

# ASPB News



THE NEWSLETTER OF THE AMERICAN SOCIETY OF PLANT BIOLOGISTS

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November/December 2007

## President's Letter

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## A Time of Transition

We in the plant science community face significant challenges. Paramount is the immense challenge of increasing food production to sustain an expanding population on a declining resource of arable land that is becoming progressively degraded. There is the additional opportunity to generate biofuels to lessen our dependence on oil and gas while simultaneously reducing the generation of greenhouse gases. In these challenges lie tremendous opportunities to contribute to human welfare while simultaneously indulging ourselves in our passion for science. It is hard to imagine a better career!

Autumn is an especially wonderful time to be a plant biologist in New England. Leaf-peepers abound. We had good rain and a warm summer, so this year's fall foliage display is quite spectacular. There has been no frost yet in my garden, so fresh herbs and some late season dahlias, nasturtiums, and tomatoes continue to brighten my day. However, there is snow in the forecast for the mountaintops, and we will have transitioned to the new season by the time you read these words.

Autumn is also a time of transition for ASPB, as October 1 marks the changing of the guard with newly appointed committee members and newly elected officers assuming their posts. One of my major tasks this past year was to coordinate the filling of committee memberships, and I was very pleasantly surprised at not just the willingness but the actual eagerness of so many of you to generously give your time and energy to the Society. The Society is in good hands—yours. Thank you!



Rob McClung

ASPB is probably best known as a publisher. *The Plant Cell* and *Plant Physiology* remain the two most highly cited journals in the plant world, and they have well-deserved reputations for excellence and innovation. The past few years have seen considerable change. We have introduced a series of ethical standards addressing all aspects of scientific publishing (see <http://www.aspb.org/publications/ethics.cfm>). The maintenance of high ethical standards is not a new problem:

Pliny the Elder wrote, "In comparing various authors with one another, I have discovered that some of the gravest and latest writers have transcribed, word for word, from former works, without making acknowledgment" (*Naturalis Historia*, Book I, Dedication, sec. 22, AD77; an English translation of this work, based on the 1855 translation by John Bostock & H. T. Riley and published by Taylor & Francis, London, is available online at <http://www.perseus.tufts.edu/cgi-bin/ptext?lookup=Plin.+Nat.+toc>). New technologies make it increasingly easy to transgress. We are a society that values education, and our response has been to educate our members and authors. Our goal has been to make our authors and members aware of acceptable standards and to work with them to achieve these standards.

As scientists, we wish to disseminate our work broadly and without restriction. To this end, we participate in AGORA, HINARI, and OARE, a series of consortia of academic publishers that provide free or very low cost online access to major journals to public institutions in eligible developing countries (see

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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](mailto:nancyw@aspb.org).

## ASPB Executive Committee & Staff

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Deadline for March/April 2008  
*ASPB News*: February 5, 2007

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## ASPB Officers Assume Posts for 2007–2008

New ASPB officers and committee members assumed their responsibilities October 1.

### Board of Trustees

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Charles L. Guy (08)  
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John C. Cushman (11)  
Erin Dolan (11)  
Chad V. Jordan (11)  
Lawrence R. Griffing (09)  
Mary E. Williams (11)

### International Committee

Arun Goyal (08), *chair*  
Tuan-Hua David Ho (08)  
Jean-Claude Kader (08)

### Membership Committee

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Caryl A. Chlan (08)  
Carl J. Bernacchi (09)  
Jeremy E. Coate (09)  
Colleen Doherty (09)  
David P. Horvath (09)  
Lawrence B. Smart (09)  
Robert P. Donaldson (10)  
John Z. Kiss (10)  
Anireddy S. N. Reddy (10)

### Minority Affairs Committee

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Gregory Goins (09)  
Adán Colon-Carmona (10)  
John J. Harada (10)  
Eleanore Wurtzel (10)  
Anthony DePass (09)

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C. Robertson McClung (09),  
*president*  
Richard Amasino (08),  
*immediate past president*

### Program Committee

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Sarah M. Assmann (08),  
*president-elect*  
Nicholas C. Carpita (09),  
*past secretary*  
Anireddy S. N. Reddy (08)  
Judy Callis (10)  
Janet Braam (11)  
Georg Jander (11)

### Publications Committee

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Caren Chang (11)  
Laurie G. Smith (11)  
Neil E. Olszewski (12)

### Women in Plant Biology

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Laura J. Olsen (08)  
Terrence Delaney (09)  
Marta Laskowski (09)  
Elizabeth Pilon-Smits (09)  
John Z. Kiss (10)

