged toward Nanking. Amid a country plagued by corruption, inflation, and backroom dealing, Inyeening Shen overthrew gender roles as she struggled to maintain the mayoral household, and organize and raise funds for education, food, clothing, and medication of civil war refugees in dire need. For more than 50 years, Shen (who died in 1999) safeguarded her handwritten memoirs from being published, fearful of criticizing her husband's colleagues in Chiang Kai-shek's Nationalist government. Now the story can be told of how Shen navigated the country's inner politics during this pivotal time.

Dr. Jane Shen Schopf (Jane Shen-Miller), Inyeening's daughter and editor, is known for the germination of a 1,300-year-old sacred lotus seed at UCLA.

My Years in Nanking: Reminiscences of Inyeening Shen, *edited by Jane Shen Schopf (iUniverse, 2009, 192 pages, $19.95 paperback, ISBN 978-1-4401-2256-9). For more information, contact Jane at shenmiller@lifesci.ucla.edu.*

Membership Corner

ASPB members share a common goal of promoting the growth, development, and outreach of plant biology as a pure and applied science. This column features some of the dedicated and innovative members of ASPB who believe that membership in our Society is crucial to the future of plant biology. If you are interested in contributing to this feature, please contact ASPB Membership at info@aspb.org.

Name: Shutian Li
Title: Doctor
Place of Work or School: Department of Botany, University of Osnabrueck
Research Area: Developmental Biology
Member since: 2009

1. **Has being a member of ASPB helped you in your career? If so, how?**
   Yes. It has really helped me a lot. First, since ASPB is a well-organized society with a good reputation, being a member adds much to my resume for job hunting. Second, I keep myself abreast of novel findings and significant breakthroughs in plant biology when I participate in annual meetings launched by ASPB. Finally, I keep contact with old friends and make new ones who are actively involved in plant biology research through participating in annual meetings.

2. **Why has being a member of ASPB been important to you?**
   As a plant biologist, it is a great pleasure to be a member of ASPB. In addition, through participating in meetings and activities organized by ASPB, I am able to not only be kept informed of current research in plant biology but also make acquaintances.

3. **Was someone instrumental in getting you to join ASPB?**
   No. I know ASPB through participation in the annual meeting held in Hawaii last year.

4. **What would you tell nonmembers to encourage them to join?**
   I would tell nonmembers that ASPB should be their first choice if they would like to join a professional society. As a plant biology researcher, you will keep yourself updated in almost all aspects of plant research. In addition, you are able to develop a network of contacts. Finally, you can enjoy a conference discount, you are qualified to apply for several different awards, and you can freely have electronic access to two journals *(Plant Physiology* and *The Plant Cell).*

5. **Have you found a job or hired anyone using ASPB job postings or networking at the annual meeting?**
   No, but I definitely will.

6. **Do you still read print journals? If so, where do you usually read them: work, home, library, in the car, on the bus, or somewhere else?**
   No, I do not. I usually read electronic journals.

7. **Have there been any issues in plant biology in which you thought ASPB should be involved or that led you to consider becoming active in the governance of the society, and if so, what were they?**
   Yes, there has been one. Nowadays, scientists, including plant biologists, highly value good journals with high impact factors. I think ASPB should encourage people to value novel scientific findings rather than high impact factors.

8. **What do you see as the most important role for scientific societies such as ASPB?**
   ASPB brings professional plant biologists together once per year, where they exchange their scientific findings. ASPB is a good platform for plant biologists to learn and communicate.

9. **What advice would you give to a plant scientist just starting out?**
   If you do not understand, feel free to ask. There are no stupid questions, only stupid answers.

10. **What do you think is the most important discovery in plant biology over the past year and why?**
    In my opinion, the most important discovery in plant biology during the past year has been translational repression by miRNAs in Arabidopsis. Most animal miRNAs function by translational repression, whereas most plant miRNAs trigger mRNA cleavage. A recent study provided biochemical evidence that translational inhibition by miRNAs and other small interfering RNAs is, in fact, persvasive in plants.

11. **What do you think is the next "big thing" in plant biology?**
    I think the next big thing in plant biology is to generate marker-free transgenic crops.

12. **What are you reading these days?**
    I am reading some papers associated with auxin signaling.

13. **What do you still have left to learn?**
    I have a lot of things to learn. The top priority is to keep myself abreast of recent findings and significant breakthroughs associated with my research focus.

14. **What could ASPB do better?**
    I think ASPB has already contributed quite a lot to the plant biology community.

