ASPB News

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Inside This Issue

President's Letter

Broadening and Enhancing Participation in the Nominating Process

Tuan-hua David Ho

A nonprofit professional association like the American Society of Plant Biologists usually has at least two key functions: to safeguard and further the quality of the discipline its members practice and to enhance the public interest in the profession it represents. To achieve these goals and others, ASPB needs to identify leaders who are willing to serve, who can truly represent the broad interests of our community, and who will receive strong support from our members. Furthermore, we need to recognize those whose outstanding work has advanced our profession through research, education, or service. The honors bestowed on these pacesetters also reflect the standard of excellence the Society is striving for.

The ASPB Nominating Committee prepares a list of two candidates for every major office, such as president, secretary, and elected members of the Executive Committee, for the consideration of our membership. At least one nomination for each of these positions is made by the membership at large. Election to all offices is by majority of those members who vote. In addition, more than a dozen special committees are responsible for soliciting and evaluating nominations for various awards. Members of these award committees are invited to serve on the basis of their interests and accomplishments, and they often reflect the diversity of our Society. These committee members serve multiyear terms, but their terms are usually staggered to ensure continuity and smooth transition for the operation of each committee.

Diversity is always an important issue in our Society, and nominations for leadership positions and awards are an essential mechanism to achieve this goal. When I became president-elect of ASPB last year, one of the most important committees I joined was the Operations Subcommittee, a sort of executive committee of *the* Executive Committee, consisting of the top leadership of the Society. Although this is but a small group of five people—the president, immediate past president, president-elect, chair of the Board of Trustees, and executive director—it's intriguing to note that it is a highly diverse yet balanced group when gender, ethnicity, and country of origin are considered. Similar situations exist in virtually all the other committees, and this reflects exactly what our Society really is—plant scientists with different backgrounds pursuing related goals. Therefore, it is imperative that our future leadership be identified by even more active participation from the members. We should also be mindful that much extra effort is still needed to further enhance diversity in our Society.

continued on page 6

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CONTENTS

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Science writer, *Plant Physiology*	**Peter Minorsky,** 845-878-4570	peminorsky@aspb.org
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Senior features editor, *The Plant Cell*	**Nancy Eckardt,** 970-495-9918	neckardt@aspb.org
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ASPB News

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

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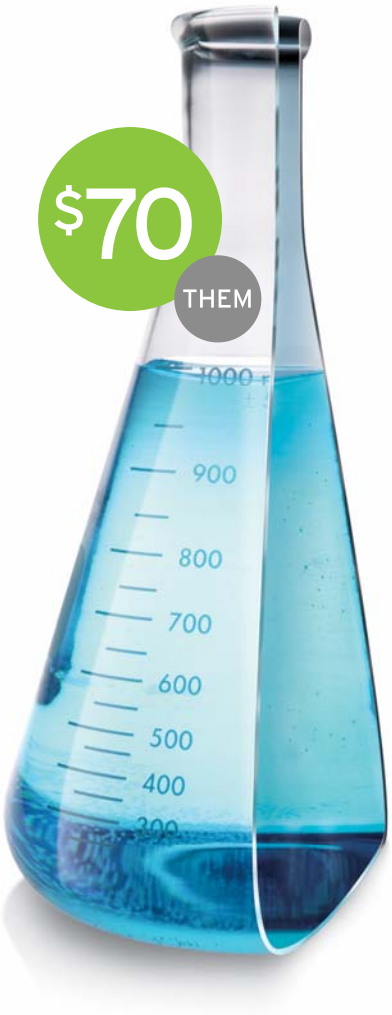
Contact: Nancy A. Winchester, Editor, ASPB News, 15501 Monona Drive, Rockville, MD 20855-2768 USA; nancyw@aspb.org; 301-296-0904.



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President's Letter
continued from page 1

Although not all awards are given each year, I would like to call your attention to several important ones that will be presented during Plant Biology 2010 in Montréal. Multiple winners of the Fellow of ASPB Award will be recognized for distinguished and long-term contributions to plant biology and service to the Society. Similarly, the Stephen Hales Prize recognizes outstanding service to the science of plant biology. Two awards are given specifically for research accomplishments. As apparent in its name, the Lawrence Bogorad Award for Excellence in Plant Biology Research is for a plant scientist whose work both illuminates the present and suggests paths to enlighten the future. The Charles F. Kettering Award is focused on contributions to the field of photosynthesis. On the education front, we have the Excellence in Education Award, which recognizes outstanding teaching, mentoring, or educational outreach in plant biology. The ASPB–Pioneer Hi-Bred Graduate Student Fellowship provides support for innovative graduate research in areas of plant biology that relate to important commodity crops. For service to our community, the Adolph E. Gude, Jr. Award is given to a scientist or layperson in recognition of outstanding service to the science of plant biology. There is also an award for lifelong contributions, the Charles Reid Barnes Life Membership Award, and two awards for young scientists who have already made significant achievements and are predicted to have outstanding futures in plant biology: the Charles Albert Shull Award and the Early Career Award.

It is important to point out that none of these awards are restricted to plant scientists residing in the United States, and as a matter of fact, several foreign members of ASPB have been honored in the past. Furthermore, up to three Corresponding Memberships will be given each year to successful plant biologists residing outside the United States. These awards are of particular note, because the honor is conferred following a vote of the membership. Please refer to the ASPB Committee website (http://www.aspb.org/committees/) for a detailed description of each of these awards, and please see page 6 in the November/December issue of the *ASPB News* for more information and nomination instructions.

Speaking of instructions, following a vote of the Executive Committee last year, the nomination process has been markedly simplified in the hope of encouraging wider participation in nominations by ASPB members. To streamline the process, a shorter nomination packet will be used. Most awards will no longer require letters of recommendation. All that is required to make a nomination is a 1- to 2-page letter of nomination and a detailed CV of the nominee. This means that once you have a candidate in mind, you only need to convince that person to throw his/her hat in the ring by sending you his/her CV (or, alternatively, keep your intent hidden and find some other way to obtain the CV). You can submit the package—cover letter plus CV—as a single PDF file via the ASPB website, but you are also welcome to forward the package to Society headquarters via either e-mail or snail mail. The nomination/award committee may ask for additional information, if necessary.

In the past, only a relatively few members have participated in the nomination process. It is my hope that this letter helps explain an important aspect of our Society—that is, how the leadership of our organization and outstanding plant scientists are identified. But much more importantly, I would like to urge all members of our Society to participate in this process of nominating worthy candidates. It is a simple task, and your effort is the foundation of self-governance of our Society. Increasing the nomination pool is perhaps the most potent mechanism by which we can achieve diversity among our leadership and those whose outstanding science and service we recognize.

Tuan-hua David Ho
ho@wustl.edu

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Tamara Western

Plant Biology 2010

Montréal, Canada
July 31–August 4

Six Major Symposia Will Be Held in 2010

Symposium I: Martin Gibbs Medal Winner Symposium: Building Extracellular Polymers; Lignin, Cutin, Suberin, and Polysaccharides
Organizer: John Ohlrogge, Michigan State University

Symposium II: Polyploidy, Heterosis, and Genomic Plasticity
Organizer: Z. Jeffrey Chen, University of Texas, Austin

Symposium III: CSPP President's Symposium: Signals and Plant Development
Organizer: Carl Douglas, University of British Columbia

Symposium IV: Impact of Plant Biology on Human Health and Medical Research
Organizer: Barry Pogson, Australian National University

Symposium V: Joint ASPB–CSPP Symposium: Pollen Biology
Organizers: Alice Cheung, University of Massachusetts;
Anja Geitmann, University of Montréal;
Heven Sze, University of Maryland

Symposium VI: ASPB President's Symposium: Next Wave of Plant Biotechnology
Organizer: Tuan-hua David Ho, Washington University

Registration opens January 2010

Early Bird Registration Fees
(until May 7, 2010)

(all fees paid in advance and credit card transactions must be in U.S. dollars)

Member* $340
Nonmember $510
Postdoc Member* $245
Postdoc Nonmember $365
Graduate Student Member* $150
Graduate Student Nonmember $245
Undergraduate Student $50
ASPB and CSPP Emeritus Members are free

***Members of the Canadian Society of Plant Physiologists qualify for the ASPB member rate.**

For more details and to register online visit www.aspb.org/pb-2010

Photo: © Tourisme Montréal, Stéphan Poulin

Joint Annual Meeting of the American Society of Plant Biologists and the Canadian Society of Plant Physiologists/Société Canadienne de Physiologie Végétale

Call for Abstracts
Plant Biology 2010

The Plant Biology 2010 format will include six major symposia and up to 30 minisymposia based primarily on the abstracts submitted under the topic categories listed (see sidebar). The Program Committee determines the titles and contents of the minisymposia after reviewing the submitted abstracts. Oral presentations are required for those abstracts selected for minisymposia. Suggestions for minisymposia topics are welcomed and should be submitted online.

In addition to the scientific abstract submission, a field titled "Broader Impacts" will invite participants to describe novel education outreach activities. This submission (600-character limit) will serve as the basis for selection for a special Education and Outreach minisymposium.

New This Year

Categories are purposely broader this year than in previous years. Keyword selections are added to the submission process to assist with the selection of minisymposia and searching of abstracts.

There will be no printed abstract book this year. Instead, memory sticks will be provided to attendees with the full abstracts. Titles and authors only will be printed in the program book.

Submission Deadlines

- Abstracts must be submitted online at http://www.aspb.org/abstract/.
- To be considered for inclusion in a minisymposium, submit abstract by March 12, 2010. Posters may be submitted any time abstract submission is open.
- For inclusion in the memory stick abstract listings, submit by May 7, 2010.

The online submission form provides the author an opportunity to request that an abstract be presented only by poster.

Guidelines

- A member of ASPB or CSPP may submit or sponsor only ONE abstract.
- A nonrefundable $50 fee will be required for each abstract and can be credited to the registration fee.
- Registration is required by the last day of preregistration, June 15, 2010. Otherwise, your abstract will be deleted from the online listing and no poster space will be reserved.
- The body of your abstract cannot exceed 1,800 characters (including spaces).
- DO NOT include any graphics or tabular material in the body of your abstract.
- Follow the online instructions for inserting special characters and superscripts or subscripts.
- Proofread your abstract, double-checking any special characters.
- Select a topic category listed in the sidebar.
- Press the "Submit" button. Acknowledgment will be sent by e-mail.
- If you wish your abstract to be considered for a minisymposium or talk, please indicate so on the online form.