### EXECUTIVE COMMITTEE

C. Robertson McClung (09),  
*president*  
Sarah M. Assmann (10),  
*president-elect*  
Richard Amasino (08),  
*immediate past president*  
Danny J. Schnell (09),  
*secretary*  
Mark R. Brodl (09), *treasurer*

### Elected Members

Karen E. Koch (08)  
Steven C. Huber (09)  
Alan M. Jones (10)

### Sectional Representatives

Robert P. Donaldson (10),  
*Mid-Atlantic*  
John Z. Kiss (10), *Midwestern*  
Lawrence B. Smart (09),  
*Northeastern*  
Caryl A. Chan (08), *Southern*  
Anireddy S. N. Reddy (10),  
*Western*

## 2007–2008 Awards Committees

Following is a list of the membership of the ASPB awards committees for 2007–2008 as announced by President Rob McClung. Members serve for three award cycles unless otherwise noted.

### ASPB–Pioneer Hi-Bred International Graduate Student Prize

Roger P. Hangarter (09), *chair*  
A. Mark Cigan (09)  
Julia Frugoli (09)  
Robert E. Sharp (09)  
Patricia S. Springer (09)

### Adolph E. Gude, Jr. Award

Julian I. Schroeder (10), *chair*  
Winslow R. Briggs (10),  
*past winner*  
Louise E. Anderson (08)  
Patrick Masson (13)  
Barbara J. Baker (16)

### Charles Albert Shull Award

Steven C. Huber (09), *chair*  
Samuel C. Zeeman (08),  
*past winner*  
Natasha V. Raikhel (08)  
Elizabeth Vierling (08)  
Richard D. Vierstra (10)

### Charles F. Kettering Award

Gerald E. Edwards (08), *chair*  
Donald R. Ort (08), *past winner*  
Neil R. Baker (10)  
Elisabeth Gantt (10)  
Keith Alan Mott (10)

### Charles Reid Barnes Life Membership Award

Katherine W. Osteryoung (08),  
*chair*  
John S. Boyer (08), *past winner*  
Alison M. Smith (08)  
Mark Estelle (10)  
Russell L. Jones (10)

### Corresponding Membership Awards Committee

Christopher J. Staiger (08), *chair*  
Chentao Lin (09)  
Gayle Lamppa (10)  
Patrick Masson (11)  
Gloria K. Muday (11)

### Dennis R. Hoagland Award

Jan E. Leach (12), *chair*  
Dennis Gonsalves (09),  
*past winner*  
C. Robin Buell (15)  
Kendal D. Hirschi (15)  
Elizabeth E. Hood (15)

### Early Career Award

Alice Y. Cheung (09), *chair*  
Elena Dmitrievna Shpak (08),  
*past winner*  
Gregg Alan Howe (08)  
Harry J. Klee (08)  
Tai Ping Sun (10)

### Excellence in Teaching Award

Sabine J. Rundle (09), *chair*  
Roger P. Hangarter (10),  
*past winner*  
Amy M. Clore (13)  
Sharman D. O'Neill (13)  
T. Kaye Peterman (13)

### Fellow of ASPB Award

Roger P. Hangarter (09), *chair*  
Daniel J. Cosgrove (08)  
Donald R. Ort (10)  
Heven Sze (11)  
Wendy Boss (12)

### Lawrence Bogorad Award for Excellence in Plant Biology Research

Daniel R. Bush (08), *chair*  
Maureen R. Hanson (08),  
*past winner*  
Richard T. Sayre (08)  
Marinus Pilon (10)  
Elizabeth A. Ainsworth (12)

### Martin Gibbs Medal

Richard B. Meagher (09), *chair*  
Richard Jorgensen (09),  
*past winner*  
John A. Browse (11)  
Sally A. Mackenzie (11)

### Stephen Hales Prize

George E. Schaller (09), *chair*  
Sarah Hake (08), *past winner*  
Dawn S. Luthe (09)  
Simon Gilroy (10)  
Pamela Ronald (10)

# Call for 2008 ASPB Award Nominations

The 2008 Call for ASPB Award Nominations will be sent to all members on January 2, 2008. Nominations are due by **Friday, February 8, 2008**.

ASPB encourages you to participate in our 2008 Awards Program by nominating deserving individuals. Please watch for the "Call for Nominations" in early January in your mailbox and on ASPB's website (<http://www.aspb.org/awards/nominate.cfm>). In the meantime, please visit ASPB's awards pages (beginning with <http://www.aspb.org/awards/>) so that you may see who among your colleagues has received these awards in the past—and determine who else may be deserving in the future.

