President’s Letter

Election 2009!

This letter will have two parts. The first part is a plea to vote in the upcoming ASPB elections. This year, members are asked to vote to elect the next president-elect of ASPB, who will succeed Tuan-hua David Ho when he becomes president on October 1, 2009. Members are also asked to vote for an ASPB secretary to succeed Danny Schnell, who will be completing his two-year term as secretary, and for an elected member of the Executive Committee to succeed Steve Huber, who is concluding a three-year term.

The voting process is straightforward. On April 17 the ballot will be posted on the voting web page at http://www.aspb.org/voting and snail-mailed to those members who have requested paper ballots. Biographical information about the candidates will be available both online and on the paper ballots. Voting is a simple matter of filling out the electronic or paper ballot. I’m pleased to report that membership reached a new high point in voter participation in 2008, with a record 45% of the membership participating in the voting process. With your help, we can exceed this percentage in 2009.

Regarding ASPB elections, back in the spring of 2006, I had a funny conversation with a plant biology colleague. He urged me to become more involved in ASPB, and suggested that I should perhaps consider serving on an ASPB committee. At that point in time, I had just been elected as the next ASPB president-elect. When I advised him of this fact, he said, “Oh, I just delete those e-mails from ASPB—I never read them!” So, please, don’t be like my friend! Read the e-mails that arrive in your inbox regarding the voting process, and vote! Your participation gives you a voice in the Society and helps to make our leadership representative of our members, as it should be. (And, by the way, quid pro quo, my esteemed colleague has now begun to serve, for the first time, as a member of an ASPB committee!)

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

**DTT:**
$39/10$ g (DTT10-ASPB) $259/100$ g (DTT100-ASPB)

**IPTG:**
$22/5$ g (I2481C5-ASPB) $309/100$ g (I2481C100-ASPB)

**Luciferin (Potassium or Sodium salt):**
- $69/100$ mg (LUCK or LUCNA-100-ASPB)
- $169/300$ mg (LUCK or LUCNA-300-ASPB)
- $399/1$ g (LUCK or LUCNA-1G-ASPB)

**X-Gal:**
$35/10$ g (X4281C10-ASPB) $140/10$ g (X4281C10-ASPB)

**X-Gluc:**
$39/100$ mg (G1281C-ASPB) $149/1$ g (G1281C1-ASPB)

**X-Alpha-Gal:**
$69/250$ mg (XA250-ASPB) $199/1$ g (XA1-ASPB)

**nominal shipping charge for 10 g DTT, <24g IPTG, 100 mg X-Gluc**

### Featured Antibiotics/Selective Agents:

**Ampicillin:**
$34/5$ g (A0104-5-ASPB) $90/25$ g (A0104-25-ASPB)

**Bialaphos:**
$199/100$ mg (B0178-100-ASPB) $472/250$ mg (B0178-250-ASPB)

**Carbenicillin:**
$50/5$ g (C0109-5-ASPB) $169/25$ g (C0109-25-ASPB)

**Cefotaxime:**
$45/1$ g (C0111-1-ASPB) $92/5$ g (C0111-5-ASPB)

**Chloramphenicol:**
$66/25$ g (C0113-25-ASPB) $106/100$ g (C0113-100-ASPB)

**G-418 Sulfate:**
$21/250$ mg (G-418-250-ASPB) $36/1$ g (G-418-1-ASPB)

**Glyphosate:**
$55/5$ g (G0158-1-ASPB) $143/5$ g (G0158-5-ASPB)

**Kanamycin:**
$52/2$ g (K0126-5-ASPB) $99/25$ g (K0126-25-ASPB)

**Phosphinothricin:**
$125/250$ mg (P0159-250-ASPB) $379/1$ g (P0159-1-ASPB)

**Rifampin:**
$51/1$ g (R0146-1-ASPB) $117/5$ g (R0146-5-ASPB)

**Spectinomycin:**
$53/5$ g (S0188-5-ASPB) $99/25$ g (S0188-25-ASPB)

**Streptomycin:**
$56/50$ g (S0148-30-ASPB) $71/100$ g (S0148-100-ASPB)

**Tetracycline:**
$55/25$ g (T0150-25-ASPB) $89/100$ g (T0150-100-ASPB)

**Ticarcillin/Clavulanate:**
$139/10$ g (T0190-10-ASPB) $331/25$ g (T0190-25-ASPB)

### Premium Pure Specialty Chemicals:

**Specials:**
- **Zeatin Riboside:**
  $161/50$ mg (Z-100-50-ASPB) $270/100$ mg (Z-100-100-ASPB)

**Protease Inhibitors:**
- **AEBSF:**
  $123/5$ g (A5440-1-ASPB) $337/5$ g (A5440-5-ASPB)

**PMSE:**
$85/5$ g (P4170-5-ASPB) $215/100$ g (P4170-100-ASPB)

**Luminescence:**
- **Coelenterazine:**
  $79/1$ mg (CZ1-ASPB) $225/10$ mg (CZ10-ASPB)

- **Coelenterazine 400a:**
  $92/2$ mg (C-320-1-ASPB) $175/2.5$ mg (C-320-2.5-ASPB)

**DMNPE- Caged Luciferin:**
$269/50$ mg (L-130-50-ASPB) $485/1$ mg (L-130-100-ASPB)

**DMNPE- Caged Luciferin(DL):**
$215/50$ mg (L-140-50-ASPB) $375/1$ mg (L-140-100-ASPB)

**Enzyme substrates:**
- **BCIP:**
  $90/500$ mg (B-500-50-ASPB) $140/1$ g (B-500-1-ASPB)

- **MUG:**
  $30/200$ mg (MUG200-ASPB) $99/1$ g (MUG1-ASPB)

- **NBT:**
  $78/1$ g (NBT1-ASPB) $141/2.5$ g (NBT2.5-ASPB)

- **Salmon Gal:**
  $55/100$ mg (SALGAL-100-ASPB) $160/500$ mg (SALGAL-500-ASPB)

- **TMB Dihydrochloride:**
  $142/5$ g (TMBHCL5-ASPB)

- **TMB Free Base:**
  $124/10$ g (TMBF-10-ASPB) $278/50$ g (TMBF-50-ASPB)

**Reducing Agents:**
- **DTE:**
  $129/25$ g (D-260-25-ASPB) $217/50$ g (D-260-50-ASPB)

- **TCEP:**
  $95/10$ g (TCEP10-ASPB) $199/25$ g (TCEP25-ASPB)

**Detergents and Membrane Agents:**
- **n-Octylglucoside:**
  $65/5$ g (O-110-5-ASPB) $115/10$ g (O-110-10-ASPB)

- **n-Octylthiogluconate:**
  $142/5$ g (O-130-5-ASPB) $237/10$ g (O-130-10-ASPB)

***hazardous fees apply**
Let’s Go Hawaii!

Plant Biology 2009
The Joint Annual Meeting of the American Society of Plant Biologists and the Phycological Society of America
July 18–22, 2009
Hawaii Convention Center

Location, Location, Location!

As the most remote island group in the world, the Hawaiian Islands are separated from the mainland United States by more than 2,000 miles and a less quantifiable disparity in culture. Hawaii is composed of eight major islands—the Big Island, Maui, Kahoolawe, Molokai, Lanai, Oahu, Kauai, and Niilhau—and more than 120 other small islands and atolls. The so-called crossroads of the Pacific, the islands have developed into a unique environment of tropical enticements and a melting pot of cultures. Hawaii is a geological wonder, encompassing within its shores a wide variety of climates and ecosystems.

The awe-inspiring landscape includes rainforests brimming with tropical fruit and desolate remnants of lava flows, all backed by the thundering Pacific. The allure of the land has enticed voyagers from Polynesia, Europe, Asia, and beyond, and today Hawaii is the most ethnically diverse state in the United States (2007 edition travel guide, Let’s Go Hawaii).

This most beautiful setting is the site for Plant Biology from July 18 to 22, 2009. All that Hawaii has to offer—in addition to the symposia, minisymposia, postconference workshop, specialty workshops, poster sessions, and exhibits—makes this journey to the islands a must for every ASPB member!

Want a free guide to Oahu or any other island? Go to http://www.gohawaii.com.

Hawaii on $25 a Day!
Cheap Eats and Where to Find Them

Whether you plan to stay in Waikiki or nearby, there are many small restaurants and markets where you can find great food and good prices. Below are some that are near the Hilton Hawaiian Village and the Convention Center.

Wailana Coffee House
A 24-hour diner, located across from the Hilton Hawaiian Village Waikiki, on the corner of Ala Moana Boulevard and Ena Road. Award-winning, locally owned establishment that’s been there for years. Cheap eats (most items under $10) and broad menu selection. Great portions and service.