Categories

Applied Plant Biology

Biochemical Processes and Macromolecular Structures

Cell Biology

Development

Education and Outreach

Emerging Technologies and Model Systems

Environmental Stress and Adaptation to Stress

Gene Regulation and Molecular Biology

Genetics, Genomics, and Molecular Evolution

Hormone Biology

Plants and Human Health

Plants Interacting with Other Organisms

Signal Transduction

Systems and Computational Biology and Bioinformatics

Whole Plant and Ecophysiology

The abstracts and program details will be available for viewing and searching online in April 2010. The website will make it possible for you to prepare and print a personal itinerary to guide you at the meeting.

ASPB–Pioneer Hi-Bred Graduate Student Fellowship

Nominations Due by Monday, March 1

The ASPB–Pioneer Hi-Bred Graduate Student Fellowship, made possible by the generosity of Pioneer Hi-Bred International, recognizes and encourages innovative graduate research and innovation in areas of plant biology that relate to important commodity crops including corn, soybeans, rice, wheat, or canola. One $22,000 fellowship will be given annually from 2010 through 2013, with an additional $1,000 awarded for the recipient to attend the ASPB annual meeting in the year of their award. Each nominee must attend a U.S.-accredited college or university and must demonstrate interest in the study of plant biology or a related discipline. Each nominee must be a PhD candidate (have successfully passed their preliminary examinations), must demonstrate an excellent academic record (for example, have achieved undergraduate and graduate GPAs of 3.5 or greater), and must be a member of ASPB. An individual may receive this fellowship only once.

Applications now being accepted.

For more information see http://www.aspb.org/awards/nominate.cfm.

ASPB Ambassador Program

Over the past few months, a number of people have asked me, "What is an ASPB Ambassador, and how do I become one?"

The latter part of the question is an easy one to answer: There is an online application form on the ASPB website (http://www.aspb.org/membership/Ambassadors/apply.cfm) that can be submitted to ASPB for evaluation by the Membership Committee, which will make a determination of suitability. There are currently positions open for both graduate student and postdoc ambassadors, so if you are enthusiastic about what ASPB is doing and would like to be a more active participant in the Society, please apply now (or better yet, after you have read the rest of this article!).

The former question—what is an Ambassador?—requires a little more time to answer. The ASPB Graduate Student Ambassador Program was started informally in 2006 and was formalized by the Executive Committee in 2009. The Postdoc Ambassador Program began with ambassadors who had graduated and moved on in their careers; it is still somewhat informal in nature. Colleen Doherty is serving on the ASPB Membership Committee and is our leading representative for the Postdoc Ambassador Program. The ASPB Ambassador Program has two main missions: (1) to share ASPB's mission and benefits of membership with the postdoctoral, graduate student, and undergraduate communities and (2) to provide our postdoc and student members with a mechanism by which their concerns and needs can be communicated to the governing body of the Society via the Membership Committee.

The goal of the Ambassador Program is to place at least one Ambassador in each university across the United States that has a graduate program in the plant sciences. We are also looking into the possibility of extending the Ambassador Program to better serve and reach our growing international membership. The purpose for this design is to have within these programs an individual who is empowered to educate fellow postdocs, graduate students, and senior undergraduates, on a peer-to-peer basis, as to the importance of belonging to a professional society. In other words, to accentuate the value that membership in ASPB has in enhancing their careers while also giving them a voice in the Society's continuing efforts to ensure and enrich the future of plant biology research in the United States and beyond. For the Society, the hope is that the ASPB membership base will expand to include more of our early career constituents, which will help to ensure the continued growth and relevance of the plant sciences within the broader scientific community of the United States.

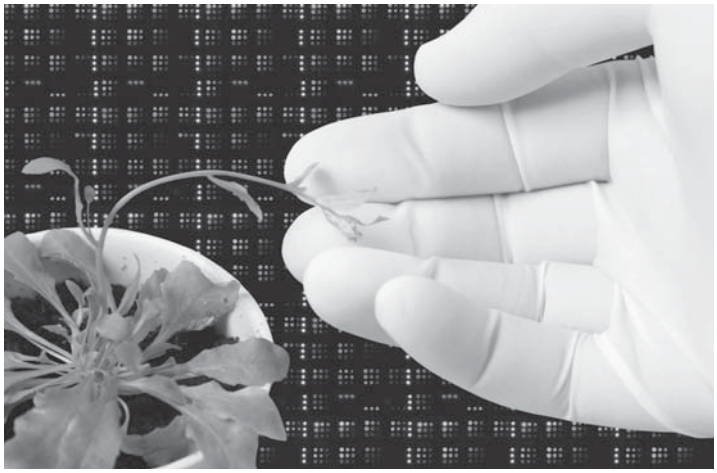
An Ambassador is one of our current postdoc or graduate student members who has been selected to serve as the liaison and representative for ASPB within the plant science community at their institution. Each Ambassador must agree to actively participate in the program. Ambassadors will receive a "Buzz Kit," which will help them spread the word about ASPB to their peers, and each will be added to our Ambassador forum and blog participant lists. The Ambassador will be an enthusiastic and dedicated proponent of membership in ASPB and will represent the Society with integrity. Ambassadors are expected to actively participate by speaking at pertinent campus events (e.g., graduate student orientations), gathering feedback from their peers, attending ASPB meetings (sectional or annual when possible), and generating excitement for ASPB. It takes commitment and effort, and is not for the faint of heart.

I hope this information has taken the mystery out of the ASPB Ambassador Program, and I look forward to reading all of the applications I hope we will see.

See you in Montréal.

Mel Oliver
Chair of the Membership Committee

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



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

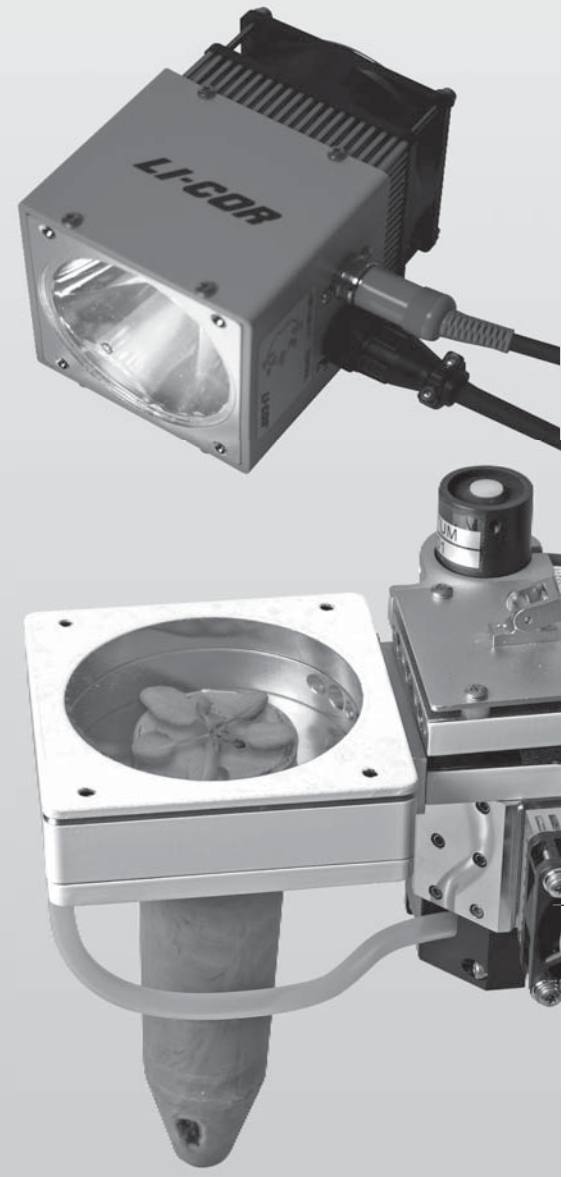
You know the reasons that make *Arabidopsis thaliana* an excellent model for gene expression studies (short generation time, sequenced genome, mutant collection, ease of cultivation, etc.). It is essential to add physiological assessment of *in situ* function to validate regulatory or functional genes 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

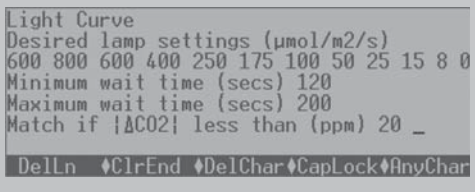
www.licor.com/Arabidopsis

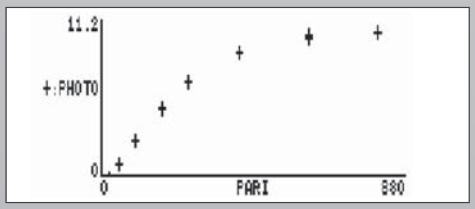
LI-COR®
Biosciences

800-447-3576



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.





ASPB Members Are Easy to Find at NSF

Did you know that ASPB members serve in a variety of positions at the Arlington, Va., headquarters of the National Science Foundation (NSF)? Society members serve in three divisions of the Biological Sciences Directorate: MCB—Molecular and Cellular Biosciences Division, IOS—Integrative Organismal Sciences Division, and DBI—Division of Biological Infrastructure.

ASPB member Stephen Howell took the senior management position of MCB division director in September 2009. The division director provides vision for the science funded by the division and coordinates division staff. The director also interacts with the rest of the NSF administration and other government agencies who set science priorities. Steve also continues to maintain his research lab.

Seven ASPB members are currently acting as rotating program directors (PDs). PDs receive and organize review of grant proposals submitted to the NSF. They then recommend funding and manage awards, acting as your direct contact with the NSF. About 50% of the PDs at the NSF are "rotating." Rotating PDs take a minimum of one year and up to three years away from their permanent academic positions to serve the community in this capacity. They bring new blood to the agency and insight into what it is like in the trenches for academic scientists. As PDs, they gain not only an insight into the workings of NSF, but also a global perspective on the direction of science in the United States and on how science policy is forged. If you are interested in this kind of experience, you should contact the NSF. Positions open every year as rotators leave.

ASPB also has representation on the NSF permanent staff, in both senior management and PD positions. ASPB members who are on the permanent NSF staff or who are rotating at the NSF are listed below with short biographies.

Surf the web page of the Biological Sciences Directorate at the NSF to find out more about MCB, IOS, DBI, and other organizational units of the directorate, as well as funding opportunities, grant application information, and program staff contact information. http://www.nsf.gov/dir/index.jsp?org=BIO

MCB Division

José Arguello

Rotating PD: July 2009–July 2010

Education: BS, Universidad Nacional de Córdoba, Argentina; PhD, Universidad Nacional de Río Cuarto, Argentina; postdoc with Jerry Lingrel, University of Cincinnati. Current position: professor, Department of Chemistry and Biochemistry, Worcester Polytechnic Institute. Research interests: heavy metals as nutrients and toxins, and heavy metal ATPases in plants and symbionts.

Robert Burnap

Rotating PD: August 2009–July 2010

Education: BS, University of Michigan; PhD, UC Santa Barbara; postdoc with Louis Sherman, Purdue. Current position: professor, Department of Microbiology and Molecular Genetics, Oklahoma State University. Research interests: molecular mechanisms of oxygenic photosynthesis; regulation of inorganic carbon assimilation.