Nominations are submitted electronically as a single pdf file at <http://www.aspb.org/awards/nominate.cfm>.

The names of the award recipients will be announced on or about March 15, 2008, via e-mail broadcast to ASPB members. These awards, which recognize the major scientific contributions of recipients, will be presented during Plant Biology 2008 in Mérida, Mexico. Please make plans to attend the President's Opening Address and Awards Ceremony on June 27, 2008, at 2 p.m. in Mérida. Most of the awards are monetary and, with the exception of the Fellow of ASPB Award, winners also will be reimbursed up to \$1,000 for travel expenses to Mérida.

## Awards to Be Given in 2008

### ASPB–Pioneer Hi-Bred International Graduate Student Prize

The ASPB–Pioneer Hi-Bred International Graduate Student Prize, made possible by the generosity of Pioneer Hi-Bred International (<http://www.pioneer.com>), recognizes and encourages innovative graduate research and innovation in areas of plant biology that relate to important commodity crops. Three \$5,000 prizes will be given annually from 2006 through 2009, with an additional \$1,000 awarded for prize recipients attending 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. Nominees must be PhD candidates, have successfully passed their preliminary examinations, demonstrate an excellent academic record, and be a member of ASPB. An individual may receive this prize only once.

### Charles Albert Shull Award

Created in 1971 to honor the Society's founding father and the first editor-in-chief of *Plant Physiology*, the Charles Albert Shull Award is designed to recognize young researchers. It is a monetary award made annually and is given for outstanding investigations in the field of plant biology by a scientist who is under 45 years of age on January 1 of the year of presentation, or who is fewer than 10 years from the granting of the doctoral degree. The 2008 recipient is invited to address the Society at the 2009 annual meeting.

### Charles F. Kettering Award

The Charles F. Kettering Award was established by an endowment from the Kettering Foundation in 1962 to recognize excellence in the field of photosynthesis. It is a monetary award to be given in even-numbered years to an individual for meritorious work in photosynthesis.

### Charles Reid Barnes Life Membership

The Charles Reid Barnes Life Membership is ASPB's oldest award, established in 1925 at the first annual meeting of the Society through the generosity of Dr. Charles A. Shull. It honors Dr. Charles Reid Barnes, the first professor of plant physiology at the University of Chicago. It is an annual award for meritorious work in plant biology that provides a life membership in the Society to an individual who is at least 60 years old. Membership is not a requirement for the award, and, if appropriate, every fifth award should be made to an outstanding plant biologist from outside the United States.

### Corresponding Membership

The Corresponding Membership honor, initially given in 1932, provides life membership and Society publications to distin-

guished plant biologists from outside the United States. The honor is conferred by election on the annual ballot. The committee selects no more than three candidates, and these are placed on the ballot for approval of the corresponding membership by majority vote. The president notifies successful candidates of their election. Election of a corresponding member is to be considered each year and held if warranted, provided the election will not increase the proportion of corresponding members beyond 2% of the dues-paying membership.

### Early Career Award

The Early Career Award was instituted by the Society's executive committee in 2005 to recognize outstanding research by scientists at the beginning of their career. This is a monetary award made annually for exceptionally creative, independent contributions by a member of the Society who, on January 1 of the year of the presentation, is not more than five years post-PhD.

### Fellow of ASPB Award

Established in 2007, the Fellow of ASPB Award may be granted in recognition of distinguished and long-term contributions to plant biology and service to the Society by current members in areas that include research, education, mentoring, outreach, and professional and public service. Current members of ASPB who have contributed to the Society for at least 10 years are eligible for nomination. Recipients of the Fellow of ASPB honor, which may be granted to no more than 0.2% of the current membership each year, receive a certificate of distinction and a lapel pin.

### Lawrence Bogorad Award for Excellence in Plant Biology Research

The ASPB Lawrence Bogorad Award for Excellence in Plant Biology Research was approved by the Society's executive committee in 2005 to honor Dr. Bogorad's many contributions to plant biology, including his influential efforts to bring the techniques of molecular biology to bear on problems in

*continued on page 6*



## Research Internships in Science and Engineering (RISE)

DAAD, in cooperation with science organizations in North America and Germany, is pleased to offer summer internships in Germany for Canadian and US undergraduate students in the fields of biology, chemistry, physics, geology and engineering. RISE fellows work directly with doctoral students in research groups at top German universities and institutions and can expect to gain serious hands-on research experience.