Ala Moana Center
Just a few minutes’ walk from the Hawaii Convention Center is Hawaii’s largest shopping center and home to many different cuisines in all price ranges. A complete list can be found at http://www.alamoanacenter.com/diningdirec.htm. A real favorite is the department store Shirokiya. Ala Moana has a food corner located on the second floor that features great inexpensive Japanese and Korean foods. It also has a special buffet from 3:30 p.m. to 8:00 p.m. every Monday through Saturday.

Not into Japanese food? Don’t worry—the food and beverages at the Ala Moana Center offer a great diversity of cuisines.

Not Your Mainland McDonald’s
Even if you wouldn’t be caught dead eating a Big Mac, this fast food place on Oahu offers more than just standard fast food fare. Dishes include rice and noodle offerings. Check them out and eat well for just a few dollars.

And there are more . . . just Google “cheap eats in Oahu” for a list of places that offer economical meal deals.

To find out more about the most economical eating spots where you are staying, check out the many travel sites online such as http://www.traveladvisor.com or just do a Google search—we found lots.
Travel Info

Escape to Paradise
Accommodations in Hawaii

Welcome to the island paradise of Hilton Hawaiian Village® Beach Resort & Spa. Located on Waikiki’s widest stretch of beach, this impressive property is set on 22 oceanfront acres, offering the perfect mix of exquisite hotel accommodations and classic Hawaiian hospitality.

A Classic Hawaiian Experience Within a Stunning Waikiki Hotel

Discover the unique environment and culture of Hilton Hawaiian Village® Beach Resort & Spa—our exquisite Waikiki hotel. Imagine lush tropical gardens, waterfalls, exotic wildlife, and beautiful artwork. This one-of-a-kind Honolulu hotel resort is the only true resort property in Waikiki. Relax in the luxurious accommodations. Dine in more than 20 restaurants and lounges. Purchase the perfect souvenir. Enjoy a full range of activities for the entire family. Embark on an adventure of a lifetime, just steps from your door.

- Set on 22 oceanfront acres
- Over 2,800 beautifully appointed guest rooms and suites
- Just 20 minutes from Honolulu International Airport (HNL)
- Strolling distance to Hawaii Convention Center


Check out ASPB’s website for a special rate at the DoubleTree Hotel or if you need roommate matching—http://www.aspb.org/meetings/pb-2009/housing.cfm.

Youth hostels on Oahu—http://www.hostels.net/findabed.php/USA-Oahu-hostels.

Other accommodations on Oahu—http://www.kayak.com compares rates on other travel sites.

Make Your Reservations
For information on room rates and how to make your reservation, visit http://aspb.org/meetings/pb-2009/housing.cfm.

Bargain Travel
Getting There

ASPB has made arrangements with both Continental and American Airlines.

Continental Airlines

Continental Airlines offers discounts off published fares of 2% to 15% or Zone fares. Call your travel professional or Continental MeetingWorks at 800-468-7022 for reservations. Refer to Z Code ZTXT and Agreement Code A6G3DN. Or, save an additional 3% off by booking your own reservations at http://www.continental.com. Choose your flight times and access your meeting discounts by inserting ZTXTA6G3DN in the Offer Code box.

American Airlines

Attendees from the United States or Canada can make a discount reservation by calling the American Airlines Meeting Services Desk at 800-433-1790 or visiting http://www.aa.com. Refer to Promotion Code A6279AI.

Attendees from outside the United States or Canada need to call the local American Airlines reservation number and refer to Promotion Code A6279AI.

Island Hopping
Special Rates for ASPB Attendees on Maui and Kauai Before and After the Meeting

Take a great side trip on your way to PB09 or visit one of the nearby islands when you finish up.

Special rates have been arranged for Maui’s most beautiful resort, the Grand Wailea. For more information on the property, visit http://www.grandwailea.com/. Special rates for this property are available July 11 to 18 for a preconference holiday and then again July 22 to 28.


For fees and registration information go to www.aspb.org/pb-2009.
Career Workshops I & II
Held concurrently on Sunday
Sunday, July 19, 7 p.m. to 10 p.m.
($12 fee includes dinner)
This year, the Women in Plant Biology Committee will present two career workshops at Plant Biology 2009. The workshops will focus not only on careers in the United States but also on international careers.

Career Workshop I
How to Survive a New Job
This program for early-career individuals will highlight maximizing performance, becoming a manager, the importance of mentoring, networking skills (internal and external), and recognizing discrimination/bias. Following presentations from panelists with experience in these topics, participants will review case studies and have the opportunity to ask questions and engage in discussion with panelists.

Career Workshop II
Alternate Careers
This program will include presentations from individuals with experience in nonacademic careers for plant biologists. Careers will include industry, science diplomacy, nonprofit research, publishing/journalism, commercialization/patents, federal government, international companies, and R&D in commercial companies. Following the presentations, participants will have the opportunity to ask questions and engage speakers in discussion within small groups.

ASPB Women in Plant Biology–Sponsored Lunch and Speaker
Monday, July 20, 12:20 p.m. to 2:30 p.m.
($12 for students/postdocs, $28 for regular members)
Speaker: Mary Lou Guerinot, Dartmouth College (http://www.dartmouth.edu/~guerinot/)

ASPB Minority Affairs Committee–Sponsored Dinner
Sunday, July 19, 6:30 p.m. to 8:30 p.m.
($12 for students/postdocs, $28 for regular members)
Speaker: Cliff Poodry, Director, Division of Minority Opportunities and Research, National Institute of General Medical Sciences, NIH

Postconference Workshop
Limited Attendance
C₃ to C₄: A Workshop to Evaluate Strategies for Engineering C₄ Photosynthesis into C₃ Plants
Thursday, July 23
Hilton Hotel, Honolulu
Organizers:
Rowan Sage, University of Toronto
Tom Brutnell, Boyce Thompson Institute
Bob Furbank, CSIRO-Canberra

For full details visit http://www.aspb.org/publications/plantcell/anniversary.cfm
Going Green at Plant Biology 2009

Carbon Offset Program
ASPB has partnered with Evolution Sage, a local organization, to provide a carbon offset option. The money that is received from your carbon offset purchase will help install solar panels on rooftops throughout Hawaii in partnership with Hawaii Energy Connection. Visit http://www.evolutionsage.com/index.php?id=111/ to purchase.

Printing
Materials will be printed locally in Hawaii at a certified eco-friendly plant. Programs and flyers will be printed on recycled paper using eco-friendly ink. Conference bags and giveaways will be produced with eco-friendly materials and will be functional items rather than “toys.” We are asking all exhibitors to do the same.

Shipping
Shipping weight will be cut in half by eliminating excess materials and bringing only what we need. Most of the bulk items for attendees will be obtained from local Hawaiian vendors.

Local Food
When possible, we will serve local food and use eco-friendly plates, cups, and cutlery. Excess food that isn’t served will be donated to a local food bank.

Recycling
Recycling bins will be provided throughout the meeting space. Our participating hotels practice environmentally friendly methods.

Name Badge Recycling
Name badge collection bins will be provided at the end of the meeting so that badges can be reused for future meetings.

Paperless
As in previous years, registration, housing, and abstract submission forms are all online. ASPB has reduced the mailing of meeting flyers, replacing it with electronic marketing methods whenever possible.

Save Energy
Lights and air conditioning will be turned off in the meeting rooms during setup and when not in use to conserve energy. The Hawaii Convention Center hallways are open-air, eliminating the need for energy.

Social Responsibility
Local vendors will be used whenever possible to give back to the community hosting our meeting.

What Can You Do as an Attendee?
1. Make a conscious effort to recycle, not only while in the meeting venues but also while touring or enjoying the local area.
2. Take advantage of the linen and towel reuse program in the hotel rooms.
3. Be conscious of your water consumption by turning off the faucet while brushing your teeth and limiting your shower.
4. Bring only what you need.
5. Purchase carbon offsets.
6. Reduce your annual air travel and make the ASPB meeting a high priority.

Partnering Societies
The American Society of Plant Biologists is delighted to partner with the following organizations, whose members are invited to register at ASPB member rates:

- Australian Society of Plant Scientists
- Botanical Society of Korea
- Canadian Society of Plant Physiologists
- Chinese Society of Plant Physiologists
- Japanese Society of Plant Physiologists
- New Zealand Society of Plant Biology
Fifteen ASPB Members Named AAAS 2008 Fellows

ASPB is pleased to announce that 15 of our members have been named 2008 Fellows of the American Association for the Advancement of Science (AAAS). This year a total of 486 Fellows nominated by peers were awarded this honor because of their scientifically or socially distinguished efforts to advance science or its applications. They were recognized at the AAAS Fellows Forum during the 2009 AAAS annual meeting in Chicago. Congratulations to the 2008 AAAS Fellows from ASPB!