Alan Christensen

Rotating PD: July 2009–July 2010

Education: BS, University of Washington; PhD, University of Washington; postdoc with John Lucchesi, University of North Carolina. Current position: associate professor, School of Biological Sciences, University of Nebraska. Research interests: plant mitochondrial genetics.

Stephen Howell

Rotating MCB Division Director: September 2009–open.

Education: BA, Grinnell College; PhD, The Johns Hopkins University; postdoc with Herbert Stern (lily meiosis), UC San Diego. Current position: professor, Department of Genetics, Development and Cell Biology, Iowa State University. Service to ASPB: Public Affairs Committee. Research interests: environmental stress and the unfolded protein response in plants.

Elizabeth Vierling

Rotating PD: September 2008–July 2010.

Education: BS, University of Michigan; PhD, University of Chicago; postdoc with Joe Key, University of Georgia. Current position: Regents' professor, Department of Chemistry and Biochemistry, University of Arizona, Tucson. Service to ASPB: *Plant Physiology* editorial board; Executive Committee; Charles Albert Shull Award Committee; ASPB–Pioneer Hi-Bred Graduate Student Fellowship Committee. Research interests: molecular chaperones, nitric oxide metabolism, stress responses.

IOS Division

Mark Brodl

Rotating PD: August 2009–August 2010

Education: BA, Knox College; PhD, Washington University. Current position: Brackenridge Professor of Biology, Trinity University, San Antonio, Tex. Service to ASPB: Executive Committee; Treasurer; Board of Trustees; Education Foundation; cochair, Summer Undergraduate Research Fellowship program. Research interests: heat stress and the ER stress response, ER membrane properties.

Thomas Jack

Rotating PD: January 2009–July 2010

Education: BA, Haverford College; PhD, Yale University; postdoc, Caltech. Current position: associate professor, chair, Department of Biological Sciences, Dartmouth College. Research interests: molecular genetics of flower development.

Diane Jofuku Okamuro

NSF since 2005; currently PD, Plant Genome Research Project, IOS

Education: BA, UC Santa Cruz; PhD, UCLA; postdoc with Marc van Montagu, Ghent University, Belgium. Current position: PD, Plant Genome Research Program, IOS. Research interests: plant molecular genetics, genome scale technologies for studying plant growth and development.

Jane Silverthorne

NSF since 1999; currently acting division director, IOS

Education: BS, University of Sussex; PhD, University of Warwick; postdoc with Elaine Tobin, UCLA. Current position: acting

continued on page 12

This report of a symposium held to honor Givi Sanadze on his 80th birthday was submitted by Clanton Black.

Givi Sanadze's 80th and Isoprene

From Volatile Plant Emissions to the Blue Haze of Wooded Mountains, to Atmospheric Chemistry, to Commercial Rubber

Givi Sanadze

When Fritz Went ascribed the blue haze often seen above wooded mountains—such as the Smokey Mountains in the eastern United States—to volatile chemicals released by plants, there was little data to support his suppositions other than the odors one can smell afield (1). Even so, this historic postulation evoked much discussion and many subsequent discoveries. Meanwhile, the pioneering measurements of volatile chemicals emitted from plants by a young graduate student, Givi Sanadze, working in the Republic of Georgia, were mostly unknown to the scientific community (2). To recognize Professor Sanadze on the occasion of his 80th birthday and to trace where these early experiments have led, a symposium was held October 15–18, 2009, in Tbilisi and Batumi, Georgia. Titled "Isoprene Yesterday, Today, Tomorrow," it was hosted by the Georgian National Academy of Science. The first day's presentations were given by T. V. Gamkrelidze, G. Sanadze, C. C. Black, V. Kuznetsov, T. Beridze, and A. Shalashvili. Those were followed the next day with presentations hosted also by the Batumi State University and the Batumi Botanical Garden, given by E. Machutadze, N. Zarnadze, N. Lomtatidze, N. Alasania, C. C. Black, and G. Sanadze. The following articles were published simultaneously in the *Annals of Agrarian Science,* Vol. 7, 2009, as a commemorative issue:

I. "Isoprene Effect: Yesterday, Today, Tomorrow." G.A. Sanadze, pp. 9–20.
II. "Biochemical Controls on the CO_2 Response of Leaf Isoprene Emission: An Alternative View of Sanadze's Double Carboxylation Scheme." R.K. Monson, M.J. Wilkinson, N.D. Monson, N. Trahan, S. Lee, T.R. Rosenstiel, and R. Fall, pp. 21–29.
III. "Biosynthesis and Accumulation of Isoprenoid Carotenoids and Chlorophylls and Emission of Isoprene by Leaf Chloroplasts." H.K. Lichtenthaler, pp. 30–41.
IV. "Applying Photosynthesis Research to Increase Crop Yields." C.C. Black, S.J.S. Sung, K. Toderich, and P. Yu Voronin. (In press).
V. "A Hard Life of a Scientist." The *Annals* Editorial Board, pp. 196–198.

The intertwining research history on isoprene—its biosynthesis and roles in plants—is considered in these accounts. Also, the symposium participants focused discussions on (a) reports extending the mountainous blue haze phenomenon to the atmospheric gas-phase chemistry of isoprene oxidation in the presence of hydroxyl radicals and in low nitric oxide regimes (3), presumably leading to other roles in Earth's climate and (b) initial industrial ventures using transformed photosynthetic organisms to overproduce isoprene for the commercial production of rubber elastics.

Clanton Black
University of Georgia, Athens

References

1. Went, F.W. (1960). Organic Matter in the Atmosphere, and Its Possible Relation to Petroleum Formation. *PNAS* 46:212–221.
2. *(1956). Rep. Akad. Nauk GruzSSR,* Vol. 17 (in Russian).
3. Kleindienst, T.E. (2009). Epoxy Isoprene Chemistry. *Science* 325:687–688 and Paulot, F., et al. (2009). Unexpected Epoxide Formation in the Gas-Phase Photooxidation of Isoprene. *Science* 325:730–733.

ASPB Members at the NSF
continued from page 11

division director, IOS. Research interests: plant genomics.

StephenTonsor
Rotating PD: September 2009–September 2010
Education: BS, University of Michigan; PhD, University of Chicago. Current position: associate professor, Department of Biology, University of Pittsburgh. Service to ASPB: *Plant Physiology* editorial board. Research interests: evolutionary physiology of responses to changing environments.

DBI Division

Judy Verbeke
NSF since 1998; currently deputy director, DBI
Education: BS, Rockhurst College; PhD, UCLA. Current position: deputy director, DBI. Service to ASPB: officer, Midwest Section; Program Committee; chair, Women in Plant Biology Committee. Research interests: plant development.

Elizabeth Vierling
National Science Foundation

Japan Society for the Promotion of Science Awards International Prize for Biology to Winslow Briggs

Emperor and Empress of Japan Preside at Prestigious Tokyo Ceremony

Winslow Briggs, a member of ASPB since 1955 and director emeritus of the Carnegie Institution of Science's Department of Biology, received the International Prize for Biology on November 30 in Tokyo, Japan. This renowned annual award is bestowed by the Japan Society for the Promotion of Science (JSPS; http://www.jsps.go.jp/english/index.html) to the person who "has made an outstanding contribution to the advancement of basic research in a field of biology." The award includes a medal (see sidebar on page 15) and a prize of 10 million yen (approximately $111,000 USD). There also is an Imperial gift awarded to each winner from His Majesty the Emperor of Japan.

During his acceptance speech, Winslow said:

> I am deeply honored on being awarded the International Prize for Biology. I know of no higher honor for a biologist, and it makes me humble when I think of all of the gifted biologists whom I believe must clearly qualify for the honor. It is extremely gratifying to me that the award this year is based on plant photobiological research. The Japanese nation is to be richly congratulated for supporting this remarkable award. I offer my heartfelt thanks to the Committee on the International Prize for Biology. I also particularly thank His Imperial Majesty the Emperor for his support for biology in all of its incredible diversity—from global ecology through taxonomy to the most intricate molecular mechanisms of living things.

Winslow devoted much of his five-minute acceptance speech to expressing appreciation for the people who have supported him throughout his career. He reminisced about wildflower photo expeditions with his father, strong-minded professors urging him toward plant science, and astute students pushing him to new research. He expressly acknowledged his wife, Ann, for 54 years of steadfast support. He also noted:

His Majesty the Emperor Akihito and Her Imperial Majesty the Empress Michiko greet Winslow Briggs (left) at the IBP Award Reception. ALL PHOTOS COURTESY OF THE JAPANESE SOCIETY FOR THE PROMOTION OF SCIENCE.

> I have had the great fortune to be at major research institutions for my entire research career—Harvard, Stanford, and the Carnegie Institution for Science. These renowned research institutions attract the highest caliber of graduate students and postdoctoral fellows to their laboratories. These young people have gifted minds, dexterous hands, and the passion to find out how living systems function. These are the characteristics that are the driving engine for biological research.

Each IPB winner is selected by a committee of basic and applied science experts (http://www.jsps.go.jp/english/e-biol/01_outline_committee.html) with leadership roles in a variety of institutions across Japan. Winslow joins a small but distinguished group of plant scientists that have received the IPB in prior years. Each year, the IBP committee selects a specialization within the field of biology for which the prize will be awarded. Winslow was selected for his pioneering molecular biological research on the impacts of light on plant growth and development. Carnegie's website (http://www.ciw.edu/news/carnegie_s_winslow_briggs_receives_international_prize_biology) offers a thorough summary of the IBP award and Winslow's background.

Masamitsu Wada, longtime ASPB member and professor at Kyushu University, is a member of the IBP selection committee. Wada-san says, "I am very happy that the committee selected Winslow for his work on plant sensing. This will be enlightening to the many people who think that only animals use sensing via vision, taste, smell,

continued on page 14

Winslow Briggs
continued from page 13

and hearing. They will learn that plants also use sensing, but with regards to light, gravity, moisture, and other environmental factors. Winslow has been selected as the IBP recipient from among great candidates who are working on animal sensing. This award will help everyone appreciate the importance of plants sensing."

Wada-san adds that, "The decision was very timely because Winslow's major interest is phototropism and it is the 200th anniversary of the birth of Charles Darwin, who was the first to analyze and describe phototropism precisely with experimental data."

As to the particulars of Winslow's research, Wada-san says, "The discovery of phototropins as a blue light photoreceptor for phototropism is really great in itself, but I think that characterization of the LOV domain as a conserved . . . light-capturing unit is especially commendable. Utilization (or application) of an LOV domain as a photoreception unit for artificially made functional photoreceptors controlled by light even in an animal cell is now realistic. Winslow is the originator and now the leader of this field."