### Requirements

Undergraduate students majoring in a science or engineering field (see above) are welcome to apply. Applicants must have completed at least two years of undergraduate study. Graduating seniors (fourth-year students in Canada) may apply as long as they can prove they will be enrolled in a graduate program after the internship is over. Knowledge of German is not required for most positions but would be helpful for life outside of the laboratory. Applicants must be younger than 32 at the start of the grant period.

### Terms of Award

DAAD will provide a pro-rated monthly scholarship of approximately 615 euros for any period of six weeks to three months between June and August 2008 (exact dates to be determined by the RISE fellow and supervisor). The award also includes health, accident and liability insurance. The host institution will support the search for reasonably priced housing.

Deadline: **February 1, 2008**

For more information, please visit [www.daad.de/rise](http://www.daad.de/rise)

## RISE professional - Research Internships in Science & Engineering

RISE professional gives graduating seniors, recent graduates, master's and PhD students in the fields of biology, chemistry, engineering, geology, and physics (or other closely related fields) a unique opportunity to gain practical, career-building experience working in a German company for the summer.

### Requirements

To apply for a RISE professional internship, you must be enrolled at the time of the internship in a master's or PhD program at a North American university in biology, chemistry, engineering, geology, physics, or a closely related field. Undergraduates enrolled in North American universities in a relevant field who are RISE alumni or former DAAD scholarship holders are also welcome to apply, as are US or Canadian citizens who have recently graduated in 2007 or who will graduate in 2008 from a North American university. German language requirements depend on the nature of the internship. Some require at least an intermediate level of German language skills, while others require none at all.

### Terms of Award

DAAD will provide a monthly scholarship of 315 euros for undergraduates and 415 euros for graduates. The host companies will contribute an additional stipend of 300 euros per month. DAAD will also provide health insurance and accident and personal/private liability insurance. 600 euros will be available for travel costs. Funding is possible for a period of six weeks to four months (pro-rated depending on length of stay) between May and September 2008. For recent graduates the duration of the internship may not exceed three months.

Deadline: **January 15, 2008**

For more information, visit [www.daad.de/rise-pro](http://www.daad.de/rise-pro)

*continued from page 5*

plant biology; his groundbreaking research on chloroplast genetics, biogenesis, structure, and function; and his inspired teaching and mentoring. The ASPB Lawrence Bogorad Award for Excellence in Plant Biology Research is a monetary award made biennially to a plant scientist whose work both illuminates the present and suggests paths to enlighten the future.

### Stephen Hales Prize

This award honors the Reverend Stephen Hales for his pioneering work in plant biology published in his 1727 book *Veg-etable Statics*. It is a monetary award established in 1927 for a scientist, whether or not a member of the Society, who has served the science of plant biology in some noteworthy manner. The award is made annually. The recipient of the 2008

award is invited to address the Society on a subject in plant biology at the 2009 annual meeting.

Please contact Donna Gordon with any awards questions or comments, 301-251-0560, ext. 131, or e-mail [dgordon@aspb.org](mailto:dgordon@aspb.org).

Thank you for participating in our 2008 awards program!



# THE ROAD TO MÉRIDA

## The Pan American Congress Plant and BioEnergy Symposium: June 22–25, 2008 Plant Biology 2008: June 26–July 1, 2008

[www.aspb.org/meetings/merida.cfm](http://www.aspb.org/meetings/merida.cfm)

In 2008 ASPB will hold a new conference on plants and bioenergy immediately preceding its annual meeting in Mérida, Mexico. To help you prepare for these meetings, each issue of the *ASPB News* will provide important information. This first segment of “The Road to Mérida” provides travel information and passport and visa requirements.

### Passport and Visa Requirements

1. If you are a U.S. citizen, there are new requirements for travel to Mexico. Please visit the following website for details: <http://travel.state.gov>. Passports are required for U.S. citizens traveling to Mexico, and there is a backlog in issuing them. If you need to obtain or renew a passport, please apply at least four to six months in advance.

2. If you are a citizen of a country other than the U.S., you need to contact a Mexican consulate in your country to ask about requirements and to take the necessary steps to obtain a visa. The requirements differ from country to country.

If you are a citizen of Andorra, Argentina, Australia, Austria, Belgium, Canada, Chile, Costa Rica, the Czech

Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Liechtenstein, Luxembourg, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Puerto Rico, San Marino, Singapore, Slovenia, South Korea, Spain, Sweden, Switzerland, Uruguay, or Venezuela, you don't need a visa to enter Mexico, although you must present a valid passport and fill out an immigration form for tourism and business travel, which can be obtained from travel agencies and airlines or at the point where you enter Mexico.