Agriculture, Food, and Renewable Resources

C. Robin Buell  
*Michigan State University*  
For distinguished contributions to the fields of plant and microbial genomics and genome biology, particularly in areas combining genome sequencing and computational biology

Leon V. Kochian  
*USDA Agricultural Research Service*  
For distinguished contributions to the understanding of plant mineral nutrient transport and for leadership as director of the U. S. Plant, Soil, and Nutrition Laboratory

Schuyler S. Korban  
*University of Illinois*  
For distinguished contributions to the field of plant molecular genetics, biotechnology, and breeding, particularly for analysis and enhancement of disease resistance and fruit quality traits as well as for leading genomics efforts in fruit species

Alan McHughen  
*University of California, Riverside*  
For distinguished research in agricultural biotechnology and genetics, and for contributions to food and environmental biosafety, public education in science, and science policy and regulation

Gary Stacey  
*University of Missouri*  
For distinguished contributions to the field of plant biology and plant–microbe interactions, particularly for advancements in our understanding of symbiotic nitrogen fixation and soybean genomics

Steven H. Strauss  
*Oregon State University*  
For his contributions to science in genetics and evolution, for interdisciplinary work on safety and policy in biotechnology, and for communicating the challenges of biotechnology in forestry

Shyi-Dong Yeh  
*National Chung-Hsing University*  
For distinguished research in molecular study on pathogenicity determinants of plant virus and transgenic approaches for pathogen control
Biological Sciences

Karen C. Cone  
University of Missouri  
For distinguished contributions in plant genetics and genomics, particularly for analysis of gene regulation, and development of resources for structural and functional genomics

Dean DellaPenna  
Michigan State University  
For outstanding contributions in plant biochemical genetics and vitamin biosynthesis and for leadership in altering crops to address micronutrient deficiencies in developing countries

Yue-ie C. Hsing  
Academia Sinica—Institute of Plant and Microbial Biology  
For significant worldwide contributions in groundbreaking genomics and bioinformatics research in plant science, especially in rice, and for efforts to communicate science

Carol J. Lovatt  
University of California, Riverside  
For distinguished worldwide contributions to research in basic and especially applied plant physiology in the horticultural industry, particularly for citrus and avocado, and for outstanding teaching

Bruce McClure  
University of Missouri  
For significant research in S-RNase-based self-incompatibility and for distinguished contributions to public understanding of science by co-organizing Saturday Morning Science (http://satscience.missouri.edu/)

Eugene A. Nothnagel  
University of California, Riverside  
For distinguished leadership in plant science research related to signaling, development, and structure of plant cell walls and for outstanding teaching service to students

Craig S. Pikaard  
Washington University, St. Louis  
For contributions to the understanding of plant gene silencing, chromatin modifying complexes, and the role of two plant-specific RNA polymerases in the biogenesis and functioning of siRNAs

Douglas D. Randall  
University of Missouri  
For distinguished research contributions to the understanding of reversible enzyme phosphorylation in plant cells and administrative contributions supporting the advancement of plant biology research
That Plant Biology Thing You Do? Every Little Bit Counts!

On January 8, 2009, ASPB member Amy Clore earned a bit of television fame on the Today Show. While the quick screen shot of Amy in her lab came nowhere near 15 minutes of public acclaim, it did reach the entire viewing audience of this major morning news show.

What was a plant biologist doing on the Today Show anyway? Amy’s university, the New College of Florida (NCF), recently was recognized along with other institutions by the Princeton Review and USA Today as an “outstanding value for public higher education.” On January 8, the Today Show featured scenes from a number of these schools, including Amy in her NCF lab. The video clip can be viewed at http://www.ncf.edu/news/?p=1004. Complete lists of the recognized schools are available at http://vocuspr.vocus.com/vocuspr30/ViewNewsOnDemand.aspx?Preview=true&ArticleID=520376_16637_17506284.

You may be wondering why, from the myriad of possibilities available to them, the Today Show chose to use a shot of plant biologists as a key visual representation of NCF. In other words, why was somebody who teaches courses and directs labs for cellular biology and plant physiology in the Division of Natural Sciences as well as conducts research deemed one of the most appropriate representations of NCF’s standing? One theory is that the administration and public relations experts understand that the activities that fill Amy’s days (described at http://www.ncf.edu/campus-directory/faculty-profiles/amy-clore) add up to make a big difference for her department and her university. Individual flashes of successful teaching, committee work, publishing, and all the associated minutiae of the academic lifestyle blend into a larger picture of success.

It’s also notable that between her “public appearances” and NCF duties, this mother of two also manages a lot of critical behind-the-scenes work as cochair for the ASPB Summer Undergraduate Research Fellowship program (http://www.aspb.org/education/undergrad.cfm). This supports a second theory for why Amy was recognized: sometimes kudos really do come to those who love what they do and work hard at it.

Amy commented, “The [Today Show] ‘appearance’ came as a total surprise. We were tipped off that New College might be featured, but I had no idea I would be part of the piece until a former student (now in medical school at Case Western) e-mailed to tell me she had just spotted me on NBC!”

Amy added, “It is worth mentioning that all NCF students have to write an undergraduate thesis and defend it orally in a baccalaureate exam. I’ve had several students defend their theses and go on to pursue their PhDs, including two who are getting close to completing their doctorates in areas of plant biology. I am really pleased to be promoting hands-on research experiences both as an associate professor of biology at New College and through my role as an ASPB SURF cochair. Both are very rewarding and provide tangible results!”

Amy Clore and students Max Ferretti and Eric Gars show the Today Show audience how plant science gets done.
University of Florida Honors ASPB Emeritus Member Indra Vasil

On January 9, 2009, the Horticultural Sciences Department of the University of Florida dedicated the Vimla and Indra Vasil Library and Reading Room, honoring ASPB emeritus member Indra K. Vasil and his wife, Vimla Vasil, graduate research professor emeritus and scientist emeritus, respectively, at the university. The new library houses the vast and comprehensive collection of botanical books and journals accumulated by Indra Vasil over 60 years of academic life and is supplemented by an equally large collection of horticultural books and journals donated by past and present faculty members. With more than 3,000 volumes, many dating back to the 18th and 19th centuries, and 90 journals, the library is a valuable new teaching and research resource. The university already has an endowed professorship—the Vasil-Monsanto Professorship in plant molecular biology—named after Indra Vasil.

President’s Letter continued from page 1

Now on to the second part of my letter. I expect that most of you know that the Society holds a fantastic annual meeting, thanks to our ASPB Program Committee and our highly dedicated and indefatigable meetings staff at headquarters, Jean Rosenberg and Wendy Sahli, as well as yearly sectional meetings, thanks to our sectional officers. Most of you also know that ASPB publishes two leading plant biology journals (Plant Physiology and The Plant Cell), this newsletter, the online Arabidopsis Book (TAB), and occasionally other items, such as the critically acclaimed Biochemistry & Molecular Biology of Plants text. The ASPB Publications Committee plays an advisory role in all noneditorial issues related to ASPB publications. However, I know that it was only upon becoming more involved in ASPB activities that I became aware of just how much the Society does via its various committees. With the expectation that the same may be true for some of you, I wanted to recap just some of the other activities of ASPB, with a focus on three committees: the ASPB Education Committee, Minority Affairs Committee, and Women in Plant Biology Committee. In addition to highlighting just how much ASPB does for its members, I also have an ulterior motive: between now and September 30, 2009, the ASPB Nominating Committee, and in particular President-elect Tuan-hua David Ho, will be identifying new members to replace those individuals who are rotating off the various ASPB committees. If you read below (or online at http://www.aspb.org/committees/) a description of committee activities that sounds like your cup of tea, don’t hesitate to contact Tuan-hua David at ho@biology2.wustl.edu and express your interest. Conversely, if Tuan-hua David contacts you, I hope you’ll consider serving.