ASPB Public Affairs Committee Meets with Staff from Capitol Hill and Federal Agencies

This item is taken from the inaugural issue of the ASPB Washington Report. *This issue and subsequent issues, which will be published approximately twice a month, are available on the ASPB Public Affairs website at http://aspb.org/publicaffairs/washington.cfm. The report, which is being produced by ASPB's legislative affairs consultants, Lewis-Burke Associates, will track pertinent legislation on Capitol Hill, report on federal agency actions, and update members about ASPB's federal relations efforts.*

On March 16, 2010, members of the ASPB Public Affairs Committee traveled to Washington, D.C., for a series of meetings on Capitol Hill and at federal agencies. The Hill visits followed the committee's annual meeting held a day earlier at the ASPB headquarters in Rockville, Maryland. Committee members met with staff and senators or representatives from their home states; staff from the Senate Appropriations Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies; staff from the House Science and Technology Subcommittee on Energy and Environment and Subcommittee on Research and Science Education; and representatives from the Obama administration's Office of Science and Technology Policy (OSTP), the U.S. Department of Agriculture (USDA), the Department of Energy (DOE), and the National Institutes of Health (NIH). Overall, 32 meetings were held between committee members! Of particular note, the committee met at ASPB headquarters with Anna Palmisano and Sharlene Weatherwax of the DOE Office of Biological and Environmental Research and with Chavonda Jacobs-Young of the USDA Office of Chief Scientist.

Past President Sally Assmann visits with Rep. Glenn Thompson (R-PA) during the Public Affairs Committee's March 16 visits to Capitol Hill and agencies.

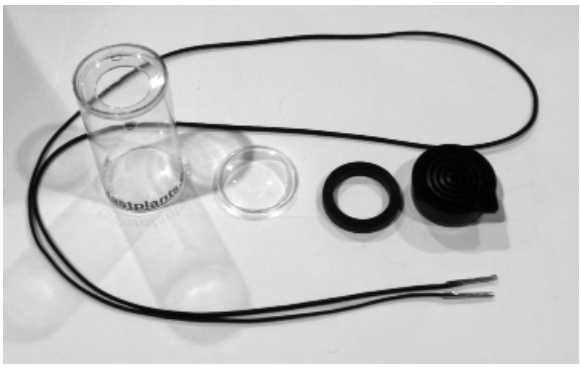
The primary purpose of the day was for Public Affairs Committee members to convey to government officials the important contributions that plant biology is making to help solve some of the country's most pressing scientific, social, and economic problems. Committee members specifically cited work being done in plant biology on topics such as human health, food supply, next-generation biofuels, and climate change. Additionally, committee members used the day to stress the importance of robust funding for competitive research in plant biology and urged Congress to support sustained competitive funding increases at agencies such as the National Science Foundation (NSF), USDA, DOE, and NIH. Many offices acknowledged the importance of competitive research to the country's long-term competitiveness, and promised to be mindful of ASPB's priorities during the fiscal year 2011 appropriations process and the reauthorization of the America COMPETES Act this spring.

Public Affairs Committee members taking part in the visits included Public Affairs Committee chair Gary Stacey of the University of Missouri–Columbia; ASPB Past President Sally Assmann of Pennsylvania State University; James Siedow of Duke University; Pat Schnable of Iowa State University; Norman Lewis of Washington State University; Beth Hood of Arkansas State University; Richard Sayre of the Donald Danforth Plant Science Center; Martha Hawes of the University of Arizona; Sally Mackenzie of the University of Nebraska–Lincoln; and ASPB Executive Director Crispin Taylor.

ASPB Sprouts Interest in Plant Biology at AAAS 2010 Family Science Days

Rob McClung (left) and John Cushman help children assemble Lilliputian Garden Necklaces at the AAAS 2010 Family Science Days ASPB booth.

ASPB was in attendance at the 2010 American Association for the Advancement of Science (AAAS) Family Science Days held February 20–21, in San Diego, California (http://www.aaas.org/meetings/2010/program/fsd/). ASPB members who volunteered at the booth included John Cushman, professor of Biochemistry at University of Nevada, Reno; Mary Ann Cushman, scientific and technical editor from Alum Canyon Editing, LLC; and Mary Lou Guerinot and Rob McClung, professors in biological sciences at Dartmouth College. Botanical educators Martha Kirouac and Kitty Connolly from the Huntington Botanical Garden (http://www.huntington.org/huntingtonlibrary.aspx?id=694&linkidentifier=id&itemid=694) in San Marino, California, joined them. This group won the ASPB 2009 Booth Competition and consequently exhibited in ASPB's education and outreach booth at Plant Biology 2009 in Honolulu.