Winslow Briggs offers his thoughts to those attending the IBP Presentation Ceremony.

Winslow and Ann Briggs with the Imperial Gift.

Machi Dilworth, director of NSF's Tokyo Office and another ASPB member, was at the IPB event. She reports:

> The ceremony was truly special as it was attended not only by the Emperor and the Empress but also Prime Minister Yukio Hatoyama and Tatsuo Kawabata, the Minister of Education, Culture, Sports, Science, and Technology. Marc Wall, U.S. Minister Counselor for Economics, Science, and Technology in Japan, attended the ceremony representing the U.S. Embassy. The Emperor and the Empress have attended all 25 ceremonies, the first five years as Crown Prince and Crown Princess. However, this is only the second time that the Prime Minister attended the award ceremony. The first time was in the award's very first year. This year marks the 25th year of the International Prize for Biology, and the 20th anniversary of the current Emperor's enthronement, which is probably why the Prime Minister came. The Emperor and the Empress stayed for the reception afterward and they spoke at some length with Winslow and his family. The Imperial couple spoke with others, but they spoke with the Briggs family first and again before they departed.

Winslow had this to say about his memorable trip:

> The ceremony in Tokyo on November 30 was unbelievable. Ann and I had short private audiences first with Prime Minister Hatoyama, and then with the Emperor and Empress prior to the ceremony. Both the Prime Minister and the Minister of Education gave short congratulatory addresses and I was then presented both with a certificate and a wonderful medal and a gift from the Emperor—a beautiful silver vase with the Emperor's chrysanthemum crest on it. Following those events, I then gave a five-minute acceptance speech (the entire ceremony was tightly scheduled and lasted exactly 31 minutes—right on schedule!). It was particularly special that Ann was programmed as an active participant in the ceremony and that all three of our daughters were able to be there with their husbands (the Prime Minister acknowledged them with a bow as he left). On December 2–3, there was a special symposium in Kyoto with speakers from all over the world, almost all of them old friends and former colleagues. It is my hope that the rich combination of the award, ceremony, and symposium will reveal the strengths of the entire field of experimental

plant biology, especially those parts dealing with the effects of light on living organisms.

Winslow was elected to the National Academy of Sciences in 1974 and the American Academy of Arts and Sciences in 1975. Along with his ASPB membership, he belongs to the Botanical Society of America, the American Society for Photobiology, and the American Association for the Advancement of Science. His professional service has been long and varied, including cochair of the Gordon Conference on Photoreceptors in Plants, Animals, and Microorganisms; the chair of the Gordon Conference on Plant Molecular Biology; and chair of the Botany Section of the National Academy of Sciences. ASPB selected Winslow for the 2007 Adolph E. Gude, Jr. Award, granted triennially to a scientist or layperson in recognition of outstanding service to the science of plant biology. One of Winslow's most recent activities with ASPB was his Gude Award presentation during the opening ceremony of Plant Biology 2009 in Honolulu, Hawaii (http://www.aspb.org/newsletter/septoct09/06pb09mtg.cfm).

Katie Engen
ASPB Education Foundation Assistant

According to the JSPS, the IBP medal's design was inspired by Emperor Hirohito's (r. 1926–1989) research on two species of the family Clathrozonidae (Coelenterata, Hydrozoa), *Clathrozoon wilsoni* and *Pseudoclathrozoon cryptolarioides*. The IBP medal's motif is based on a segment of a *Pseudoclathrozoon cryptolarioides* colony. The actual medal is made of *Shibuichi*, an alloy of copper, silver, and gold that is unique to Japan. The motif pattern is made of inlaid gold.

Call for Proposals: Deadline June 4 (midnight ET)

ASPB Education Foundation—Grant Awards Program

In this call for proposals, the ASPB Education Foundation seeks projects that address the aims of the Foundation (see sidebar) and at the same time catalyze new opportunities for ASPB members to educate the public about the importance of plant biology.

Proposals must be submitted to the Foundation between March 15 and June 4. No forms are needed. Send proposals by e-mail to the Education Foundation assistant at info@aspb.org. Include your full name and ASPB member number in the body of the submitted e-mail. Attach documents in Word (.doc extension) or as PDF files. Proposal reviews will begin after the closing date. Questions? Contact Katie Engen at katie@aspb.org.

Each grant proposal should include

1. Cover Page
   - project title
   - project manager's name
   - ASPB membership number
   - address, phone, e-mail, and fax
   - coinvestigator name(s)
2. Project Description
   - topic, purpose, and outreach impact
   - five-page limit
   - double-spaced
3. Itemized Budget
   - up to $30,000
   - justification for each component
   - use of resources for promotion, if needed

Quality **GAP Proposal Samples** are available for review at http://www.aspb.org/education/foundation/gap.cfm.

Project managers from winning GAP 2004–09 projects can be found in the **Winning GAP Projects** at http://www.aspb.org/education/foundation/gap.cfm.

Guidelines for the 2010 program

1. The project manager must be a current member of ASPB.
2. Proposals that leverage funds from the Foundation with support from other sources are encouraged, particularly with regard to larger grant requests.
3. No indirect costs (overhead) will be covered by the Foundation for project awards.
4. No language translations, direct publishing, or support of other foundations will be covered.
5. No projects that would more appropriately receive their money from another source, especially when that project serves a limited audience (i.e., one campus), will be covered.
6. The Foundation seeks projects with wide and/or long-term dissemination.
7. ASPB expects to have the right to the use of projects developed with grant funding.
8. Proposals are encouraged from members both within and outside the United States. Projects may serve communities from any country.
9. The total funding will not exceed $30,000, including allocations for promotion or web hosting. Projects may run beyond one year.
10. All recipients agree to advise future applicants who seek their consultation on developing winning proposals.

Awardees will be notified by e-mail and announced at Plant Biology 2010 in Montréal, Canada, July 31–August 4.

ASPB's Education Foundation seeks proposals from ASPB members to support education and outreach activities that advance knowledge of and appreciation for basic concepts and contributions of plant biology.

In support of the mission of ASPB, the Education Foundation was established in 1995 to provide information and education to increase the public's knowledge about the role of plants in all areas of life.

The Foundation reaches its goals through programs that

- promote a broad understanding of the importance of plant science in providing an ongoing supply of affordable, high-quality food, fiber, and renewable resources
- provide education on the importance of plants to agriculture, medicine, the environment, and more
- make available accurate information on the latest developments in genetic modification of crops and plant biotechnology
- contribute to the knowledge of plant biology among K–12 schoolchildren through developing educational materials and assisting teacher development
- encourage young scientists to pursue careers in the growing field of plant biology
- increase plant science activities in science museums and discovery centers by developing programs, exhibits, background information, and links to scientists.

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: Jeanmarie Verchot-Lubicz
Title: Associate Professor
Place of Work or School: Oklahoma State University
Research Area: Plasmodesmata transport, plant virus–host interactions
Member since: 2001

1. **Why has being a member of ASPB been important to you?**
   I have been accessing ASPB's two journals, *Plant Physiology* and *The Plant Cell,* since I was a first-year graduate student. ASPB offers the best opportunities to interact with the broadest range of plant scientists in the world. My research on virus movement across plasmodesmata involves investigating signal transduction, plant stress responses, plant cell biology, small RNA transport between cells, and intercellular transport of development cues. ASPB offers the opportunity to view my own research in a much broader context, and allows me to develop new collaborations for creative, cross-cutting research.

2. **Was someone instrumental in getting you to join ASPB?**
   No. My research has moved into the host side of plant–pathogen interactions, and it was obvious that ASPB would be a better forum for my research at this time.

3. **What would you tell colleagues to encourage them to join?**
   ASPB is a strong society with many National Academy of Sciences and high-profile members. You find ASPB members everywhere, and the opportunities to attend regional and national conferences can only serve to enable researchers to expand their professional network. I have sat on many NSF and USDA grant panels, and ASPB members are always there. This shows that ASPB is nationally respected and influential in terms of scientific policy.

   ASPB is one of the friendliest societies I have belonged to. ASPB conferences have more special meetings and program opportunities at conferences—featuring speakers from NSF, software training, and women's forums—that are very easy to join and where it's easy to meet people and feel involved.

4. **Have you enhanced your career using ASPB job postings or through networking at an ASPB function?**
   At this stage of my career, I am looking to hire more than be hired. However, networking through ASPB, I have had the opportunity to give seminars at other universities and form new collaborations.

5. **Have you had any success at finding candidates as a result of a job posting at the meeting or via our online Job Bank?**
   I have hired postdocs by networking through ASPB.

6. **Do you read print journals? If so, where do you usually read them?**
   I read print journals over coffee in the morning and at home. I do like to have some journals at home.

7. **What do you think is the next "big thing" in plant biology?**
   One would be the emerging field of nanotechnology for control of gene expression and delivery of therapeutics in plants. Nanotechnology has the potential to replace transgenic technology for disease resistance in certain respects. There is still a lot to be discovered in small RNA biology, as well as the broader topic of signal transduction mechanisms in development and defense. On the topic of cell biology, we don't really understand all aspects of the endomembrane network, including how the secretory system contributes to cell–cell communication. The role of the endosome in basic processes is not understood. Degradation pathways and how they regulate development and defense are also just being explored. Finally, integrative biology—how to move from molecules to pathways to tissues—and harnessing all the computational biology that has been achieved.

8. **What person, living or deceased, do you most admire?**
   I have had the privilege of working with some of the best minds who have contributed the most to the field of RNAi and R gene mediated defenses. There are several obvious names in this field who are friends that are highly regarded by most, and their creativity is indisputable. On the personal side, I admire my husband the most for his unwavering common sense and ability to enjoy life.

continued on page 18

continued from page 17

9. What are you reading these days?
For journals, I read *Science, Cell, The Plant Cell, Plant–Microbe Interactions,* and *PLoS.* Other professional reading on my desk, which pertains to course development, includes *BioInformatics: A Practical Approach,* 3rd edition, by Andreas Baxevans and B.F. Francis Ouellette; *Viruses and the Nucleus,* edited by Julian Hiscox; and *Analysis of Genes and Genomes,* by Richard Reese. At home, for my son we read children's books by Mark Teague. For myself, I like reading classics, philosophy, ethics, and history. Recently, my husband and I were discussing and reading *Democracy in America* by Alexis deToqueville, which is one of the most important books of our time about American federalism.

10. What are your hobbies?
Hobbies have been replaced mostly by motherhood, an expanding travel schedule, and scientific commitments. When I get time to myself, I love cooking, knitting, yoga, swimming, and going to the gym.

11. What is your most treasured possession?
While I treasure my family and dogs the most, they are not possessions. I love to travel, and so I treasure my photo albums, art, and trinkets I have gathered from around the world. My most important possessions now are my laptop, iPod and Blackberry, although not sentimental treasures I would not function without these.