ASPB has a very active Education Committee that has concentrated much of its efforts on K–12 education. Many educational activities that could be used in your own local setting/school district can be found via the Education page at http://www.aspb.org/education/. Some of you may have participated in the several events sponsored by the Education Committee at PB2008 in Mérida, a minisymposium, and poster session. We can look forward to similar opportunities at PB2009. In addition to the meeting in Mérida, the presence of the Education Committee truly has been felt around the world this past year as Mary Williams, an EdCom member, took advantage of her sabbatical in the United Kingdom to provide ASPB educational materials and activities to conference attendees at the Federation of European Societies of Plant Biology (FESPB) Congress in Tampere, Finland. Mary will also have an ASPB education booth at the Society of Experimental Biology (SEB) meeting in Glasgow, Scotland, June 28–July 1. Back in the United States, EdCom members exhibited last year at the National Association of Biology Teachers (NABT) Professional Development Conference in Memphis, Tenn., and at the National Science Teachers Association (NSTA) conference and the AAAS Family Science Days, both of which were held in Boston, Mass., in 2008. The Education Committee also continues to participate in PlantingScience; check out the website at http://www.plantingscience.org/ if you have an interest in online mentoring of middle and high school classes and science clubs. Importantly, the EdCom also participated, by invitation, in a summit hosted by the HHMI/NSF/AAAS on the topic of “Vision and Change in Biology Undergraduate Education.” More details on the summit were given in the January/February edition of this newsletter (see http://www.aspb.org/
President’s Letter
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Not worth noting that follow-up activities to the summit are planned and could prove very influential in improving how science is taught at the introductory college level.

The Minority Affairs Committee (MAC) was similarly active this past year, continuing its yearly minisymposium at the annual meeting, this time on “Model Plants of the Americas,” and their yearly dinner, at which we were treated to an engaging, if sobering, talk from David Burgess of Boston College on the status of underrepresented minorities in the sciences. The speaker for PB2009 will be Clifton Poodry, director, Division of Minority Opportunities and Research, National Institute of General Medical Sciences, NIH, whose talk is entitled “Developing Plant Scientists for 2020.” MAC provided recognition awards for members of underrepresented groups to attend PB2008 and will do so again for PB2009. Last year’s awardees were undergraduates Winter Santander (Humboldt State University), Jonathan Torres (University of Texas, Austin), and Joe Darren (San Juan College); graduate students Uvetta Dozier and Herman Fennell (both of Howard University) and Brandon Gaytan (Clark University); and faculty members Geoge Ude (Bowie State University) and Charles des Bordes (Medgar Evers College). Last year, MAC also continued its tradition of participation in ABRCMS, the Annual Biomedical Research Conference for Minority Students, which attracts more than 2,000 participants, including more than 1,500 undergraduates. Despite the biomedical emphasis suggested by the name of the conference, MAC participants report that the ASPB exhibit booth was well attended. This coming year, MAC will participate in the SACNAS (Society for Advancement of Chicanos and Native Americans in Science) conference in Dallas, Texas. MAC also continues to sponsor the Diversity Bank at http://www.aspb.org/diversitybank/. Please take a look and sign up if you’re interested in presenting a talk at or otherwise connecting with a minority serving institution. I also want to mention the crowning achievement of MAC this past year: the submission to NSF of a proposal entitled “Recruiting and Retaining Underrepresented Minorities in the Plant Sciences: A Comprehensive Approach.” Proposed activities include increased support for members of underrepresented groups to participate in both the ASPB annual meeting and in ASPB sectional meetings, as well as plans for regional conferences on plant biology, to be held at minority serving institutions.

The Women in Plant Biology Committee (WIPB) participates in a diversity of forums. One activity that I particularly enjoy is its Women in Plant Biology columns in this newsletter, which can be viewed at http://www.aspb.org/newsletter/wipb.cfm. Each year, WIPB also brings to you a WIPB luncheon or dinner at the annual meeting. Last year the speaker was Patricia Léon from Universidad Nacional Autónoma de México (UNAM), who provided an informative and entertaining talk on “The Good Side of a Macho Culture.” Mary Lou Guerinot from Dartmouth College will be the speaker at the luncheon in Honolulu. Another major initiative of WIPB is the organization and running of the Career Workshops at the annual meeting; any meeting attendee can sign up to attend these workshops. Workshop topics for Honolulu are “How to Survive a New Job” and “Alternate Careers for Plant Biologists.” WIPB members also spearheaded the Laboratory Leadership Workshop held in conjunction with PB2007 in Chicago, and a reprise of this highly successful event is being planned for Montreal in 2010. This year, WIPB also launched a new initiative, the Women’s Young Investigator Travel Awards, to support travel to the annual meeting of new female investigators in academia, government, and industry. The impetus for this award came in part from data showing that the percentage of women in our membership declines from a high of 47% of graduate student members to a low of only 28% of regular members. These statistics suggest that there is a need to provide more support to women scientists at the beginning of their independent professional careers.

I hope that the above descriptions have given you some idea of the ways in which ASPB committees help to make our professional society as vibrant and engaged as it is. I have not mentioned all the activities of these three committees, and I also beg forgiveness from the members of the Executive, International Affairs, Membership, and Public Affairs Committees for their lack of mention in this article: I promise to describe their activities in other letters later this year. As one final note regarding committee activities—one of particular interest for our U.S. members—it is worth mentioning that I, along with Public Affairs Committee chair Gary Stacey and Public Affairs Committee member Pat Schnable, were in Washington, D.C., during the week of February 9 and visited the offices of congressional leaders on the Hill to urge retention of support for science and science agencies in the American Recovery and Reinvestment Act. As of this writing the bill has been signed into law, with inclusion of significant support for the National Science Foundation, Department of Energy, and National Institutes of Health.

NOTICE

Please contact Trish Roman, e-mail address: trish.roman@ars.usda.gov, to make arrangements to add these journals to your collection.

Sally Assmann
sm3@psu.edu
The Doctor Is Out (of Academia): Why Career Cross-training Is Critical for PhDs

by Joanna Friesner
MASC/NAASC Coordinator and Postdoctoral Scholar in the Department of Molecular and Cellular Biology at the University of California, Davis; jdfriesner@ucdavis.edu

I’ve been asked more than once whether my job as coordinator of the Multinational Arabidopsis Steering Committee (MASC) is similar to herding cats. Because I spend my time facilitating voluntary participation by academics throughout the world in efforts to advance plant biology and Arabidopsis functional genomics, I understand what provokes this question. I organize the annual Arabidopsis conferences, publish yearly research progress reports, and maintain informational web pages at The Arabidopsis Information Resource (TAIR). However, a better analogy would be managing beavers. The professors I work with from MASC and the North American group, NAASC, are typically successful, advanced in their careers, and above all, overcommitted. They volunteer to help maintain international ties and assist the Arabidopsis community in addition to their “day job” writing grant proposals, publishing, supervising graduate students and postdocs, teaching on committees—the list goes on. My job is to carry out MASC’s mission to support the plant research community and help MASC members attend to their academic beaver dams. I have a unique job for someone with a PhD in genetics, but the fact that I’m not following a faculty career track is not unusual at all.

Data from the Survey of Earned Doctorates, an annual study sponsored by federal agencies including NSF, NIH, the U.S. Departments of Education and Agriculture, and others, suggest that there are many people who will need to find employment as something other than a tenure-track faculty member. The most recent survey revealed that 60,486 U.S. biological sciences doctorates were granted between 1998 and 2007, including more than 7,100 in 2007 alone, making this the most doctorate-heavy field from all science, engineering, and nonscience fields analyzed (1). The heavy reliance of U.S. universities on foreign graduate students also contributes to the large pool of life sciences doctorates. In 1987, 30% of U.S. science and engineering doctorate recipients were foreign citizens, and in 2005, the proportion was roughly 44%. Further, a study of the “stay rates” of foreign life sciences doctorate recipients from U.S. universities found that the five- and 10-year stay rates after degree completion were 73% and 70%, respectively (2). I do not imply that foreign students and postdocs should be discouraged from coming to the United States or be required to return home. However, these data clearly show that the majority of foreign and domestic scientists, especially in the biological sciences, will find it extremely difficult to obtain employment if their primary career goal is to join the professoriate in the United States.

Supporting this notion, the most recent summary of education and employment from the Federation of American Societies for Experimental Biology (FASEB) found that the number of doctorates in the life sciences has nearly doubled in the past 25 years, whereas the number of tenured and tenure-track faculty positions remained the same. These trends are reflected in the decreasing ability of recent graduates to obtain faculty positions: in 2006, only 17% of life sciences PhD recipients were in faculty positions five to six years’ postdegree, compared to 34% in 1981 (3). Further, the glut of PhDs and lack of faculty positions can have long-term consequences: a survey of doctorates from the early 1980s, well before the exponential increase in U.S. PhDs awarded began, found that just 33% of biochemistry PhDs had achieved faculty status 10 to 14 years’ postdegree (4). Clearly there are far more people with biological science doctorates than can be supported in academia, which raises three obvious questions: (1) Where will they find jobs? (2) How should they prepare for multiple career paths? (3) How can universities and principal investigators help them prepare? In my case, I was extremely lucky to be in the right place at the right time; however, my position is temporary, funded by short-term grants.