A FastPlants® minimicroscope necklace ready to be assembled.

A Lilliputian Garden Necklace.

The ASPB booth offered fun, hands-on plant science activities such as planting the ever-popular Lilliputian Garden Necklaces. More than 600 of the minigardens, containing seedlings of *Kalanchoe diagremontiana, Arabidopsis thaliana, Cammelina sativa, Mesembryanthemum crystallinum, Hordeum vulgare, Brassica rapa* or Wisconsin FastPlants®, and *Raphanus sativa* were made by and handed out to eager children, teachers, parents, and even other exhibitors. The ASPB team also distributed an illustrated instruction manual and materials list for interested participants to share these plant biology activities with their school or community. A novel variation on the Lilliputian Garden Necklace, the Lilliputian Crystal Garden allows students to observe plant root growth and development that would otherwise be obscured by soil. In these minigardens, gellan gum, an exopolysaccharide produced by *Sphingomonas elodea,* replaced the usual Jiffy-7 peat pellet. Participants also made more than 200 easy-to-use, wearable minimicroscopes for observing their Lilliputian Gardens or other plant materials.

On the other side of the booth, Huntington's botanical educators Martha and Kitty offered engaging learning opportunities that coordinated well with the other booth activities. They distributed more than 250 germinating seed "beanie baby" necklaces and featured Huntington's award-winning flower scent and seed touch bowls. Participants also learned to use refractometers to measure the sugar content of nectar and pollinated flowers using paintbrushes under a high-magnification video camera.

It's safe to say that this booth provided important knowledge and sparked interest in plant biology in the minds of the many, many AAAS attendees. Once again, such successful outreach occurred because of the professional expertise, enthusiasm, and hard work of ASPB's booth volunteers. If you would be interested in volunteering to represent ASPB at future national meetings, please contact Katie Engen at katie@aspb.org.

John Cushman
Mary Ann Cushman

ASPB Education Outreach Booth at NSTA 2010 in Philadelphia

Life, Liberty, and the Pursuit of Plant Biology for All!

For the seventh consecutive year, ASPB hosted an education outreach booth at the National Science Teachers Association (NSTA) annual conference. This year's event was held in Philadelphia, The City of Brotherly Love and site of the First and Second Continental Congresses, March 18–21. The ASPB booth provided a platform at which all conference attendees could pursue knowledge and speak freely about the foundational principles of plant biology. The huddled masses of exhibit hall visitors (yes, even the tired and poor) were given equal access to free resources and spirited consultations with the plant biologists stationed in the ASPB booth. Booth volunteers did their part to dispense many of the free classroom-ready materials (also available at http://www.aspb.org/education/NEWK12.CFM) that have been developed by the ASPB Education Committee and the Education Foundation to help teach plant biology and cultivate an informed citizenry everywhere.

John Greenler (right) talks solar energy and photosynthesis with a booth visitor.

Sherry Fulk-Bringman digs deep into agronomy.

For three days, the NSTA conference exhibit hall aisles swelled with the onslaught of determined teachers seeking new teaching ideas. ASPB's volunteers steadfastly interacted with these friendly battalions of curious educators. Booth staff included ASPB members Suzanne Cunningham and Sherry Fulk-Bringman, both of the Department of Agronomy at Purdue University. These two stalwarts re-enlist for booth duty year after year. As ever, Suzanne and Sherry offered a wealth of hands-on activities geared toward K–12 learners. Their full array of downloadable teaching materials and related resources is available at http://www.agry.purdue.edu/k12_index.asp. Suzanne and Sherry each also presented workshops where teachers were able to dig more deeply into activities and concepts.

The Wisconsin Fast Plants program, with all its enticingly affordable tools, lab setups, and teaching ideas, once again dazzled the crowd. Dan Lauffer and Hedi Baxter Lauffer offered a new rotation of practical and exciting educational activities. These and more Fast Plants materials can be accessed via http://www.fastplants.org. John Greenler from the Great Lakes Bioenergy Research Center (GLBRC) brought a plethora of bioenergy education resources (available at http://www.glbrc.org/education). These GLBRC materials stand alone, but many are created as part of an accord with Fast Plants curriculum developers. The alliance between GLBRC and Fast Plants outreach has sparked a happy revolution that is bringing more bioenergy concepts to the classroom.

Interested teachers begin to see the light with bioenergy resources.

Fast Plants: For every child, a plant.