The government agency in charge of immigration control and policy in Mexico is the National Immigration Institute

(INM is its Spanish acronym). The INM is part of the Ministry of the Interior (called “Segob”). We recommend that you visit their website for further information: [www.inm.gob.mx](http://www.inm.gob.mx).

3. If you are residing in the United States but hold a J-1 or H-1B visa, the following information provided by the National Postdoc Association will help you organize your documents for travel to the ASPB meeting. Individuals with a J-1 visa must make sure that their DS-2019 is current. They may travel with an expired visa stamp if all other documents are in order.

The following table answers three frequently asked questions on travel to Mexico for holders of J-1 and H-1B visas.

Question	J-1 Visa Holders	H-1B Visa Holders
I plan to travel to Mexico. My passport has an expired visa stamp, but my other USCIS (U.S. Citizenship and Immigration Services) documents have been revalidated and will be current when I travel. Can I reenter the United States without getting a new visa stamp in my passport?	If you travel to Mexico for fewer than 30 days, it is not necessary to reenter with a valid J-1 visa if the following four conditions are met: <ol style="list-style-type: none"><li>1. You reenter with a valid I-94 card</li><li>2. Your passport is valid for at least six months from the date of reentry</li><li>3. You possess your original DS-2019 that has been properly endorsed for travel and reentry within the past 10 months</li><li>4. You do not apply for the visa at a U.S. consulate.</li></ol> <p><b>Note:</b> If you are flying to Mexico, make sure that the airline does not take your I-94 upon your departure. Provide the airline with a photocopy of your I-94.</p>	If you travel to Mexico for fewer than 30 days, it is not necessary to reenter with a valid H-1B visa if the following four conditions are met: <ol style="list-style-type: none"><li>1. You reenter with a valid I-94 card</li><li>2. Your passport is valid for at least six months from the date of reentry</li><li>3. You possess your Notice of Approval</li><li>4. You do not apply for the visa at a U.S. consulate.</li></ol> <p>For appropriate travel documents and instructions, contact your employer's or institution's international office.</p> <p><b>Note:</b> If you are flying to Mexico, make sure that the airline does not take your I-94 upon your departure. Provide the airline with a photocopy of your I-94.</p>
How long can I stay in Mexico with an expired visa stamp but revalidated USCIS documents?	Up to 30 days	Up to 30 days
What other documentation should I take to Mexico so that there will be no problems when I reenter the United States?	You are strongly advised to carry recent evidence of financial support for the total duration of your stay in the United States.	You are strongly advised to carry a letter from your employer or institution confirming your employment, job title, and salary, as well as your original H-1B Notice of Approval.

**Note:** Many international flights transfer from a U.S. city to Mérida. If you are a citizen of a country that requires a visa to enter the United States, it is recommended that you fly directly to Mexico to avoid the need for a U.S. and perhaps a Mexican visa.

# HOLA FROM MÉRIDA—PARTE DOS

The “ASPB Meeting Dream Team” returned to Mérida in October to finalize logistics for the two upcoming meetings ASPB is holding, Plant Biology 2008 and The Pan American Congress Plant and BioEnergy Symposium 2008. Joining us on this trip were Dream Team members Sheri Stachowski, our exhibits manager from Hachero-Hill; Todd Marciano, our audiovisual manager from BAV Services; and our housing expert, Bill O’Laughlin, from Helms-Briscoe. We were joined at the end of the trip by ASPB’s Program Committee for its fall committee meeting.

During our trip, the team stayed at both the Hyatt Regency and the Fiesta Americana. Across the street from each other, both hotels will hold functions for the ASPB meetings. The quality of the hotel rooms and service staff was impeccable.

After long hours of logistics planning, we jumped in a van and headed out to Progreso for lunch. Progreso is breathtaking, with turquoise-blue water on a lovely beach next

to a quaint town of friendly locals. The beach was littered with amazing seashells, and the water was warm and inviting. We enjoyed a lunch of fresh fish and Mexican dishes at Flamingos, overlooking the beach. Progreso was another place to add to our list of favorites!

On our drive back from lunch, we stopped at the Mayan ruin Dzibilchaltún, otherwise known as the Temple of the Seven Dolls. Only nine miles from Mérida, the temple is the only known Mayan temple with windows and a tower. At the equinox, the sunrise is positioned perfectly through the main door. The pathway is lined with foliage that we were told was the home of monkeys and lots of local creatures. Be sure to take your bug spray to any of the outdoor attractions you plan to visit.