As MASC coordinator, I’ve had opportunities to develop skills and experience things I never imagined during graduate school, where I researched mechanisms of DNA double-strand break repair in Arabidopsis thaliana. It wasn’t until my third year that I started questioning whether the much sought after tenured faculty position was what I really wanted to pursue. But admitting to nonacademic career interests was considered somewhat heretical and remains so today. Although I enjoyed conducting experiments, I saw that my research was narrowly focused, as if somehow the scientific “big picture” was beginning to fade. I also became aware of the intense competition for faculty jobs and that there were always many more candidates than positions. I was at a crossroads—should I stay to earn a PhD or should I cut my losses and quit? It’s difficult

continued on page 14
to walk away from a three-year investment, and there's a bit of pride in finishing what you've started. I decided to finish my degree, but also started thinking about so-called alternative careers for scientists—a move supported by my PI, who admitted that she had no knowledge of nonacademic careers, had no contacts outside of academia, and could only encourage me to "go talk to people." I met as many people as possible and found that most enjoyed talking about their careers and were helpful in providing advice or additional contacts.

One of my interests is developing and implementing science policy, so I was thrilled to participate in the National Academies’ Science and Technology Policy Fellowship Program, which involves graduate students and postdocs in national science and technology policy making (5). Fellows experience life outside the lab and meet other motivated and enthusiastic young scientists whose career vision also extends beyond academe. During the program I discovered that high-level, nonacademic science careers existed, but since most jobs were located near Washington, D.C., and my partner is unable to leave the Sacramento area, this didn't solve my two-body problem. While I was in D.C., the position of MASC coordinator opened up, and the chance to investigate a nontraditional science career while learning new skills appealed to me. Upon being hired, I visited the MASC/NAASC chair in North Carolina, who informed me that I had just a few months to draft and publish the 35-plus page MASC report and finish organizing the upcoming international Arabidopsis conference. I was assigned also to represent MASC at a national conference the following week, investigate the process of developing a nonprofit organization, and reorganize the MASC website. During the visit I also met with faculty to begin planning the Arabidopsis conference taking place two years later and with others to solicit feedback on what should be addressed and improved by MASC. As I flew home, I wondered what I had gotten myself into by leaving benchwork behind, but I was invigorated by the new challenges and opportunities before me. Perhaps it was just a fear-inspired adrenaline rush, but I felt truly alive with possibilities.

Most tasks were new to me, but things slowly began to fall into place. Working with diverse people from all over the world helped hone my diplomacy skills and taught me the lesson that when there is a problem, it's best to come ready with a solution. For example, when I saw that a preliminary conference speaker list contained few female scientists, I drew attention to the deficiency and suggested that more women be invited. When this approach failed, I developed a list of excellent female scientists and made the case that our chances for receiving federal conference funding were greatly diminished if there were so few female speakers. When the organizers next met, they had my suggestions at hand to consider, which made it easier to develop a more balanced program.

I've also found that skills learned in graduate school became useful to me as coordinator. My graduate adviser brought visiting scientists to the lab to listen to the students describe their research projects. At first I bumbled through my presentations, but over time I improved and became comfortable explaining my work to a general audience. During my travels as coordinator, these experiences helped me as I talked with seatmates about the importance of plant biology. On one flight I sat next to California Governor Schwarzenegger's deputy legislative secretary in charge of K–12 education and explained how basic plant research contributes to society. He hadn't heard of Arabidopsis and questioned the usefulness of plant research, but I convinced him of its value and gave him the latest MASC report describing the broader impacts of Arabidopsis research. That interaction reminded me that we can't assume our research has obvious benefit to the public and that we still have a ways to go in convincing legislators and the public of the value of basic plant research.

Being MASC coordinator for the past three years has been quite challenging but also rewarding. One high point was being invited to give introductory remarks at the opening of the Gregor Mendel Institute in Vienna, Austria, which hosted the fourth Arabidopsis conference in 1990. Attendees at the 2006 conference in Madison, Wisc., will remember the night the fireworks display was canceled due to bad weather and, instead, we sat outside and watched the thunder and lightning sweep across the lake. It is satisfying to organize successful Arabidopsis meetings, whether in North America or around the world, as in the case of Beijing, 2007. I have been lucky to travel to numerous conferences abroad, including the International Society of Plant Molecular Biology meeting in Australia, where I visited a local wildlife park and had my picture taken holding a heavy koala with very large claws. Traveling taught me a few lessons: take time to appreciate new experiences and locations in case you are never able to return. I won't forget standing on the Great Wall of China, walking through Venice, riding a train through the British countryside, or visiting the Austrian Academy of Sciences. I also learned from spending unscheduled layovers in Madrid and Salt Lake City that I should always keep clothes in my carry-on bag since canceled flights, delays, and lost luggage are common and airport clothes are expensive and ill-fitting.

As my funding runs out this year, I am confident that international dialogue between Arabidopsis researchers will continue. British scientists recently submitted a funding proposal including support for a U.K.-based MASC coordinator and currently await the reviews. Resources such as TAIR, ABRC (U.S.), and NASC (U.K.) will hopefully continue to receive strong support, and new initiatives like the iPlant Collaborative will move the entire field of plant research forward. I'm excited about the continuing push for translational and interdisciplin ary plant research, which I hope will result in new collaborations and breakthroughs. Looking back to when I started as coordinator, I wonder if we all could benefit from the sparks of adrenaline and inspiration that
Name: Peter Twumasi  
Title: Dr.  
Place of Work or School: Department of Biochemistry and Biotechnology, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana  
Research Area: Plant and Microbial Biotechnology  
Member since: 2004  

1. Why has being a member of ASPB been important to you?  
   I have met many instrumental people in my field of study at the conferences—Maureen McCann and Alison Roberts are among my mentors and I met them at ASPB meetings. I have also enjoyed the discounts on study materials.

2. Was someone instrumental in getting you to join ASPB?  
   Anne Mie Emmons, my professor at Wageningen University, The Netherlands.

3. What would you tell colleagues to encourage them to join?  
   I would advise students and researchers working in the field of plant biology to take advantage of the numerous opportunities made available through ASPB, including discounts on educational and research materials, a platform to present your work to famous researchers and to seek their assistance in your work, and the possibility of finding a position through the Job Bank in some of the most well-known labs of members around the globe.

4. Have you enhanced your career using ASPB job postings or through networking at an ASPB function?  
   I have not been fortunate to get job through these resources, but I have made contacts who have been instrumental in my research.

5. Do you read print journals? If so, where do you usually read them?  
   Yes, at work and the library.

6. What do you think is the next "big thing" in plant biology?  
   The use of whole plant biomass (cellulose) for biofuel.

7. What person, living or deceased, do you most admire?  
   Professor Ton Bisseling of the Molecular Biology Department at the Wageningen University and Research Center, the Netherlands.

8. What are you reading these days?  
   Plant Cell, Tissue and Organ Culture.

9. What are your hobbies?  
   Reading and listening to classical music.

10. What is your most treasured possession?  
    My knowledge of science.

11. What do you still have left to learn?  
    French language and business administration.

References  


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
Membership Corner

Name: Anubhuti Sharma  
Title: Senior Lecturer  
Place of Work or School: Banasthali University (Women’s University),  
Rajasthan, India  
Research Area: Plant Defense System  
Member since: 2003

1. Why has being a member of ASPB been important to you?  
ASPB offers various opportunities to interact with researchers actively involved in diverse fields of plant biology. ASPB builds strong networks with colleagues and collaborators from our field.  

2. Was someone instrumental in getting you to join ASPB?  
Journals published by ASPB and the regular web activities inspired me to become a member. One of my family members in the United States also inspired me to become a member.  

3. What would you tell colleagues to encourage them to join?  
It is important for your career development, no matter whether you are a graduate student, postdoc, or faculty member in plant sciences. I would make the colleagues aware that ASPB offers support for their focus on networking opportunities, career development, and excellent benefits such as discounts on registration fees for ASPB meetings, travel awards, and an online Job Bank. The Society publishes two top journals, *The Plant Cell* and *Plant Physiology*, as well as a couple of important books. It organizes annual international scientific meetings. It promotes plant biology education. ASPB does a great job representing plant scientists and our interests.  

4. Have you enhanced your career using ASPB job postings or through networking at an ASPB function?  
I have benefited from the access to online journals, newsletters, job postings, and reduced registration fees for the ASPB meetings. Interactions with researchers at the meetings generated collaborations and also aided me in finding a research position in Dr. Kiran Mysore’s noble organization. The articles inspire us to achieve higher goals in life and a sense of direction.  