12. What do you still have left to learn?
Only when you pose the right question, can you realize what you do not know. Only when you discover or characterize a phenomenon, can you realize that there was something unexplained.

Roger Hangarter: New Chair of the Education Foundation Board

Roger Hangarter's interest in education and outreach has bloomed increasingly throughout his career. He joined ASPB in 1979, but the seeds for creating effective public outreach were planted during Roger's postdoc and early research career at Michigan State University; the University of Illinois–Urbana; and Ohio State University. In 1995, Roger joined the faculty at Indiana University, where he is professor of biology. His lab (http://www.bio.indiana.edu/~hangarterlab/abstracts/research.html) has produced a full harvest of research, education, and outreach projects ever since. Roger's 1998–99 term as a program officer for Integrative Plant Biology at the National Science Foundation enhanced his outreach expertise.

Roger also has a rich history within ASPB. As a leader, he has worked as an elected member of the Executive Committee (2000–01); secretary (2001–03); and president-elect, president, and immediate past president (2003–06). Some of these positions dovetailed with committee service. Roger's committee involvements include service to the Program Committee (1996–2004, both member and chair); Nominating Committee (2003–06, both member and chair); and Committee on Public Affairs (2005–06).

Roger Hangarter. PHOTO COURTESY OF INDIANA UNIVERSITY.

Roger also has served on three awards committees: Excellence in Teaching (2007–10), ASPB–Pioneer Hi-Bred Graduate Student Fellowship (2005–09, as chair), and ASPB Fellows (2007–09, as chair). Roger earned the Excellence in Teaching award in 2007. It should come as no surprise that with such distinguished and long-term contributions to plant biology and service to the Society, Roger was named as a Fellow of ASPB as part of the inaugural class of 2007.

A primary outreach program that Roger worked to create with others on the Executive Committee is the Foundation's Grant Awards Program (GAP; http://www.aspb.org/education/foundation/gap.cfm). Soon after GAP was established, he led by example and successfully applied for GAP funding for his multimedia museum project titled s*L*owlife (http://plantsinmotion.bio.indiana.edu/usbg/toc.htm). The success of s*L*owlife, including

continued on page 23

ASPB Education Booth at the NABT Annual Meeting

Volunteers and Staff Generate Mile-High Excitement for Plant Biology in Denver

Hundreds of inquisitive biology teachers swarmed the ASPB booth like happy locusts, snapping up teaching ideas, free handouts, and new approaches to excite learners of all kinds. Some stayed for interesting conversation about plant biology with past ASPB Education Committee chair Jane Ellis (Presbyterian College) and her band of eager assistants, each of whom did her best to dispense supplies, helpful URLs, insight, and inquiry-based lab activities with all due speed.

The National Association of Biology Teachers (NABT) veteran and returning ASPB Education Booth volunteer Jan Haldeman (Erskine College) worked all three days of the exhibit hall schedule. She brought two ready-to-copy-and-go labs, "Baggie Bioassays" and "Corny Data," along with her extensive wit and wisdom to share with booth visitors.

Jan commented about the experience:

> Volunteering for the exhibit booth the past three years has been a real privilege. I am so impressed with the variety and quality of resources ASPB has developed for educators and the enthusiasm expressed about these by booth visitors at NABT. Let's hope folks take them back and USE them as well as the websites. Classroom use has great potential to spread appreciation for and better understanding of the user-friendly world of plants. ASPB materials energize and excite the process of educating current and future citizens about their vital far-reaching plant "connections"! And plants are FUN-damental!

Nan Eckardt (senior features editor for *The Plant Cell* and Colorado resident) met the onslaught of eager educators at the booth during the opening hours of the exhibit

continued on page 20

Red Rocks Park, Colo., is 15 miles west of Denver.

Jane Ellis pauses for a "before shot" while setting up the ASPB booth.

Nan Eckardt adeptly assists during the onslaught of eager biology teachers at the booth.

Ed Booth at NABT
continued from page19

hall on the evening of Thursday, November 12. Some might say the event's open bar motivated such high levels of attendance, but ASPB's booth volunteers know for a fact that the lines at our booth were three to four deep all evening, while the line at the nearby beverage center was not nearly as robust.

Along with plant-centric discussions and hands-on activity demonstrations, Nan helped launch *The Plant Cell*'s newest resource, Teaching Tools in Plant Biology (http://www.plantcell.org/teachingtools/teaching.dtl). This new online feature consists of materials intended to help instructors teach plant biology courses. Each topic includes a short essay introducing the topic, with suggested further readings, and a PowerPoint lecture with handouts, and each is fully customizable. The materials are peer reviewed by leaders in the field to ensure accuracy. Teachers who Nan spoke with were eager to use the inaugural Teaching Tool, "Why Study Plants?" with their elementary through undergraduate students. (Yes, this resource, authored by *The Plant Cell* features editor Mary Williams, really is *that* flexible!) Others left the booth newly empowered to defend plant biology curriculum to their departments and institutions by using the "Why Study Plants?" PowerPoint in their next planning meetings.

On Friday, November 13, ASPB was fortunate to have local talent Janice Stephens (Colorado State University) help out for the day. Janice shared information about her "Classroom Activities in Plant Biotechnology" (http://www.apsnet.org/education/K-12PlantPathways/TeachersGuide/Activities/PlantBiotechnology/default.htm) with booth visitors, all while literally digging in to help them plant Lilliput Garden necklaces and assemble the ever-popular make-and-take 5× microscopes. As ever, Jane, Jan, and ASPB staff member Katie Engen worked in tandem with Janice to explain the myriad handouts and activities developed by ASPB and its members. Everyone also took time to attend conference sessions, network with like-minded biologists, and catch up with long-term colleagues in order to fully experience the conference and expand on connections that will help the Society continue such fruitful outreach.

Jan Haldeman (far right) is happy to share effective plant biology labs.

Throughout the conference, one big draw to the ASPB booth was the variety of plant biology videos playing for all to see. The first presentation was a montage of ChloroFilms videos created from former ASPB president Dan Cosgrove's 2008 GAP award project (http://aspb.org/education/foundation/gap.cfm). These widely appealing YouTube-based videos and information about the 2009–10 video competition entries are available at www.ChloroFilms.org. Many booth visitors also welcomed learning about the museum-quality media display s*L*owlife (http://plantsinmotion.bio.indiana.edu/usbg/toc.htm), created by GAP winner Roger Hangarter. This classically styled presentation nicely complemented the YouTube videos.

Despite the freezing air sweeping across the high Colorado desert and nearby mountains to blow away the idyllic 73-degree sunshiny days, things continued to heat up at ASPB's booth.

By Saturday, supplies were dwindling, although we still had "The 12 Principles of Plant Biology" (http://aspb.org/education/foundation/principles.cfm) handouts, some "I LOVE PLANTS" visors, and beautiful grape cluster/flavanoid posters to give away. These items were generously provided by the ASPB Education Foundation; the Meetings, Marketing, and Membership department; and the Publications department, respectively. Meanwhile, fans of the videos, teaching materials, and PowerPoints brought their friends and colleagues back to the booth as new recruits for using our resources. Repeat customers and word-of-mouth referrals kept the booth buzzing until the final noontime bell.

ASPB made many contacts during the NABT event, and various follow-up projects will ensue. One specific project that excites many in ASPB outreach leadership is the next stage of the "12 Labs for 12 Principles of Plant Biology" project created by Jane Ellis, Jeffrey Coker, and Mary Williams, with

continued on page 22

New Research Success for "Old" SURF Winners

Amy Schroeder (SURF '07) and Edgardo Bresso (SURF '08)

Since 2001, ASPB has sponsored Summer Undergraduate Research Fellowships (SURF; http://www.aspb.org/education/undergrad.cfm) to provide up-and-coming undergraduates with bona fide plant biology research experience. ASPB's SURF organizers are pleased to announce that two SURF alumni recently have experienced notable successes in research and publication.

Amy Schroeder

Amy Schroeder won her SURF award in 2007. Since then she has published in two journals. She was the first author on a paper published in *Phytochemistry* (1). One of Amy's coauthors was Dr. Joe Jez, her SURF mentor.

Joe Jez sent notice of this publication because he believes "it's good for [ASPB] to know what the students are up to. Their accomplishments will help keep support for this great program."

More recently, the *Journal of Biological Chemistry* (JBC) published another paper for which Amy was the lead author (2). This JBC article included a footnote appended to Amy's name that reads: "A.C.S. was supported in part by an American Society of Plant Biologists Summer Research Fellowship." This small note speaks volumes (and ASPB thanks Amy and Joe for ensuring that the footnote appeared) because it is important that participants acknowledge an ASPB initiative such as SURF as they present findings to others beyond the Society's membership.

Joe commented about this success, "Amy did a great job both as a researcher and as a mentor to two high school students who helped on this project. I am grateful to the ASPB SURF program for providing her support."

Amy had this to say:

> I'm very excited that my work in Dr. Jez's lab led to the publication in the *Journal of Biological Chemistry*. I'm also thankful for receiving my SURF fellowship, which allowed me to conduct my research in Dr. Jez's laboratory and helped me gain admission into graduate school. This will undoubtedly aid me as I progress in my scientific career at UC-Davis.

Edgardo Bresso

Edgardo Bresso was a 2008 SURF winner. His SURF experience was notable from the beginning simply because he was one of a small but growing number of applicants from outside the United States. Indeed, Edgardo's success has spurred additional international interest in the SURF program. Being from Argentina, Edgardo also needed to meet the SURF requirement of 10 weeks of consecutive "summer" research while working within the parameters of his Southern Hemisphere school schedule. Obviously, the additional juggling did not interfere with Edgardo's progress.

Edgardo's SURF mentor, Javier Palatnik, reports that Edgardo has collaborated on a paper published in *The EMBO Journal* (3). The research for this paper was completed in Javier's molecular biology lab at the IBR Institute of Molecular and Cellular Biology in Rosario, Argentina. Edgardo's contributions to the paper were catalyzed in part by his SURF research experiences. In fact, part of his SURF project, titled "Structure–Function Relationships in miRNA Processing in *Arabidopsis thaliana*" was included in the published piece.

Edgardo reports:

> I am really grateful to the Society and would also like to say that attending PB2009 allowed me to contact many great scientists (and future great ones) and to complete this very fulfilling experience.

Currently, Edgardo is a PhD student in Dr. Palatnik's lab at the Institute of Molecular and Cell Biology of Rosario. Edgardo says, "The title of my running project is 'Biogenesis and Activity of miR319 in *Arabidopsis thaliana*,' so I am now trying to see what is going on downstream of the miR319 precursor processing that I studied during the SURF fellowship."