For meals, we tried out the local restaurants and haciendas. We enjoyed a lovely dinner at Hacienda Temozon Sur. Sitting on the patio on a warm evening, looking out over

the pool and gardens, was the ultimate relaxing experience, at least until a tarantula decided to pay us a visit. Later in the trip, we enjoyed lunch at Hacienda Teya, famous for its traditional recipes and limeade. By the end of the trip, we had eaten way too much and agreed that the food in Mérida is unbelievable!

We’d like to thank our destination management company, Amigo Yucatán, for its excellent service to ASPB in preparation for our 2008 meetings. Take a look at pictures from our visit at <http://www.aspb.org/meetings/pb-2008/holafrommerida4.cfm>.

**Don’t forget to check out the passport and visa requirements for Mexico at <http://www.aspb.org/meetings/merida.cfm>. Specific requirements are necessary for students residing in the United States who hold a J-1 or H-1B visa.**

**Rosenberg & Sahli**  
ASPB Meeting Planners  
<http://www.aspb.org/2008>

## North Carolina State University Researcher Position

Applicants must have experience in studying lipid-mediated signaling and reactive oxygen signaling in plants; at least 5 years of postdoc experience; demonstrated experience in doing enzyme kinetics, lipid analyses, lipid and protein binding studies and plant transformation through publications in high profile journals; demonstrated leadership by training and mentoring graduate and undergraduates in independent research endeavors at a Research I level University. To apply, go to [jobs.ncsu.edu](http://jobs.ncsu.edu) and search for position number 01-05-0704. Applicants should **attach to the online application**: a CV, a letter of interest, and contact information for three references. Once the online application is complete, if more information is needed, applicants may contact Dr. Wendy Boss, [wendy\\_boss@ncsu.edu](mailto:wendy_boss@ncsu.edu). Applications received prior to November 15, 2007, will be assured of full consideration. The Position is available December 1, 2007. *AA/EOE. ADA accommodations: Call 919-513-3809. North Carolina State University welcomes all persons without regard to sexual orientation.*

## A Call to Action

### 12 Academics Jailed and Tortured in Bangladesh

ASPB urges immediate action on behalf of Bangladeshi plant biologist Dr. Anwar Hossain and 11 of his colleagues at the University of Dhaka and Rajshahi University. These professors were arrested and jailed in August and remain in custody, with minimal access to family or lawyers, to this day.

ASPB has teamed with the AAAS Science and Human Rights Project to issue an Action Alert urging scientists to write to representatives of the Bangladeshi government and military calling for the immediate and unconditional release of Professor Hossain and his colleagues.

For more information go to  
[http://shr.aaas.org/actionalert/bangladesh\\_anwar\\_hossain.shtml](http://shr.aaas.org/actionalert/bangladesh_anwar_hossain.shtml).

# Sounds of Science in Colorado

## ASPB/AAAS Mass Media Fellow Reports In

The first day I walked into the KUNC studio in Greeley, Colorado, I was greeted with a peppy “Hello, Christina!” by the receptionist, Yolanda. It was quickly apparent they had all been anxiously awaiting my arrival, as each member of the news and music staff quickly filtered into the hallway to say hello. I had begun my ASPB/AAAS Mass Media Science & Engineering Fellowship without expectation, but I was absolutely delighted by the warm, friendly faces that greeted me.



Christina Pince

I sat down with my editor, Brian Larson, and he asked me what I wanted to do and if I knew how to use all the basic equipment and software they had. Having worked at the college radio station for the previous year, I was comfortable with it all, and by the next day I was conducting my first phone interview. I was off and running as a science news reporter from day one, and I was surprised at how quickly I settled into the position.

It wasn't long before I found myself tromping along the bottom of a trench in the Denver basin with paleobotanist Kirk Johnson, microphone in hand. I asked him questions on everything from his childhood to the state of science as he hacked into the soft walls of layered rock with his pickaxe. I watched him carefully separate the layers of rock to reveal fossilized plant leaves that would hopefully reveal new information about Colorado's ancient climate.

As I stood there leaning in to capture the sound of his small pick hammering against the rock pieces, I could only think to myself, “Man, I love this job!” I wondered how I could ever go back to being a graduate student. My day digging fossils under the scorching Colorado sun would turn into a feature story on climate change and one of my favorite stories of the summer.