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?  
No, I have not yet used this service, but I am hopeful that in the near future this will be an excellent source to explore.  

6. Do you read print journals? If so, where do you usually read them?  
I always enjoy the ASPB journals. I read the journals at work or in the library.  

7. What do you think is the next “big thing” in plant biology?  
I think biofuels and stress tolerance are two areas that will probably be increasingly important in the future with global climate change.  

8. What person, living or deceased, do you most admire?  
I admire Mahatma Gandhi as he brought freedom through nonviolence to my country, India. I have chosen to serve in the institution in India that is based on Gandhi's policies. I follow all those principles in my life, too.  

9. What are you reading these days?  
I am currently reading *The Plant Cell* with my team. I also enjoy reading about current affairs and popular scientific articles.  

10. What are your hobbies?  
Singing, gardening, and reading books. These have given me peace of mind and knowledge.  

11. What is your most treasured possession?  
My family (especially my daughter) and my friends. The happiness and encouragement that I get from them help me to do things successfully.  

12. What do you still have left to learn?  
Learning is endless. Even from children we can learn a lot. But life is short, and we can’t learn everything. I still feel I have much to learn in my field and from ASPB and its dedicated members who are involved in imparting the knowledge of science daily.
CALL FOR PAPERS

Plant Physiology Focus Issue on Legume Biology

Deadline for Submissions: July 1, 2009
To submit an article, please go to http://submit.plantphysiol.org.

Plant Physiology is pleased to announce a Focus Issue on Legume Biology to be published in November 2009. The issue will be edited by Carroll Vance, Mark O’Brian, and Kate VandenBosch. Submissions on all topics of legume biology are welcome, including genomics, model legumes, interactions with microorganisms, nutrient acquisition and metabolism, regulation, signaling, development, natural variation, and response to global climate change and other abiotic effects.

Authors interested in contributing should indicate this in the cover letter when submitting papers online at http://submit.plantphysiol.org/. Please select “Legumes (November 2009)” from the Focus Issue list in the online submission system. Articles published within 2 years before and after the focus issue will be considered for inclusion in an online Focus Collection of articles relevant to the focus topic.

Please contact Carroll Vance (vance004@tc.umn.edu), Mark O’Brian (mrobrian@buffalo.edu), or Kate VandenBosch (vande102@umn.edu) for additional information.
On January 6, 2009, ASPB, represented by President Sally Assmann and Public Affairs Committee chair Gary Stacey, submitted the following letter to then-President-elect Barack Obama’s transition website.

Dear President-elect Obama:

The American Society of Plant Biologists (ASPB) congratulates you on your election victory. We appreciate your strong advocacy for science research and education during the 2008 campaign, as well as your recognition of the important role of non-ideological, scientifically based evidence in government decision making. We now urge you to act forcefully to make rapid and decisive progress in these areas.

ASPB is an organization of more than 5,000 professional plant biologists, educators, graduate students, and postdoctoral scientists. With some 40% of its members coming from abroad, ASPB is a strong voice for the global plant biology community. Our mission, which is achieved through work in the realms of education, research, and public policy, is to promote the growth and development of plant biology, to encourage and publish research in plant biology, and to promote the interests and growth of plant scientists in general. The Society publishes the highly cited and respected journals *Plant Physiology* and *The Plant Cell*, and it has produced and supported a range of materials intended to demonstrate fundamental biological principles that can be easily and inexpensively taught using plants.

Plant biology research has flourished in the United States thanks to the investments of the National Science Foundation (NSF); the U.S. Department of Agriculture–Cooperative State Research, Education, and Extension Service (USDA-CSREES) National Research Initiative (now under the new Agriculture and Food Research Initiative [AFRI] structure); and the Department of Energy (DOE) as the lead agencies, with some limited support from the National Institutes of Health (NIH) and other agencies. However, in recent years, these investments have not kept pace with inflation and, in real terms, the trend has been stagnant or negative, despite the fact that plant biology research has made, and will continue to make, fundamental contributions to fields such as Food security

In the mid-20th century, USDA–Agricultural Research Service (USDA-ARS) researchers collaborated with Dr. Norman Borlaug, then of CIMMYT (International Maize and Wheat Research Centre) in Mexico, to develop new varieties of wheat and other grain crops (1). These varieties had markedly higher productivity and truly revolutionized food access in developing countries, with the tradeoff that expensive chemical fertilizers and management techniques were required to achieve these high yields. It has been noted that “Today, only a minority of Third World farmers can afford the chemicals and machinery needed to grow Green Revolution crops” (2). ASPB recognizes the pressing need for your *administration to support research enabling a second Green Revolution* (3), one that will combine the best of traditional and molecular genetics approaches in the development of accessible crop varieties and technologies that meet the food demands of the global population with minimal deleterious effects on the environment.

Next-generation biofuels

While corn ethanol currently satisfies a portion of our energy needs, plant biologists are the first to recognize the necessity to develop the next generation of biofuels. Next-generation biofuels will be derived from non-edible crops, including new crops such as Miscanthus (4), and from non-edible parts of traditional crop plants and thus will provide farmers with an additional income base without taking food from hungry mouths. However, a *greater research investment is needed to develop optimal varieties of these new crop species and to devise more efficient and environmentally friendly technologies to release the energy stored in the cellulose-rich, non-edible parts of crop species such as corn and sorghum leaves and stalks (stover) and sugarcane bagasse.*

Amelioration of climate change

You have stated that one of your goals is to “make the United States a leader on climate change.” Uptake and fixation of atmospheric carbon dioxide by plants, including forests and agroecosystems, provides a major carbon sink, and tropical forests enhance atmospheric cooling via evapotranspiration (5). Yet ecosystems are incredibly complex, and much more research is needed to understand how these complexities impact climate change scenarios (6).

Elucidation of fundamental biological processes held in common by both plant and non-plant species

Although the 2006 Nobel Prize in Physiology or Medicine was awarded to American scientists Professors Andrew Fire and Craig Mello for their pioneering research on RNAi (“RNA interference”) (7), a novel type of cellular regulation performed by a specific class of RNA molecules, the visible outcomes of RNAi on organism development were, in fact, initially studied in petunia flowers (8) by plant geneticist and ASPB member Professor Rich Jorgensen at the University of Arizona. Plants are often the ideal model systems to advance our understanding of basic biological processes, as they provide the context of multicellularity, which unicellular model organisms such as yeast lack, while affording ease of genetic manipulation, a lesser regulatory burden, and inexpensive (compared to mammalian model systems such as mice) maintenance requirements. Many of the fundamental questions in biology can be effectively and efficiently addressed by plant research, yet only a tiny fraction of NIH awards are made to plant biologists.

Development of new medicines

Identification of taxol as an effective anti-cancer agent has revolutionized the treatment of breast and other cancers (9).
Letter to President-elect Obama
Continued from page 19

Taxol is a secondary plant compound and was originally isolated from the bark of the Pacific yew tree as the result of an NIH National Cancer Institute initiative in which chemists assessed botanical collections assembled by USDA researchers for molecules of medicinal value (9). It is estimated that plants produce hundreds of thousands of such secondary compounds (10), yet from this treasure trove of potentially useful chemicals, only a handful have been studied to date, due, in part, to limited NIH funding of plant research.

Your administration has laid out an ambitious Technology Agenda (http://change.gov/agenda/technology_agenda/). To make progress in these areas, we urge you to immediately implement the steps necessary to achieve your stated goal of doubling federal funding for basic research. In addition, we urge you to take the following steps regarding federal funding of plant biology research:

First, consistent with your call for improved science and technology education in the United States, push for new and expanded programs that will provide individual fellowships to especially promising graduate students and postdoctoral researchers entering and pursuing the field of plant biology. Such prestigious awards will help to attract bright young minds to the discipline of plant biology and then allow these individuals to continue in this field with financial support and scientific independence.

Second, promote the following changes at federal funding agencies:

**USDA:** Promote increased support for both basic and applied plant biology research through full funding of AFRI. The USDA is one of the key sources of federal plant science funding, yet historically this agency has been massively underfunded. For example, the average size of a 2.8-year USDA–NRI grant (2007 figures) to a plant biologist is $391,244 (11; a figure that includes both funds to the investigator and overhead costs, which are awarded to the institution and not to the investigator), while the average size of a 3-year NIH grant (NIGMS R01 award) to a medical researcher is ~$600,000 (12; a number that reflects only the direct funds to the investigator with no overhead costs). In other words, NIH awards are at least two- to threefold higher than those of USDA. Given the fundamental importance of plant biology to the health of the land and people of the United States, this disparity should be redressed—not through reductions in the funding programs of other federal agencies, but rather through increased funding of USDA initiatives.