Thanks to the ASPB booth volunteers' efforts and because the ASPB Executive Committee continues to support the booth exhibit, this year's ASPB booth was a star-spangled success in Philadelphia. In 2011, NSTA meets in San Francisco, March 10–13.

Anyone interested in volunteering in the San Francisco booth is welcome to contact Katie Engen now at katie@aspb.org.

Katie Engen
katie@aspb.org

Potato Park—A Success Story for Biodiversity, Culture, and Education

From a distance, "Parque de la Papa" (Potato Park) looks like most small communities in the Andes Mountains of Peru. Dirt roads connect a cluster of small fields, homes, and streams. The rugged terrain is dotted with people working diligently with hand tools to care for the crops and livestock. Men and women work together while children play and watch the occasional passerby. It is a beautiful setting and an equally beautiful picture of bucolic family life. Nevertheless, subsistence farming in the Andes is extremely difficult, and many fall into poverty and are forced to move to the shantytowns of Peru's coast.

As communities decline, so does agricultural biodiversity. Like much of the developing world, many farming communities maintain their own varieties of plants that are adapted for specific locations. When communities die, it is not uncommon for valuable crop genes to die with them. Thus, loss of culture and loss of agricultural biodiversity are often a linked phenomenon.

Potato Park is a collection of six small Andean communities—Amaru, Chawaytire, Cuyo Grande, Pampallagta, Para Para, and Sacoea—that have adapted a unique form of plant tourism to improve their lives. Instead of drifting away from traditional agriculture and toward industrialization, they have actually moved in the other direction—radically expanding the diversity of their crops, embracing their cultural traditions, and then selling tickets to tourists who want to learn about biodiversity and Andean culture. The net result is an innovative form of tourism and education that is largely based around plants and their uses. While the local economy is still driven by subsistence farming, tourism income provides funds for community revitalization, the care of the elderly, and other projects.

The Potato Park communities embrace plant-based tourism in several key areas. First, hundreds of potato varieties are grown within the community, creating a biodiversity attraction. The Potato Park communities have reestablished varieties by obtaining seed from the International Potato Center in Lima, organized plantings to maintain the varieties, and created new varieties to expand their collection. Second, a wide variety of products are made from local plants, such as teas, creams, and soaps. Tourists are taught about the plants and the products by the women who make them. Third, Andean communities are known for their alpaca wool products, from sweaters to handbags. Tourists are shown how dyes are extracted from plants and used to create the vibrant colors that characterize the fabrics of the region. Finally, a trip to Potato Park isn't complete without a buffet meal to sample the tastes of various potatoes, corn, amaranth, and other plants (and alpaca meat).

The net result is a unique tourism experience that can teach a great deal about plants and their uses. The Potato Park experiment is still in its early stages, and it remains to be seen how sustainable it will be in the long

continued on page 20

Plant dye used for cloth.

Potato Park residents wear the vibrant colors that characterize the fabrics of the region.

Potato Park
continued from page 19

term. Likewise, the educational component of their programs still leaves room for improvement. Nevertheless, it has the makings of a noteworthy success story—Andean communities coming together to embrace their culture, revitalize their economy, preserve biodiversity, and educate others about culture and plants.

Industrialized agriculture and modern crop lines have numerous benefits, most notably an increased supply of food. Nevertheless, subsequent homogenization has also vastly reduced agricultural biodiversity. Industrial and indigenous farming systems both have important roles to play in the future of agriculture. Potato Park is a promising experiment in how to preserve culture and biodiversity in a way that benefits everyone. The pride on the residents' faces was unmistakable.

More information about Potato Park and the NGO that supports it can be found at http://www.parquedelapapa.org and http://www.andes.org.pe, respectively.

Jeffrey S. Coker
Elon University

Products of Potato Park include teas, creams, and soaps.

Potatoes in Potato Park. Hundreds of varieties are grown within the community.

OFFICIAL PARTNER

USA SCIENCE & ENGINEERING FESTIVAL

Festival: October 10–24

Expo on the National Mall: October 23–24

USA Science & Engineering Festival: Ideas Needed!

As was described in the March/April 2010 issue of *ASPB News* (http://www.aspb.org/newsletter/marapr10/05festival.cfm), the USA Science & Engineering Festival (http://www.usasciencefestival.org/) is a grassroots effort that aims to reinvigorate the interests of our nation's youth in science, technology, engineering, and math (STEM). The main event will be a two-day expo of STEM exhibits on the National Mall in Washington, D.C., October 23–24. ASPB is on board as a festival partner and will host a richly interactive booth at which kids of all ages can learn about plant science. Because other plant science organizations will also be involved in the festival, the ASPB Education Committee is seeking ideas for how to feature the exciting molecular and cellular plant science research of our membership. If the weather is good, an audience of 100,000+ is anticipated! Thus, booth activities should not only be fun and exciting, but also scalable and "green" (i.e., generating minimal waste). Please e-mail ideas for booth activities to Erin Dolan, Education Committee chair, at edolan@vt.edu.