ASPB SURF cochairs Amy Clore and Ken Helm congratulate Amy and Edgardo for these initial successes in what is sure to become a continuing list of professional research accomplishments for them both. The SURF cochairs are equally pleased to have such clear evidence that the primary goal of inspiring students to pursue careers in plant biology is being met through ASPB's SURF program.

The 2009 SURF award winners are featured in the newsletter archives, along with all other past winners. Applications for the 2010 SURF program will be accepted through February 26, 2010. Each 2010 SURF award includes a $4,000 undergraduate student summer research fund, a one-year student membership to ASPB, and $575 toward SURF awardee travel to Plant Biology 2011 in Minneapolis. A $700 mentor stipend (which can include supplies from the mentor) is also awarded. All SURF mentors must be members of ASPB. More details can be found on our SURF page (http://www.aspb.org/education/undergrad.cfm).

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continued on page 22

Old SURFers
continued from page 21

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Katie Engen
ASPB Education Foundation Assistant

Ed Booth at NABT
continued from page 20

funding from the ASPB Education Foundation's GAP program. NABT booth visitors eagerly volunteered to test six of the 12 labs in their own classrooms. This invaluable evaluation will greatly facilitate the completion of this project. If all goes well with this final round of data collection, all 12 labs should be ready for public access by the time biology teachers are preparing for their fall 2010 classes. Information on how to access the labs will be available on the ASPB education page (http://www.aspb.org/education) as soon as possible.

ASPB will next sponsor an outreach booth this February at AAAS Family Science Days in San Diego, Calif. Happily, this booth is fully staffed by ASPB volunteers and invited guests from the Huntington Botanical Gardens in Pasadena, Calif. The NSTA Annual Meeting (March 18–21) is the next opportunity to volunteer in a booth. If you are near Philadelphia and available to volunteer during any part of this exciting, teacher-packed event, please contact Katie Engen at katie@aspb.org.

Katie Engen
ASPB Education Foundation Assistant

Genomics Digital Lab Wins 2009 UN World Summit Award

ASPB Member David Salt Is Game's Originator

The interactive simulation game Genomics Digital Laboratory (GDL; http://www.genomicsdigitallab.com/gdl/default.cfm) has won the e-Science and Technology category of the United Nation's 2009 World Summit Award (WSA; http://www.wsis-award.org/winners/winners.wbp). The WSA contest was devised to find and honor projects that prove new media can contribute to a better world.

Upon learning of this honor, GDL project originator (http://aspb.org/education/GDLProject.CFM) and ASPB member David Salt (Purdue University; http://www.ag.purdue.edu/hla/Pages/default.aspx) remarked, "Funds from the ASPB Education Foundation's Grant Awards Program (http://www.aspb.org/education/foundation/gap.cfm) helped my codevelopers, Jon Bricker and Tommy Sors, and me kick off this excellent project that Jeremy Friedberg (Spongelab Interactive; http://www.spongelab.com/html_index.html) is now carrying forward."

GDL is a series of curriculum-aligned and integrated games and simulations covering an array of topics in biology. GDL offers a continually expanding interactive online environment where users discover how to manipulate various internal and external factors to help a dying plant survive. In particular, the game provides experience with intricate components of life science, offering real-time feedback on interactions among three-dimensional, interdependent nuclei, chloroplasts, and mitochondria. Images and more information on GDL are available in a video clip at http://www.genomicsdigitallab.com/gdl/media/newsclip.html from Canadian Television (CTV; http://www.ctv.ca/about/).

To win this award, GDL triumphed over 22,000 other global competitors. These competitors are gathered by WSA's Eminent Experts working in many countries (http://www.wsis-award.org/wow.wbp). The experts find and judge the media-based projects that use best practices in e-content and information and communication technology (ICT) applications. Winners of these national contests are submitted by the experts for the final WSA competition. No other form of entry is accepted. One overall WSA champion is named for each of eight categories in the contest. According to the WSA, champions tend to be particularly adept at synthesizing useful functions with quirky components that both gain and sustain attention.

Prior to the WSA, GDL was a first-place winner in the NSF 2008 Science and Engineering Visualization Challenge (http://www.aspb.org//newsletter/novdec08/17edsalt.cfm). GDL also won the Websites category of the Fall 2009 Parents' Choice Award (http://www.parents-choice.org/product.cfm?product_id=26631&StepNum=1&award=aw) and received an Honorable Mention in the Education category of the 2009 Adobe Max Award (http://max.adobe.com/awards/honorable/).

The commercial version of GDL is available for purchase at the Genomics Digital Lab site. ASPB provides free online versions of the GDL chloroplast, mitochondria, and nucleus modules at http://aspb.org/education/GDLProject.CFM.

Katie Engen
ASPB Education Foundation Assistant

Roger Hangarter
continued from page19

a subsequent major grant from the National Science Foundation and a 2005 installation at the U.S. Botanic Gardens on the National Mall (http://www.aspb.org/newsletter/janfeb06/18slowlife.cfm), helped firmly establish the standards and success of the GAP program for all future applicants. Roger also has played an active role in helping *A Moment in Science* (AMOS; http://indianapublicmedia.org/amomentofscience/) obtain funding from ASPB's Good Works and GAP programs. AMOS provides radio shows and podcasts that tell "the scientific story behind some of life's most perplexing mysteries." Roger helped ensure that plant biology was included in this audio anthology.

Roger became more directly involved with the Education Foundation in 2003 when he accepted a term to serve on the board. This term ended just as his new role as Foundation chair has begun. Certainly with such in-depth and varied leadership experience, Roger will do much to enrich the Society's outreach initiatives.

Please send comments and ideas regarding the Foundation's initiatives to the foundation assistant, Katie Engen, at katie@aspb.org.

Katie Engen
ASPB Education Foundation Assistant

ASPB Summer Undergraduate Research Fellowships (SURF)

The 2010 SURF Application Process Is Now Open

SURF fellowships are designed to assist promising undergraduate students in conducting meaningful research in plant biology early in their college careers. Ideally, students should conduct 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 interest in plant biology will also be considered. Undergraduates needing more or less than the standard four years to earn a degree may still be eligible. Students must work with a mentor who is an ASPB member. All students (including any following nontraditional yearly calendars or in the Southern Hemisphere) will complete their SURF research over a consecutive 10-week period in preparation for presentation at Plant Biology 2011, August 6–10, in Minneapolis, Minn.

Funding

Each fellowship provides a $4,000 student stipend; $700 for mentor's lab supplies; a one-year student membership in ASPB; and a $575 travel allowance to attend the ASPB national meeting. The student must be a coauthor of an abstract registered at the conference to qualify for the travel money. Students traveling excessive distances for unusually high fees or who have very limited travel resources may contact Katie Engen (katie@aspb.org) to initiate a special case for additional travel funds.

Eligible Students

Application is open to all undergraduate students who are enrolled full-time and seeking a degree. International students or students following nontraditional academic calendars will have the opportunity to define their status on the application. Applicants must propose a research project to be pursued in the laboratory of a faculty mentor. Applicants may not receive other direct financial support for their research (institutional stipend, Sigma Xi Grants-in-Aid of Research, Council on Undergraduate Research Fellowship, etc.).

Selection Criteria

Competitive student applicants should have high academic achievement, strong motivation for research, skills for conducting the research, and career objectives relevant to the aims of the fellowship program.

Faculty Mentors

Students cannot apply without first securing a mentor. A mentor must be a member of ASPB and have an ongoing research program. Mentors should demonstrate a commitment to undergraduate education and research and be conducting a research program that is of high scientific merit. Mentors will actively guide the student's proposal writing and so must be secured at the onset of the project.

> **Need a Mentor?** Students without plant biology faculty at their home institution may apply to SURF by collaborating with a mentor at another institution. Such students are encouraged to seek a mentor by checking ASPB's Diversity Bank at http://www.aspb.org/committees/minorityaffairs/DiversityBank/ or reviewing the list of institutions with plant biology programs at http://www.aspb.org/resourcelinks/scripts/cats2.cfm?cat=34. If needed, further assistance for finding a mentor can be initiated by contacting Katie Engen (katie@aspb.org) very early in the process (prior to writing the proposal). A mentor cannot be found at the deadline.

Proposal Evaluation

The proposed SURF project should clearly support and enhance the goals of the mentor's ongoing research program, be appropriately targeted for undergraduate work, and guarantee the student regular access to appropriate research facilities. Preference is given to proposals that demonstrate the mentor's close supervision along with the institution's financial commitment to the work.

ASPB supports undergraduates at all types of institutions. Therefore, the proposals are grouped according to the applicant's institution type within the Carnegie classification scheme. Group A is for research and doctoral universities. Group B is for all other colleges and universities. The number of proposals awarded funding in each group will be weighted according to the number of proposals received. The Carnegie Foundation has updated its system to include more classification factors. Applicants who cannot designate Group A or B can find their school's category at http://www.carnegiefoundation.org/classifications/index.asp?key=807 or select a category from the list of institutional descriptions at http://www.carnegiefoundation.org/classifications/sub.asp?key=786.

Applications

Students and their mentors can apply online at http://www.aspb.org/education/summerundergrad.cfm.

SURF 2010 applications will be accepted December 14, 2009, through midnight (ET) February 26, 2010.

Questions?

Contact Katie Engen at katie@aspb.org or 301-251-0560, ext. 116.

A. Carl Leopold—A Very Nice Man

December 18, 1919, to November 18, 2009

On Wednesday, November 18, 2009, Carl Leopold drew his last breath. Carl died in the home he shared with his loving wife and soulmate Lynn. They lived in a warm and rustic home filled with music and constructed from the lumber milled from the mature white pine trees that Carl planted as saplings with his father, Aldo Leopold. On the day of his death, Carl was working on two papers—one on the phenomenon of memory in plants and another, with his sister Nina Bradley, on an update on the phenology of Sauk County, Wisc. (1).

Carl Leopold

Aldo Carl Leopold was born on December 18, 1919, in Albuquerque, N.M., where his father was working for the U.S. Forest Service and where his mother, Estella, had deep cultural roots. The family moved to Madison, Wisc., in 1924. Carl was a teenager when his father acquired the famous "shack" on an abandoned farm on the banks of the Wisconsin River. There he worked with the family to convert a chicken coop into a cottage and to plant trees and native prairie plants in the famous experiment of land reclamation his father described in *A Sand County Almanac* (2). Carl's early fascination with photography provided many of the images we have of the transformation of the shack and surrounding farmland.