**NSF:** Enable NSF to continue its support of plant biology research by ensuring that all of its programs receive proportionate budgetary increases during implementation of your promised doubling of federal research funding. NSF supports plant biology research through individual grants to scientists and also has two programs particularly targeted toward support of large collaborative plant biology research endeavors: the Arabidopsis 2010 Program and the Plant Genome Program. As summarized in a recent report from The National Academies, “New Horizons in Plant Sciences” (13), Arabidopsis, the first plant species to have its genome sequenced, offers genetic and molecular tools unparalleled in any other species; these tools allow rapid research progress that can then be translated to crop species. The Plant Genome Program specifically targets crop species; thus these two programs are complementary. We urge you to support the continuation of these programs and/or the development of comparable programs that provide substantive funding to achieve the same goals.

**DOE:** The DOE has traditionally supported plant biology research through its Office of Science. These investments are even more relevant today with the increased interest in plant-based biofuels. Such biofuels will provide one part of the answer to the question of how to increase U.S. energy security while simultaneously decreasing U.S. dependence on the fossil fuels that negatively impact atmospheric quality and climate. The DOE has recently provided some additional funding for plant biology research in its Plant Feedstock Genomics for Bioenergy program (jointly with USDA-AFRI) and through funding of the new Bioenergy Research Centers. However, much more needs to be done to effectively harness photosynthesis for energy production and to convert biomass into usable fuels. Hence, we call upon you to increase DOE investment in basic plant research directed toward the nation’s energy challenges.

**NIH:** At present, only a small fraction of the NIH grants awarded annually support plant science. While billions are being spent on seeking cures for human ailments, little is being spent on the much more effective and cheaper solution of disease prevention, in which nutrition plays a key role. According to one New York Times article (14), of the 5 million African children under age 5 who died in 2005, malnutrition was a major contributor to half of those deaths; malnutrition also severely limits the intellectual capacities of those children who do survive.

Clearly, there is a need at NIH for a new vision of the roles of plant research in providing solutions to human health issues. One component of this vision should be promulgation of a new funding initiative targeted to collaborations between medical researchers and plant biologists. Such collaborations have the potential both to identify new and promising medicinal drugs—the “taxols of tomorrow”—and to contribute to our fundamental biological knowledge base.

Thank you for reading this message. Please let us know if you require further details or clarification. ASPB is ready and eager to offer any assistance we can to you and your administration as you work to achieve the above goals and thus further your science and technology aims while promoting the health of our people and our planet.

Sincerely,

Sarah M. Assmann
President, ASPB; The Pennsylvania State University

Gary Stacey
Chair, ASPB Public Affairs Committee;
University of Missouri, Columbia
Sources

## Important Dates in 2009

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<th>Month</th>
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<tr>
<td>March</td>
<td>21-22</td>
<td>Midwestern Section Meeting, Wildlife Prairie State Park, Peoria, Ill.</td>
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<tr>
<td>April</td>
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<td>Early-bird registration cutoff for Plant Biology 2009</td>
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<td>April</td>
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<td>Abstract deadline for Plant Biology 2009 program book</td>
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<td>May 1-2</td>
<td>Northeast Section Annual Meeting, SUNY, Plattsburgh</td>
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<td>May 29</td>
<td>Executive Committee election closes</td>
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<td>June</td>
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<td>Preregistration cutoff for Plant Biology 2009</td>
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<td>September</td>
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<td>Mid-Atlantic Section Crab Feast, ASPB Headquarters Rockville, Md.</td>
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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 by June 5, 2009. No forms are needed. Send proposals by e-mail to the Education Foundation assistant at info@aspb.org. Include 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
   - co-investigator 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

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

Project managers from winning GAP 2004–2008 projects can be found in the Winning GAP Project Summaries at http://www.aspb.org/education/foundation/gap.cfm.

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 to contribute to the knowledge of plant biology among K–12 students.

Awardees will be notified by e-mail and announced during Plant Biology 2009 in Honolulu, Hawaii, July 18–22.
ASPB Education Forum

“The Year of Science 2009”—A Yearlong Celebration!

What can we do to increase understanding of and support for science and scientific research during 2009?

This year is an important milestone in the history of science. Not only is it the 200th anniversary of Charles Darwin’s birth (February 12, 1809) and the 150th anniversary of the publication of On the Origin of Species, it has been 400 years since Johannes Kepler published his first two Laws of Planetary Motion. Yes, this is a time to celebrate! But as Kent E. Holsinger, past president of the American Institute of Biological Sciences and University of Connecticut professor of ecology and evolutionary biology, has stated, “At a time when the challenges facing humanity are growing rapidly, and when meeting those challenges increasingly depends on scientific research, the need for public support and understanding of science has never been greater.”

It is imperative that we as scientists communicate our science and scientific research to the public through education efforts that promote the understanding of the nature of science and convey the importance of scientific research.

Below are just two of the numerous websites that have valuable information to guide us on our journey this year. Also visit our website at http://www.aspb.org/education/ for links to additional information on the Year of Science 2009.

http://www.yearofscience2009.org/
The Coalition on the Public Understanding of Science (COPUS) represents more than 500 organizations “leading a celebratory journey with you to share how science works, what it is like to be a scientist, and why science matters.” This site is ready to support public understanding of the process and nature of science in an exploration of “how we know what we know.”

http://darwin-online.org.uk/2009.html
Items at this site are loosely grouped into “Events,” “Publications,” and “Films and Documentaries.” Although this collection is currently far from comprehensive, it is probably the largest list of worldwide Darwin events planned for 2009.

This year the ASPB Education Committee will highlight important science processes and concepts in newsletter articles, and during Plant Biology 2009 (July 18–22 in Honolulu, Hawaii) the committee will sponsor events to promote the Year of Science 2009. If you have programs or activities that you or your university is sponsoring for the Year of Science, please contact Katie Engen at katie@aspb.org.

Jane Ellis
jellis@mail.presby.edu

PB2009 Education Preview: What’s in the Pipeline for Hawaii?
Surf through this tide of PB2009 program options organized by the ASPB Education Committee

Education Workshop
(Sunday, July 19, 7:30 p.m.–9:30 p.m.)
Learn how to test the waters and then wade confidently into talking about GMOs, evolution, and other challenging issues of science.

Education Minisymposium
(Monday, July 20, 2:30 p.m.–4:10 p.m.)
Dive deeper into the Year of Science and Darwin’s many contributions to plant biology and beyond.

Education Booth
Learn how to “hang 10” (or more) interactive activities that can enhance your Criterion 2 and undergraduate education priorities.

Education Posters
Check out how researchers are making a splash with this strong current of education-related posters.

Katie Engen
katie@aspb.org
Hi Paul,

Just thought I’d drop you an update on the state of the state here at Ashwaubenon High School. First, the bad news: With a new superintendent, whose focus is on improving test scores, our science curriculum has been “reduced” to give students fewer options with the hope of forcing more students into chemistry and physics and improving our ACT scores. In that capacity, botany is no more, so we don’t offer any science classes that deal with living things in general. The good news is, because that has been done, it has brought awareness (that I have tried to show) that we don’t do much with living things in our curriculum, and my fellow teachers have taken it upon themselves to bring living things back into biology. One of the veteran teachers used protists in her molecular biology class and the kids loved it. She now wants to do more with living things as she has realized that kids are interested in them. Seeing these concepts in action in her room really has turned on the lights for her.

[My efforts to incorporate] Fast Plants (http://www.fastplants.org/) haven’t moved too far yet, but I am hoping that setting up a butterfly display with Fast Plants will stimulate my colleagues to consider doing the Fast Plants contest that tests who can grow the most seeds from a finite set of seeds. Also on the bright side, I now have 12 light boxes! I had volunteers come in and build them after school. The same volunteers want to farm Fast Plants for seeds, so I am also making inroads there.

We are going through our science adoption process, and with the emphasis on reading, the administration wants us all using textbooks to get kids to read more. The administration also has shared a lot of software with us (i.e., online dissection). It seems they are looking at our program to find more ways to add technology to replace working with living things, as they think it is faster and cleaner. It seems they don’t yet have a complete understanding of what it takes to teach science most effectively.