"Hot Topics in Science Education" Discussions at Plant Biology 2010

In addition to other formal events, the Education Committee will be hosting "Hot Topics in Science Education" discussions during the Plant Biology meeting in Montréal this year. These 30- to 60-minute, informal sessions will take place in the Education Booth, primarily during exhibit times. Discussions will focus on strategies for broadening the impact of your research, assessing student learning, and other education-related topics of interest to conferees. Please keep an eye out for announcements of these sessions on the website and during the meeting. If you would like to suggest a topic or facilitate a discussion, please e-mail Erin Dolan, Education Committee chair, at edolan@vt.edu.

The ASPB Education Booth in Montréal

Sharing Innovative Teaching Ideas, Materials, and Techniques to Advance Plant Biology Education

The ASPB Education Booth at Plant Biology 2010 in Montréal will feature a diverse array of interactive education and outreach displays and activities. Here is a preview of what is in store for visitors at this year's booth, which you'll find just inside the entrance of the main exhibit hall.

For the first time, this year's booth will be the site of informal "Hot Topics in Science Education" discussions, which will be facilitated by ASPB members on a number of different educational subjects (further described in this issue's Education Form). The Education Committee is pleased to announce that Penny Humby and Stacie Reck at Crandall University, winners of the 2010 ASPB Education Booth Competition, will lead two discussion sessions on creative pedagogical approaches to engage students using angiosperm biodiversity as an example. Penny and Stacie will share their experiences on using constructivist approaches to teaching and assessment as an alternative to more traditional methods. They will also be on hand to offer one-on-one and small group consultations to booth visitors who want to find out more about using these approaches at their own institutions. Look for posted schedules of the "Hot Topics in Science Education" discussions and consultation times at the meeting.

Jeffrey Coker (Elon University), Jane Ellis (Presbyterian College), and Mary Williams (ASPB) will have a comprehensive display and demonstration of hands-on activities they have developed and tested to teach K–12 students about the 12 Principles of Plant Biology, which were formulated by ASPB to help students gain a better understanding of plant biology concepts. Jeffrey, Jane, and Mary will show booth visitors how they can use the activities for their own outreach purposes, share the activities with teachers, or use the activities as models to develop their own outreach materials. The 12 principles activities were developed through funding from the Education Foundation 2008 and 2009 Grant Awards Program (GAP).

The ASPB Education Committee and Education Foundation will have a display that features a number of resources on talking about science in public and the scholarship of teaching and learning. As always, packets of popular worksheets and handouts will be available for visitors to take away, as well as samples of simple tools that educators can use in their outreach to stimulate student interest in plant biology. Examples of print and video educational materials, developed through several GAP-winning projects, will also be onsite.

The Education Committee cordially invites you to drop by the booth to participate in discussions, interact with the displays, and share your education and outreach ideas. See you in Montréal!

ASPB Awards 15 Summer Undergraduate Research Fellowships (SURF) for 2010

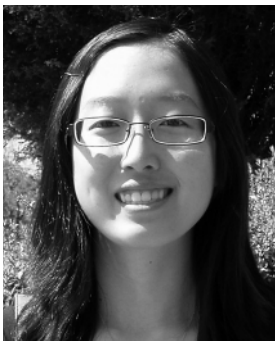
SURF (http://www.aspb.org/education/undergrad.cfm) fellowships assist promising undergraduate students so they can conduct meaningful research in plant biology early in their college careers. Ideally, students should pursue their SURF-funded research the summer following their second year. Exceptionally well-prepared first-year students and third-year students who provide evidence of a strong commitment to plant biology also are considered. SURF students must work with a mentor who is an ASPB member. An important aspect of SURF is that it recognizes that institutions have varying resources for sustaining different types of research. Therefore, SURF prorates the applications and awards fellowships on the basis of the proportion of applications received from larger and smaller institutions.

The ASPB SURF Committee would like to thank all the students and mentors who applied to the 2010 Summer Undergraduate Research Fellowship program. The applications were outstanding, making it difficult to choose only 15 fellowship awardees. These awardees will present their SURF research results at the undergraduate and general poster sessions during Plant Biology 2011, August 6–10 in Minneapolis, Minnesota.