Carl received a bachelor's degree in botany from the University of Wisconsin in 1941. He enlisted in the Marines during World War II and served in the Pacific. There he was unexpectedly asked to serve as defense counsel in courts martial for soldiers who were charged with being AWOL. Even more unexpectedly, he won these cases and became a hero to the enlisted men. After this brief legal career, Carl went to Harvard to study plant physiology with Kenneth Thimann. After completing his MS and PhD at Harvard, he worked briefly in industry, for the Hawaiian Pineapple Company, before he joined the faculty of Purdue University in 1949. In 1975, he was appointed graduate dean and assistant vice president for research at the University of Nebraska. In 1977, he moved to the Boyce Thompson Institute for Plant Research in Ithaca, N.Y., as William H. Crocker Scientist. He officially "retired" in 1990 but remained very active in science and environmental issues.

Carl has worked in basic and applied research. His first book, *Auxins and Plant Growth* (3), made him the unofficial ambassador of basic research to the scientists working in applied aspects of horticulture and agronomy. He also created the textbook *Plant Growth and Development* (4) to "first develop the student's reliance on experiments in forming generalizations about his science; second to depict science as a complex of imperfect approximations derived by the scientific method; and third, to reorganize the subject to make it more nearly representative of modern plant physiology in the laboratory and in the field." While this is the way plant physiology courses are currently taught, earlier plant physiology textbooks indicate that this was a revolutionary idea in 1964. By initiating this exciting approach, Carl inspired three generations of plant physiologists.

Carl made significant contributions to a number of areas in plant physiology, including flowering, apical dominance, phototropism, gravitropism, thigmomorphogenesis, fruit set, photoperiodism, phytochrome, dormancy, germination, growth, transpiration, translocation, stomatal regulation, mineral transport, membrane permeability, respiration, wounding, desiccation tolerance, chilling and water stress, and the physiology of auxins, gibberellins, abscisic acid, ethylene, and cytokinin. Through hard work accompanied by a sense of joy and purpose, he made many of the discoveries that form the foundation of our knowledge of how plants function—discoveries that are now considered to be self-evident facts. It would be possible to teach a comprehensive and intelligible plant physiology course based exclusively on the work of Carl and his students. We have elaborated on some of Carl's many outstanding contributions in the online version of this tribute (http://www.aspb.org/newsletter/janfeb10/14leopold.cfm).

Carl continued to work as a plant physiologist in the new millennium. Along with his dear colleagues and fellow retirees, Mark Jaffe and Dick Staples, Carl worked on the physiology of contractile roots (5) and the mechanism of thigmomorphogenesis (6).

Carl did not restrict his creative scientific energies to doing experiments and writing them up. He also wrote extensively about the scientific process (7), the structure of the scientific community (8) and the role science has played in determining the ethics of our society (9). At a time when science was increasingly being guided by financial interests, Carl remained dedicated to ethical thinking followed by intentional action and to science as a means of discovery and enlightenment.

continued on page 26

Carl Leopold
continued from page 25

Carl joined ASPP in 1948 and became an emeritus member in 1990. He was vice president in 1959 and president in 1966. He served on the editorial board of *Plant Physiology* for 14 years. He was a regular contributor to the journal and to this newsletter. He championed the cause of plant physiology as the representative of ASPP to AAAS, PGSA, NASA, and BSA. As a plant physiologist, he served the nation by being a senior policy analyst in the staff of the Science Adviser to the President during the Ford administration (1974–1975), provided testimony before the U.S. House Committee on Science and Technology (December 1980 and February 1982), and served as a consultant to the National Science Foundation, Division of Policy Research and Analysis (1975–1977). In 2000, when Carl received the Golden Medal of the Royal Galician Academy of Science, in Santiago de Compostela, Spain, he gave his acceptance speech in Spanish. In 1994, he was awarded the ASPP Charles Reid Barnes Life Membership Award for his wide-ranging and deep contributions to the Society and to plant physiology itself. This past summer, the American Society of Plant Biologists again honored Carl as a physiologist and a citizen when it made Carl an ASPB Fellow.

As a conservationist, Carl was active in the Aldo Leopold Foundation, founding president of the Finger Lakes Land Trust, and a board member of the Black Locust Initiative. In 1992, he cofounded the Tropical Forestry Initiative, a nonprofit organization that is notable as a demonstration project for the reforestation of tropical land with native forest tree species. Much of the 350 acres has been reforested with over 40,000 seedlings, which came predominantly from a native tree nursery Carl began. Carl measured and documented the growth of these huge tropical trees just as he measured and recorded the growth of the pines he planted with his father 60 years earlier. Carl's daughter Susan has continued the Leopold legacy through a reforestation project in her home state of Washington.

On the day he died, Carl was actively trying to preserve the integrity, stability, and natural beauty of Ithaca and its surrounds by preventing the possible use of horizontal drilling, hydrofracking, and storing toxic wastes in an attempt to extract natural gas from the Marcellus Shale. Carl was buried in Greensprings Natural Cemetery, of which he was a cofounder. In this last initiative, he completed the circle begun by his father's quest to understand how to live on the land without spoiling it. Carl's molecules and minerals will be recycled into the fruits of the native bushes that will feed the native birds and provide energy for their songs. Carl's spirit will live on within all who knew him.

Carl was not only a phenomenally talented and broad thinker with an enormous number of influential and lasting scientific accomplishments under his belt, but he was also a very kind and gentle person. He had an enormous curiosity and a genuine interest in other people and their ideas. Carl was a really good man. He loved the study of life; he believed in life, and he made the lives of those around him better. We will miss his heartwarming smile and his infectious enthusiasm for life.

Carl grew up with strong personal roots in the natural world and in the Land Ethic of his father, and after growing his own youthful sapwood, colorful heartwood, and thin latewood, Carl became a mighty and graceful trunk that nurtured and enthusiastically supported many plant physiologists and conservationists who consider themselves to be "Leopold leaves" on the tree of Carl's life.

Mark Staves
Grand Valley State University

Randy Wayne
Cornell University

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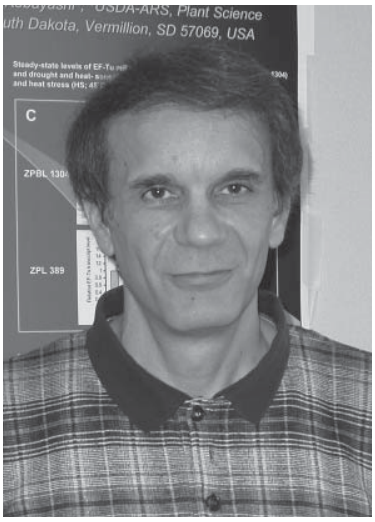
Zoran Ristic



Zoran Ristic

Zoran Ristic died October 18, 2009, after a courageous battle against stomach cancer. Zoran was a long-time member of ASPB and was respected for his innovative research on mechanisms of abiotic stress tolerance, especially for his work on drought and heat tolerance in maize and wheat. Zoran's enthusiasm for life and his passion for research were contagious and helped make him an unforgettable colleague and inspiring mentor to his students.

Zoran was born in Belgrade, Yugoslavia, in 1953 and received both BSc and MSc degrees in biology at the University of Belgrade. He moved to Canada in 1987 and began his studies of drought and heat resistance in maize, working in the lab of Dave Cass at the University of Alberta. A talented physiologist and skilled microscopist, Zoran sought to develop a comprehensive picture of stress response in maize. He earned his PhD in plant structure and development in 1992, and then went on to a successful postdoctoral collaboration with Ed Ashworth at Purdue University. There, Zoran used his microscopy skills to study freezing tolerance and developed a new technique to fix woody tissues for electron microscopy using freeze substitution. In 1993, Zoran was hired at the University of South Dakota (USD), where he spent 12 years, rising to the rank of professor of biology. While at USD, Zoran received the inaugural President's Award for Innovation and Entrepreneurship, but he is mostly remembered for the enthusiasm he brought to every aspect of his work, the excitement he shared with his students in both classroom and lab, and the delight he took in the research process.

In 2005, Zoran moved to a position with the USDA-ARS in Manhattan, Kans., where he was able to focus solely on his goal of developing drought- and heat-resistant crop plants. The course of Zoran's research career was set during his dissertation studies when he found that a 45 kDa heat shock protein produced by a drought- and heat-tolerant line of maize was absent from sensitive lines. Zoran spent much of his career establishing the linkage between this protein and thermotolerance in maize, and later in wheat. His research group identified the protein as a chloroplast protein synthesis elongation-factor, EF-Tu, and showed that heterologous expression of the maize EF-Tu could enhance heat tolerance in *E. coli*. With his students, Zoran further established that EF-Tu was an effective chaperone protein, limiting thermal denaturation of other proteins in vitro and in vivo. Zoran's research on EF-Tu was used to develop new lines of maize and wheat that might improve crop yield under conditions of drought and heat stress, bringing to reality his vision of helping farmers feed the world as the planet warms.

Zoran was passionate about science but never neglected other aspects of his life. He was devoted to his wife, Mira, and their two daughters, Anna and Maya, and he shared his love of travel and fine food with them. Zoran was also passionate about soccer and helped train youth soccer teams in South Dakota. He was a member of the United States Youth Soccer Association, from which he proudly received his National "D" Coaching License. Zoran was also an avid tennis player and member of the United States Tennis Association.

Zoran was devoted to research and was always eager to share his passion with students and colleagues. While at the University of South Dakota, he mentored graduate students and postdoctoral researchers, and he engaged numerous undergraduates in the research process. To honor Zoran's passion for research, the USD Biology Department is establishing the Ristic Research Award, a competitive grant program for graduate students seeking funding for their research. Donations in Zoran's memory can be made to the USD Foundation Biology Research Fund. Although Zoran can no longer bound down the hallway to share his latest research findings with us, his memory will remain forever in the minds of his friends and colleagues.

Karen L. Koster
University of South Dakota

Jan Zeevaart


Jan Zeevaart

Jan A. D. Zeevaart, a University Distinguished Professor Emeritus at Michigan State University and a member of the MSU–DOE Plant Research Laboratory since 1965, died on November 25, 2009, of complications from pancreatic cancer.

Jan wrote a prefatory chapter on his career for the 2009 volume of the *Annual Review of Plant Biology* (1). In this perspective, he discusses both the scientific directions he took throughout his long career in plant biology and growing up on a farm in the Netherlands (which included the Nazi occupation that began when he was 10 years old). We encourage our ASPB colleagues to read Jan's interesting and beautifully written chapter.