As a science news reporter, the unexpected was common. I never knew how an interview would go until I was there, asking the questions. I never knew what science news the next day would reveal. Each day brought new science news and new story ideas. I absolutely loved this aspect of the job. I think this is why I prefer to live in a city: I love being at the center of activity, whether it be breaking news or reading an in-depth feature on a topic that I just covered.

I loved the slightly competitive nature of reporting, and over the summer I had the pleasure of several self-satisfied smiles in that regard. I've always been somewhat of a storyteller, but now I see stories everywhere. I hear them in my head as I go about my day, and I've realized there is a story in almost every experience in life, from walking the dog to mowing the lawn.

I was able to spend my entire summer learning about all kinds of amazing things going on in science—without ever stepping foot into a lab. This is what I loved most about being a science news reporter. I got to talk about science, think about science, learn about science, and get excited about science without the minutiae of doing science. I am a much more well-rounded member of the scientific community now and feel better connected to that community than I ever have as a graduate student.

That constant change led me all over Colorado, and my poor microphone, given to me on my first day, came along for the ride. It perched among sticky notes and pens on scientists' desks. It encountered the sniffing noses and sharp barks of the dogs at the Denver animal shelter. It was dusted with dirt and debris as I thrust it toward the falling rocks at the gritty paleobotany dig. It became entangled with the leaves of potato

plants as a rural farmer pulled them from the ground. It suffered the sticky hands of children at the Denver Zoo. It traveled from the flat farmlands of eastern Colorado to the National Center for Atmospheric Research's Mesa Laboratory perched 750 feet above the city of Boulder. That microphone captured some of the greatest moments of my summer and never once failed me.

Having the opportunity to speak with many different researchers in an array of fields gave me a new perspective on scientists as a whole. Although a few were very nervous talking to me, almost every scientist I interviewed was excited that I was reporting on their research. Many of them actually thanked me for reporting science and acknowledged the challenges and the importance of the job. “I don't envy you!” and “We need more people like you!” were phrases I heard multiple times.

Several interviews ended in in-depth conversations about science communication, and I was surprised at how passionate many scientists are about the topic. Many cited cuts in public funding or apathy in their students as reasons why science communication is valuable. But all of them felt that the public's knowledge of science wasn't as solid as it should be and that more needed to be done to improve that. Those conversations have further cemented my earlier opinions about the importance of science communication.

Traveling around the state of Colorado, talking with the people, and living there all helped me learn as much about the state itself as about the art of reporting for radio. Few things rival the magnificence of Colorado. The entire state is elevated 5,000 feet, thrust into the air by powerful tectonic powers whose marks are still visible on the towering Rocky Mountains. The grandeur of the people there absolutely matched that of the landscape. I made friends in Colorado I know I will keep for a long time, wonderful people who splashed color onto what could have easily been a monotone summer.

*continued on page 10*

This past summer was incredibly significant for me, both personally and professionally. Until then, I'd never lived outside of Washington State. I'd been in school nonstop since I was 5½ years old, and my career had become a train speeding along a one-way track straight to science academia. I'd always been interested in other things, but the AAAS fellowship was the first time I actually got to experience something new, and I loved every second of it. Leaving the familiar for three

months also made me appreciate things from home I had previously taken for granted. I've also learned the warming power of drunken phone calls from friends back home at 2 a.m. on a Thursday.

I first fell in love with public radio when I began college in the fall of 1998. I was in Olympia, Washington, at that time, unpacking in my dorm room, and my roommate turned on the local National Public Radio station. *This American Life* came on, and I swooned. The tone, the pregnant pauses, the comforting voice of Ira Glass . . . it was love

at first listen. This summer, I fell in love with public radio all over again, not just as a listener but as a contributor as well. I know that science communication is the right place for me now and the perfect way for me to bridge my love of science with my love of radio. And as Yolanda, the KUNC receptionist and my new friend, cried on my last day, I knew I had the people in Greeley, Colorado, to thank for that. 

**Christina Pince**  
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**President's Letter**  
continued from page 1

the links at <http://www.plantcell.org/> and <http://www.plantphysiol.org/>). In addition, we have sponsored a substantial expansion of open access content in *Plant Physiology*, from about 13% in 2006 to more than 70% so far in 2007.

This autumn is a time of transition at *The Plant Cell*, with the editorship about to shift from Rich Jorgensen to Cathie Martin at year's end. I want to thank Rich for his energetic and thoughtful years at the helm and to welcome Cathie and wish her a successful and fulfilling tenure.