Congratulations to the following 2010 SURF recipients and honorable mentions.

ASPB appreciates the hard work and dedication to detail of the SURF co-chairs, Amy Clore (New College of Florida) and Ken Helm (Siena College). Amy and Ken were instrumental in promoting and streamlining the SURF program throughout the year. They were joined by a great team of reviewers in order to select the recipients. The 2010 reviewers were Dorothybelle Poli (Roanoke College), Dhirendra Kumar (East Tennessee State University), Joe Jez (Washington University), Ken Korth (University of Arkansas), Gloria Muday (Wake Forest University), and Alice Cheung (University of Massachusetts).

CATEGORY A Research and Doctoral Universities



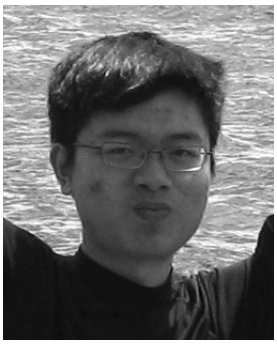
Iris Chen, University of North Carolina–Chapel Hill
Project: *Determining the subcellular localization of the Arabidopsis AGD6 ARF-GAP*
Mentor: Sarah Liljegren

I am honored and thrilled to receive a SURF award from ASPB to assist me in characterizing the AGD6 ADP-ribosylation factor GTPase-activating protein (ARF-GAP). My project this summer involves developing markers that will allow us to track the subcellular localization of AGD6. We have found that AGD6 and another ARF-GAP, NEVERSHED (NEV), play redundant roles during plant growth and development. As part of my honors research next year, I will be able to use these markers to compare the localization patterns of AGD6 and NEV to see whether they may function in the same membrane trafficking pathways. The skills I will be learning from carrying out this summer research project will aid me in my pursuit of a PhD starting in 2011.

Christopher Gee, University of Washington
Project: *Timing is everything: Evaluating changes in brassinosteroids activity during early seedling development and photomorphogenesis*
Mentor: Jennifer Nemhauser

I thank the ASPB for selecting me to receive a Summer Undergraduate Research Fellowship, and I also express my gratitude to my mentor, Dr. Jennifer Nemhauser, and the other members of the lab for all their help and guidance. The fellowship gives me a unique opportunity to immerse myself in plant biology research for the summer. This experience will undoubtedly provide me with excellent training, as well as help me decide the future direction of my scientific career.

CATEGORY A Research and Doctoral Universities (continued)



Chen Gu, Macalester College
Project: *Structural and functional analysis of the SAUR19 protein in* Arabidopsis thaliana
Mentor: William Gray

I really enjoyed the process of generating my own idea of an experiment, optimizing it through the discussion with my mentors, and putting together a proposal that is comprehensible! I sincerely thank ASPB for granting me this unique opportunity of proposal writing at the undergraduate level.

Kayley Hake, Meredith College
Project: *Chromosome walking to identify the* Wab *mutation*
Mentor: Sarah Hake

I am deeply honored and thrilled to receive this fellowship and be recognized by ASPB. I am looking forward to continuing my research to identify the gene that causes the *Wab* mutation in maize and sharing my results at the 2011 ASPB annual meeting. I would like to thank ASPB; my mentor, Dr. Hake; and Dr. Aghoram from Meredith College for making this opportunity possible.

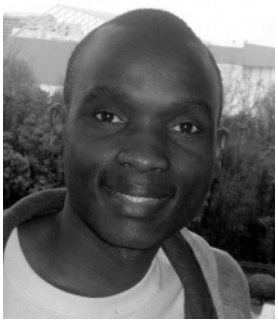
Theresa How-Yew-Kin, Virginia Polytechnic Institute and State University
Project: *Functions of conserved oomycete proteins*
Mentor: John M. McDowell

I am extremely excited and grateful to be a SURF recipient. I look forward to this opportunity to continue my current research project through the summer, as well as attend the ASPB annual meeting in 2011 in Minneapolis. I would like to give a most heartfelt thank you to Dr. McDowell and Dr. Bevan for their continued guidance and support.