Beginning with his PhD work at the Agricultural University in Wageningen, Jan's career was characterized by doing experiments that resolved key scientific questions. For his thesis work, he set out to address a controversy in the photoperiodic regulation of flowering. It was known that leaves perceived photoperiod and that leaves signaled the meristem to initiate flowering. There were, however, two schools of thought as to the nature of this signaling. One was that leaves made an inhibitor of flowering in non-inductive photoperiods and that flowering occurred in inductive photoperiods because the levels of an inhibitor decreased. Jan's thesis adviser, San Wellensiek, supported this hypothesis. The other view was that inductive photoperiods caused leaves to produce a promoter of flowering. Jan resolved this issue using a series of elegant grafting experiments in several plant species. His results clearly showed that in many plant species, inductive photoperiods caused leaves to produce a flowering promoter (which was called florigen). For this work, Jan received an award for the best PhD thesis of 1958 at the Agricultural University. One of the many intriguing discoveries in his thesis was that once leaves of *Perilla crispa* began making florigen when triggered to do so by exposure to inductive photoperiods, they never stopped making florigen—even if shifted to a non-inductive photoperiod. On the next page is an illustration from Jan's thesis summarizing the results of these classic experiments with *Perilla,* and a photograph of *Perilla* leaves grafted to stems that Jan took many years after his thesis work. Note the triangular shape of the grafted leaves; Jan's experiments were always perfectly controlled—the leaves in his grafting experiments were trimmed to have identical surface areas.

After completing the PhD, Jan spent two years in the Dutch army in an intelligence unit. In 1960, after his military service was complete, he and his wife Riet went to Caltech, where Jan began a postdoc with James Bonner and Anton Lang. At Caltech, he explored the role of gibberellins in flowering and also discovered that the inability of *Bryophyllum daigremontianum* to flower during the juvenile phase resulted from the inability of leaves to make florigen rather than the inability of meristem cells to respond to florigen.

After the term of Jan's postdoc came to an end in 1963, he moved to McMaster University in Ontario, Canada. But in 1964, after less than two years at McMaster, Jan received an offer he could not refuse: Anton Lang, his former postdoctoral mentor who was moving from Caltech to become the founding director of the newly formed Plant Research Laboratory, offered Jan and a friend of his from Caltech days, Hans Kende, positions at the Plant Research Laboratory.

After joining the Plant Research Laboratory in 1965, Jan and his group continued work on the regulation of flowering. Much of this work initially focused on the isolation and identification of florigen, which of course proved to be an intractable problem until recently. Although not successful in isolating florigen, Jan's lab nevertheless made a number of important contributions to our understanding of the underlying physiology of florigen as well as several innovations that are still widely used today. For example, a method was developed to obtain significant quantities of phloem sap. This method involved the use of chelating agents such as EDTA or EGTA to suppress the Ca^{2+} induced sieve tube plugging that had been a major problem in phloem exudation experiments.

Jan is perhaps best known for his work on the regulation of gibberellin (GA) and abscisic acid (ABA) metabolism by environmental factors. Both lines of research had their origins in early work on the role of hormones in flowering. Numerous workers had demonstrated that exogenous GAs (primarily GA_3) were able to induce flowering in many long day and cold-requiring plants when applied in non-inductive conditions. These results led to the hypothesis that a GA was florigen. Jan's lab provided considerable evidence that this was not the case. Part of this evidence was based on the observation that while inductive conditions led to changes in the metabolism of GA-like substances in the long day rosette plants *Silene armeria* and spinach, these changes were more closely correlated with the bolting (rapid stem elongation) response than flower initiation. These early results led Jan down an extremely productive 35-year "sidetrack" on elucidating the regulation of GA metabolism and its relationship to the photoperiodic control of stem elongation in spinach. What is remarkable is that these studies incorporated state-of-the-art techniques and experimental approaches from analytical chemistry, to biochemistry, to molecular biology. Jan, who was trained as whole plant physiologist, was always willing to learn any new technique or experimental approach that would help to answer the question he

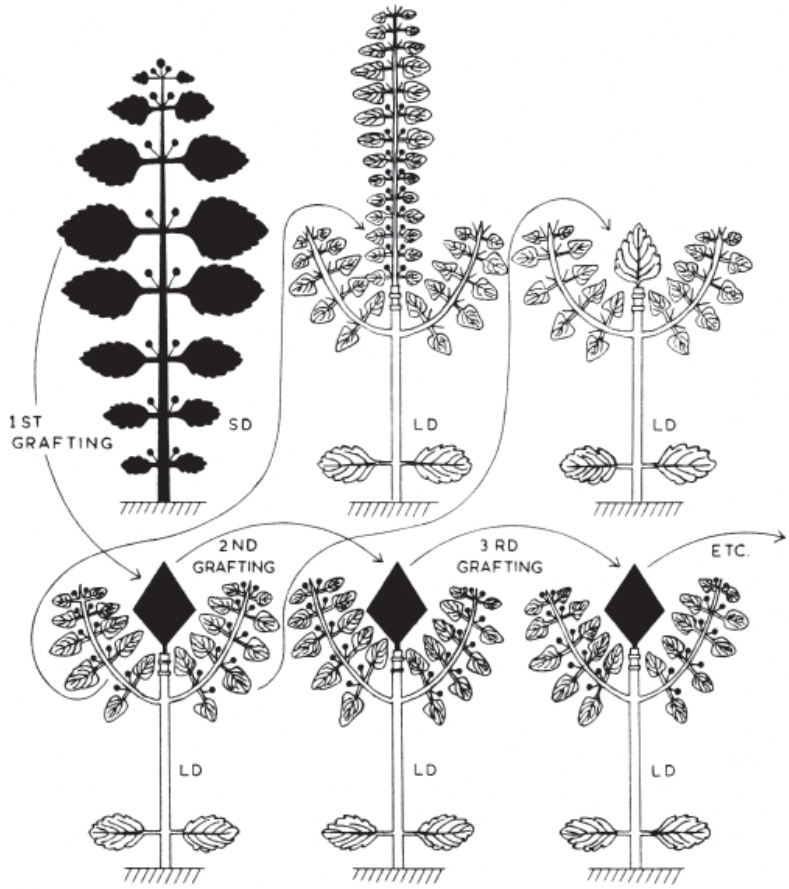
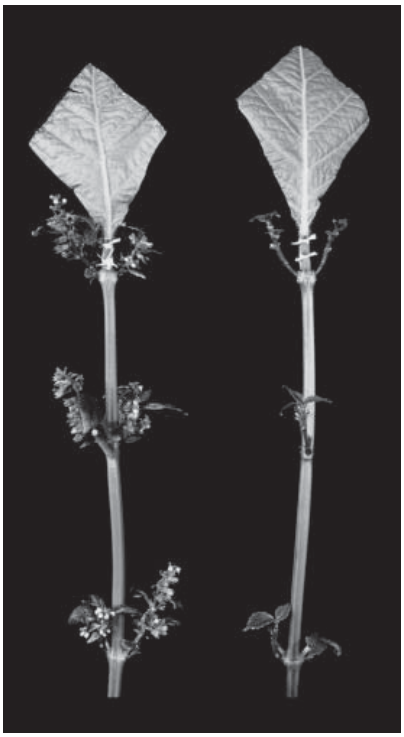


Figure 9 from Jan Zeevaart's PhD thesis illustrates some of his grafting studies in *Perilla crispa,* a member of the mint family that flowers in short days. The Figure 9 legend: "Diagram of grafting and re-grafting one and the same donor leaf onto several long-day-grown stocks in succession; all stocks are induced to flower. An indirectly induced shoot does not function as a donor. Leaves in black are induced (by exposure to short days). SD = short days; LD = long days."



Perilla crispa plants with leaf grafts. The plant on the left received an induced leaf, and that on the right received a non-induced leaf. The grafted leaves were trimmed so each was of identical area. The leaves of recipient plants were removed prior to grafting so that the axillary buds would be "fed" by the grafted leaf.

was addressing. For example, Jan and his coworkers were leaders in the analysis of GA and ABA metabolism by incorporating new (at the time) technologies such as HPLC, GC, and GC-MS.

Similar to the GA work, Jan's well-known work on ABA metabolism had its origins in the possible role of ABA in flowering. Work from P. F. Wareing's lab suggested that ABA might be a natural inhibitor of flowering that accumulates in non-inductive conditions preventing flowering. Jan tested this hypothesis in spinach and found that ABA actually *accumulated* in inductive long days. During the course of one experiment he noticed that several plants wilted and that this was correlated with a substantial increase in endogenous ABA levels over those in the non-wilted plants. This discovery, which Jan describes as serendipitous, marked the beginning of our understanding the role of ABA in plant stress responses.

When Jan began his ABA work, the biosynthetic pathway by which ABA was made in plants was not known. ABA is a terpenoid, and there were two competing hypotheses as to its biosynthetic pathway. One was that ABA was assembled from smaller isoprene units. The other hypothesis suggested that ABA was derived from the cleavage of a 40 carbon precursor such as violaxanthin to produce xanthoxin that could then be catabolized to ABA.

The use of a stable isotope of oxygen ($^{18}O_2$) applied to stressed leaves provided key evidence that ABA was derived from a larger precursor such as a C40 xanthophyll. Further work by Jan and coworkers subsequently filled in the pathway from violaxanthin to ABA, including characterizing the enzyme responsible for the cleavage of certain xanthophylls to produce xanthoxin. Furthermore, they discovered that induction of the gene encoding this enzyme by drought was an initiating event in establishing drought tolerance.

Jan set very high standards for the quality of data generated by people working in his lab, but no higher than those he had for himself. When data were generated that did not fit into models currently in style, Jan would apply his high standards quite vigorously. It was hard to convince Jan without rigorous

continued on page 30

Jan Zeevaart
continued from page 29

evidence, but, in the end, good data trumped all. Although Jan would critically evaluate data and how they were generated, he always did so positively and constructively.

Over the last few months, a large number of emails were exchanged between former coworkers in his lab. We recalled that while in his lab we may have complained about Jan's idiosyncrasies, but we all learned so much from him. In fact, a common theme that emerged was that we all owed much of our careers to Jan and to trying to emulate his approach to research.

In addition to being an effective mentor in the laboratory, Jan was an excellent classroom teacher. For many years he taught a graduate course in plant growth and development that influenced the careers of many plant biologists who were fortunate enough to take it.

Jan's contributions were widely recognized, and he received many awards during his career. In 1974, he was elected as a corresponding member of the Royal Netherlands Academy of Arts and Sciences and in 1998 was elected as member of the U.S. National Academy of Sciences. He received the Stephen Hales Prize from the American Society of Plant Physiologists in 2000 and in 2007 was one of the inaugural group to be named a Fellow of the American Society of Plant Biologists. He served for many years on the editorial board of *Plant Physiology* and many other journals.

Jan is survived by his wife of 54 years, Riet, and their son, Scott, his wife Brenda, and their son, Luke Zeevaart.

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Richard Amasino
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Michigan State University

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Ohio State University

New Chapters!

The Arabidopsis Book Posts New Content!

The American Society of Plant Biologists has published *The Arabidopsis Book* (TAB) as a free online compendium since 2002. ASPB is providing funds for the production of TAB as a public service.

Founded by Chris Somerville and Elliot Meyerowitz, TAB now has more than 60 chapters online and receives nearly 100,000 full-text downloads every year.

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