JF

Hi John,

It was good to hear from you even though there was “bad news and good news.” Though I agree with you that it is “bad news” to learn of the continuing trend of your school district toward the removal of living organisms from the curriculum and substitution of the living with the “simulated and nonliving” (penny wise and pound foolish?), the “good news” is that you and your colleagues recognize the importance of having your students experience the power of well-constructed and well-conveyed learning experiences within your classrooms using living organisms. From my perspective, it is also “good news” to learn that you are still rallying your colleagues and leading the charge to affect what you believe to be better educational opportunities for your students.

Keep up the good work!

Paul Williams
phwillia@wisc.edu

John Fischer
jfisher@ashwaubenon.k12.wi.us

Katie Engen
katie@aspb.org

Interested in joining this e-conversation? Comments regarding this exchange can be sent to Paul Williams or ASPB staff member Katie Engen.

CORRECTION
Ernie Sears’s field of study was incorrectly noted in George Redei’s obituary in the print version of the January/February 2009 issue of the ASPB News. He was a wheat geneticist.
**Getting Plants & Plant Resources into Classrooms**

Incorporate some of these habits into your seasonal routines to provide materials that will fertilize even the most fallow teacher supply closet:

**Yard Work**
While doing regular yard work, note any extraneous or overgrown plants that could be suitable for school use. Contact the school with details of the type of plants you have. The school may already have willing volunteers to divide, dig up, or otherwise collect your largesse. Or you could provide the labor and delivery yourself. For extra impact add (or offer to lead) a few activities for classroom analysis of the donated plants.

**Good Neighbors**
Ask your garden group buddies or just nearby neighbors for free seeds or plants. Expand your quest to your online gardening pals, too. Folks tend to respond generously when asked, especially if they have excess material.

**Nursery—School**
Heading to the nursery or home & garden center this weekend? Ask for extra seeds and seedlings or orphaned plants to donate to the school. Some vendors even send texts or e-mails to customers about surplus stock giveaways. Check if your garden center will, too. Exchange a few numbers (with permission), and your local teachers’ garden will grow.

**Wild Things**
Take a hike! And as you hit the trails, try to carefully collect a small sample of seed specimens that can be accessed without damaging any plants or terrain. Provide the seeds and guidance for propagation (or any other seed study you know) to a local classroom teacher. No time to stick around for germination? Provide a web link such as http://hcs.osu.edu/mg/prop.htm, http://www.treehelp.com/howto/howto-grow-a-tree-from-seed.asp, or http://trees-seeds.com/seed.htm along with the properly labeled seeds.

**Support Network**
For truly enterprising teachers, find a local garden club, civic group, or youth group needing community service hours that would help a class or school with donations, labor, and training to establish and maintain an educational native plant garden or habitat.

**Higher Education**
Seek out the plant-oriented workshops, conferences, and events in your area that seem to incorporate quality science into their practices. Suggest these options for an interested teacher to consider attending. Ask an event organizer to provide free registration to the teacher. Ask an event sponsor to provide plant or lab material for a teacher or school.

If you want to dig just a bit deeper, try planting some of these resource ideas with a new crop of teachers:

**Woodland Trust**
This UK-based group offers free seeds or seedlings to youth groups. Directions and qualifications are listed at http://www.woodland-trust.org.uk/hedge/.

**Garden Launch Pad**
The highly motivated can find a very complete plan for setting up, running, and using a school garden sponsored by the Garden Launch Pad at http://www.fao.org/docrep/009/a0218e/a0218e00.htm.

**Growing Schools**
Teachers with a strong passion for plants will be thrilled with the Growing Schools site at http://www.growingschools.org.uk/, designed to get students learning in the great outdoors.

**Fast Plants**
This gold standard of effective, cheap, easy to make, and fun plant biology activities was created by ASPB member Paul Williams. Go to http://www.fastplants.org/ for a plethora of propagation ideas.

**TickleMePlant**
Ever see a plant move its branches and leaves when you tickle it? The Mimosa pudica does, and it will inspire giggles and curiosity in any classroom. While it’s not free, this teacher-run business keeps costs reasonable. Alternatively, the site offers the tickle me plant as part of a fundraising program that may be welcomed in your school. Go to http://www.ticklemeplant.com/ for more information.

**GrowLab**
Along with a nice assortment of youth gardening links, an image gallery, and articles on children’s gardening, the National Gardening Bureau (http://www.ngb.org/youth_resources/grow_lab/index.cfm) provides information on GrowLab, a “matching funds” program for getting free seeds and materials for the classroom.

**Show Them the Money**
Finally, try using your well-honed grant application skills to seek out and help a local teacher acquire some seed money or in-kind donations from area organizations. A grant from a local builder’s association could yield materials to construct cold frames or indoor plant structures. Sponsors of Arbor Day events or local garden clubs may grant funds for trees or other plants.

Doing your homeWORK should not be overwhelming. Don’t feel obligated to tackle this entire list of suggestions. Just use what you know and who you know to facilitate students’ opportunities to be “in the know” about plant science. Your action on one item now will help to create an evergreen season of learning in your neighborhood schools.
First Class Fun in Second City

AAAS Family Science Days
February 14–15 in Chicago

ASPB wowed the crowd at the 2009 Family Science Days (FSD) event held by the American Association for the Advancement of Science (AAAS) in Chicago. FSD is a dynamic, family-oriented part of the AAAS annual meeting every year. The ASPB Good Works Program sponsored the booth, which was organized and staffed by the Society’s Education Committee.

ASPB appreciates the volunteer efforts of Chad Jordan, Beth Judy, Steve Huber, Joan Huber, Hannah Gretz, and Sanni Judy. To volunteer at an upcoming ASPB booth, please contact Katie Engen (katie@aspb.org).

Diminutive booth visitors learn to plant and germinate seeds in Lilliput Discovery Gardens with a little help from ASPB member Beth Judy (Montana Public Radio, The Plant Detective).

ASPB booth volunteer Joan Huber (University of Illinois) helps visitors create make-n-take 5x microscope necklaces for their field explorations. ASPB member Steve Huber (University of Illinois) consults with a booth visitor about the wide variety of ASPB’s printed classroom materials.

The ASPB Education Committee staged a crowd-pleasing event at this hands-on, multimedia plant science outreach booth.

A quiet moment before the crowd of plant science fans swarm the worksheets, ‘scopes, seeds, and soil activities offered by the ASPB Education Committee.

Booth organizer and ASPB member Chad Jordan (North Carolina State University) has set the stage for some wide-eyed viewing of the micro-world of plant physiology with an affordable, easy-to-use digital microscope. For more info go to http://www.aspb.org/education/NEWK12.CFM#anchor4.
**New Staff**

**Linda Palmer**
Linda Palmer joined the ASPB staff in December 2008 as the subscriptions assistant in the Meetings, Marketing, and Membership Department. She provides customer service to institutional subscribers as well as outreach to the university library community. Linda grew up on a small farm in western Maryland and has a degree in English from Frostburg State University. She has worked at various Washington, D.C., law firms as a legal secretary, paralegal, and office manager. She lives in Rockville with her husband and three children (David, 15½; Andrew, 14; and Ashley, 9). She is very active with Boy Scouts of America and her local garden club and enjoys volunteering at her children’s schools and at her church, where she chairs the Children’s Ministry Team and sings in the choir. If she had free time (!), she would spend it reading mystery novels and keeping in touch with friends.

**Mary Williams**
Mary Williams joined ASPB March 1 as the new Features Editor for *The Plant Cell*. Her primary role will be developing “Teaching Tools for Plant Biology,” a new feature for the journal. Mary comes to ASPB after 14 years as a professor at Harvey Mudd College, where she helped hundreds of students discover the magnificence of plants. She previously has served ASPB as a member of the Education Committee and Education Foundation. She currently lives in Glasgow, Scotland, with her husband Tom and their three children.

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**sLowlife**

**On display from March 2–December 31, 2009**

*sLowlife* was co-created by ASPB member Roger Hangarter (Indiana University) with support from ASPB.

**Clifford C. Hach Gallery**
Chemical Heritage Foundation, Philadelphia, PA

Free and open to the public.

This mesmerizing exhibit features time-lapse movies which show plants as they sense and respond to their environment. The gallery-style presentation includes photographs of remarkable plants, original sound compositions based on plant movements, concise text, and live plant material.

*For hours and visitor information go to www.chemheritage.org*
For your convenience, keep this listing of extension numbers and e-mail addresses handy when you contact ASPB headquarters so that you can reach the person best able to assist you.

- Our office telephone number is 301-251-0560

### ASPB Headquarters

#### Telephone Extensions and E-Mail Directory

<table>
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### Missing journal issues
- Plant Physiology (except missing issues)
- The Plant Cell (except missing issues)

### Disposition of a manuscript
- All other questions

### All other questions
- ASPB News

### Advertising
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### Accounts payable
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