Sandra Kerbler, University of Western Australia
Project: *Understanding the inhibition of Phytophthora cinnamomi pathogenicity by phosphite: Does phosphite interfere with the ubiquitination of root proteins involved in phosphate signaling?*
Mentor: Patrick Finnegan

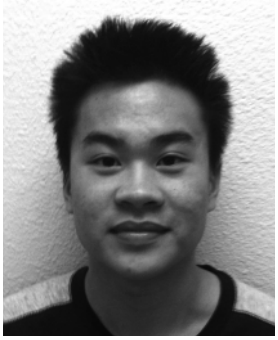
I am truly honored and very grateful to be a SURF recipient in 2010. My project aims to understand how phosphite (a key fungicide in controlling the plant pathogen *Phytophthora cinnamomi*) interacts with protein ubiquitination in plant roots. This project will hopefully give us an insight into how phosphite prevents *P. cinnamomi* infection and may lead on to applications that minimize the devastating impact the pathogen is having upon native Australian flora. I am definitely looking forward to getting stuck in my research project later this year! A very big thank you to ASPB for promoting international excellence in plant biology and to my mentor, Patrick Finnegan, for his continual support and encouragement.

CATEGORY A Research and Doctoral Universities (continued)



Albert Kertho, University of St. Thomas
Project: *An examination of irradiance-dependent regulation of light harvesting phosphorylation in gymnosperms and angiosperms growing in both field and manipulated light conditions*
Mentor: Amy Verhoeven

This fellowship is a stepping-stone to achieving my career in plant pathology. I have always wanted to know what goes on in plant biology labs. This SURF grant has given me the opportunity to get involved in a field I love so much. I can't express my excitement with mere words. This is one of the best moments of my life.



Norris Lam, University of Nevada–Las Vegas
Project: *Genetically modifying* Arabidopsis thaliana *with LtNAC3 gene of drought-tolerant Xerophyte Larrea tridentata (Creosote Bush)*
Mentor: Jeffery Q. Shen

It is an absolute honor to have received a fellowship from ASPB. Not only will it be a privilege to have the opportunity to design my own experiment, but this fellowship will allow me to make connections with people who share the same desire in studying plants. With ASPB's support, I will take genes from creosote bush to design drought-tolerant Arabidopsis. With success, I hope to change global agriculture by engineering plants that require significantly less water to grow sufficiently.

Amanda Leafgren, University of Nebraska–Lincoln
Project: Arabidopsis thaliana *mutants defective in DJ-1 homologs*
Mentor: Dr. Julie M. Stone

I am very honored and thankful to receive the ASPB Summer Undergraduate Research Fellowship to continue with my research on DJ-1 homologs this summer. It is an excellent time to be involved in plant biology and plant biochemistry. Study of the intricacies of programmed cell death is particularly intriguing, and I am thrilled to be a part of it. I would like to thank Dr. Julie Stone, Madhavan Soundararjan, Tara Nazarenus, Joseph Msanne, and the UCARE program at the University of Nebraska–Lincoln for their ongoing support and guidance.

Yi Liu, Michigan State University
Project: *Investigation of* CLUMPED CHLOROPLAST *function in Arabidopsis*
Mentor: Katherine Osteryoung

It is a great honor to receive the ASPB SURF award. I would like to thank Dr. Katherine Osteryoung for getting me started in plant biology research. I also want to thank Dr. Yue Yang for her guidance and encouragement. My project involves investigating the function of *CLUMPED CHLOROPLAST.* I look forward to gaining more research experience this summer and presenting my work at the 2011 ASPB conference.

CATEGORY A Research and Doctoral Universities (continued)

Aubree Wilke, University of North Dakota
Project: *Identification of insect resistance genes in poplar trees using forward genetics*
Mentor: Steven Gregory Ralph

I am very pleased to have been awarded the SURF grant. This funding will allow me to continue working in Dr. Ralph's lab at UND. I will learn techniques used in plant genomics, molecular biology, biochemistry, and forest tree ecology. SURF offers me the experience needed to fulfill my dream of graduate school and a career in plant biology. I am very excited to have this opportunity!

CATEGORY B Master's Universities, Baccalaureate Colleges, and Associate of Arts Colleges

Robert Harbert, Roanoke College
Project: *Root growth in response to nutrient deficiency in cellulose synthase mutants of* Arabidopsis thaliana
Mentor: Len Pysh

I am extremely grateful to have been awarded a SURF grant. This will both support my research opportunities for the summer as well as contribute to my laboratory experience, which will be very beneficial as I pursue a graduate degree in plant biology. I am looking forward to continuing my research full-time this summer and would like to thank ASPB for this opportunity.

Julia Marrs, Barnard College
Project: *What are the fitness effects of respiratory acclimation in an* Arabidopsis thaliana *model?*
Mentor: Hilary Callahan

I plan to pursue a career in scientific research with a focus on climate change and sustainable development. I am performing experiments modeling the environmental conditions of the Alaskan tundra, where the effects of future climate change will most likely be quite complex. It is essential to gain information about how plant respiration will acclimate to increasing temperatures, the near-nightless conditions during the arctic growing season, and higher nitrogen availability due to increased microbial activity. Increases in plant respiration could be a notable source of carbon efflux, creating potentially significant changes in arctic ecosystems. I would like to thank ASPB for this generous grant, which will greatly facilitate my summer research and my continuing education in the field of biology.

CATEGORY B Master's Universities, Baccalaureate Colleges, and Associate of Arts Colleges (continued)

Kelly Salmon, The College of New Jersey
Project: *Elucidation of the biochemical function of CYP72A9 in* Arabidopsis thaliana
Mentor: Leeann Thornton

I am really excited about receiving an ASPB SURF for 2010! The opportunity for full-time research over the summer will give me time to do biochemical analysis of purified proteins that I would not have time to easily perform during the school year. The data collected will contribute greatly to the senior honors thesis I will be writing next year based on my research. In addition, the full immersion into my research and the experience of attending a national conference will help me develop my ability to present and discuss my research and will be excellent preparation for graduate school.

Elan Silverblatt-Buser, Swarthmore College
Project: *Identifying BOBER1 dependent developmental genes in Arabidopsis*
Mentor: Nick Kaplinsky

I am extremely excited to be awarded the SURF for 2010. This fellowship will allow me to continue working in the astonishing field of plant molecular genetics, as well as gain exposure to research techniques in plant biology. I would like to thank Dr. Nick Kaplinsky for his encouragement and mentorship. I am looking forward to sharing my research next summer at the annual ASPB meeting!

HONORABLE MENTIONS

CATEGORY A Research and Doctoral Universities

Kyle Arend, University of Wisconsin–Madison
Amanda Bosquet, University of Vermont
Jordan Hopkins, Clemson University
Jonathan Massey, University of Illinois
Itai Ronen, University of Texas–Austin
Matthew Tegowski, The Ohio State University

CATEGORY B Master's Universities, Baccalaureate Colleges, and Associate of Arts Colleges

Alyssa Gleischsner, Penn State-Erie/The Behrend College
Phillip Van Dyke, Aurora University

Katie Engen
katie@aspb.org

NOTICE

Fairhaven/EMA Senior Care has acquired a collection of about 75 plant physiology books from Dr. Helen Habermann. These are older books, dating from the 1960s to the mid-1980s. Anyone interested in acquiring this collection should contact Laura Gillen, librarian, at gillenl@emaseniorcare.org.

Richard B. Walker


Richard Walker

On March 29, 2010, the Society lost a long-time, devoted member with the death of Richard B. (Dick) Walker at the age of 93. Dick was an important figure in forest physiology in the Pacific Northwest and a leader in the Department of Botany at the University of Washington. He was born in Illinois and obtained a bachelor of science degree in botany at the University of Illinois in 1938. His graduate training in plant physiology occurred at the University of California at Berkeley, after a hiatus during World War II when, as an artillery officer, he helped guard the Panama Canal. He received his PhD in 1948 and was immediately hired by the Botany Department at U-Washington, where he stayed for the duration of his professional life. From 1962 to 1971, he was department chair. During that time he was largely responsible for bringing the International Botanical Congress to Seattle in 1969. In his role as chair of the Botany Department, he strongly supported the development of undergraduate biology courses and an interdisciplinary biology major. From 1975 to 1982 he was the director of the Office of Biology Education. He was also an adjunct professor in the College of Forest Resources from 1977 to 1985. His teaching focused primarily on plant–water relations and mineral nutrition. He became an emeritus professor in 1987 and continued to maintain an office and be a contributing member of the department and region well into this century.

Dick's thesis research was on the uptake of minerals from serpentine soils, a subject he pursued his whole career. On arrival in Seattle he developed research in conjunction with Stan Gessel of the College of Forest Resources into mineral and water uptake into forest trees. Between 1958 and 1963, Dick and Stan were members of a team that journeyed five times to the Marshall Islands to study the uptake into plants of rare radioisotopes, generated by the hydrogen bombs. The resulting reports were among the first to point out the unrecognized dangers of lingering radiation to plants. Another area of Dick's research focused on the biology of iron, both in plants and in its ability to be taken up by humans.

Dick took an active interest in ASPB. He attended most of the national meetings and encouraged his colleagues and students to be active members. He was a great source of knowledge about plant physiology and a strong positive influence on all his fellow scientists.

Robert Cleland
Elizabeth Van Volkenburgh
University of Washington

ASPB News

American Society of Plant Biologists
15501 Monona Drive
Rockville, MD 20855-2768 USA

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