ASPB is a truly international society, with about 40% of its members from outside the USA. That's a lot, eh? One manifestation of the Society's engagement of global issues is our upcoming specialty symposium, the Pan American Congress Plant and BioEnergy Symposium to be held in late June, immediately preceding our annual meeting, Plant Biology 2008. Both meetings will be held in Mérida, Mexico. Registration for both meetings opens in December, and more information is available at <http://www.aspb.org/meetings/2008/>. I hope to see many of you in Mérida!

Last year at this time Rick Amasino described a new initiative, the ASPB Diversity Bank. The ASPB Minority Affairs Committee established the Diversity Bank as a

web-based resource to facilitate the connections that will expose students to plant research and to foster networking between faculty at minority and non-minority institutions. Individuals can post a seminar they would be willing to present, and then faculty interested in identifying speakers can peruse the list of offered topics and speakers and make contact with the potential speaker. When I first heard about this at a Minority Affairs Committee meeting, I immediately resolved that I should sign up. Although my spirit was willing, the flesh was weak, and I put it off again and again. Rereading Rick's newsletter article from last year finally provided the catalyst I needed. I hope that some of you reading this article will similarly be prompted to finally register your seminar or your SURF program. Others among you may finally be prompted to log on and see what is available. The Diversity Bank is a good idea, and we would like to see it used more. As Rick noted, this effort is broader than simply recruiting minority students to plant biology. Of course that is a valid goal (demographic projections argue it is essential!), and ASPB devotes considerable energy to it. But regardless of whether the student ultimately chooses a career in plant biology, there is tremendous value in exposing students to the scientific process, be it through a talk or with a SURF lab experience. Increasing scientific literacy among those not in science careers is

a critical element in nurturing societal support for science. I urge you to visit the site at <http://www.aspb.org/diversitybank>.

It is traditional for an incoming president to acknowledge the Society's staff. Such thanks might seem pro forma, but I could hardly be more sincere. Their efforts are exemplary. I have worked with many of them over the years, and these interactions have provided many rewards. I will not attempt to single out any individuals in this space. Let me simply say that I am repeatedly delighted by their hard work and dedication and by their flexibility and creativity. We have one heck of a team!

Finally, I want especially to thank Mike Thomashow, who has now completed his three-year rotation through the presidency at ASPB. He has been an articulate and powerful advocate of the Society's goals, not to mention a debonair and piratical dancer! I'm sure he will enjoy the ability to refocus on the PRL and his lab. I want to welcome our president-elect, Sally Assmann. I very much look forward to working with her and continuing to work with Rick Amasino, immediate past president, and to working with you, the membership, and with our staff in Rockville on the many issues currently facing ASPB. 

**Rob McClung**  
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# CALL FOR ABSTRACTS

## Plant Biology 2008

Joint Annual Meeting of the American Society of Plant Biologists  
and the Sociedad Mexicana de Bioquímica Rama: Bioquímica y  
Biología Molecular de Plantas

June 26–July 1, 2008

Siglo XXI Convention Center, Mérida, Mexico

The Plant Biology format will include five major symposia and up to 28 minisymposia based primarily on the abstracts submitted under the topic categories listed to the right. The Program Committee determines the titles and contents of the minisymposia after reviewing the submitted abstracts. Poster presentations are also expected for those abstracts selected for presentation in minisymposia. Suggestions for minisymposia topics are welcomed and should be sent to Wendy Sahli, wendys@aspb.org, or Plant Biology Abstracts, 15501 Monona Drive, Rockville, MD 20855 USA.

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

### Submission Deadlines

- Abstracts must be submitted via the web at [www.aspb.org/abstract](http://www.aspb.org/abstract), not before December 3, 2007.
- To be considered for inclusion in a minisymposium, submit abstract by January 18, 2008.
- For inclusion in the Program Book, submit by April 4, 2008.

Instructions for submitting your abstract will be available online at [www.aspb.org/abstract](http://www.aspb.org/abstract). It is critical that you read and follow these instructions carefully. If you have any questions, contact Wendy Sahli at [wendys@aspb.org](mailto:wendys@aspb.org) or 301-251-0560, ext. 123.

### Remember the Following Guidelines:

- A member 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—May 30, 2008. 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 from the list to the right.
- Press the “Submit” button. Acknowledgment will be sent by e-mail.
- If you do not wish your abstract to be considered for oral presentation in a minisymposium, please indicate so on the online form.

The abstracts and program details will be available for viewing and searching online in April 2008. The website will make it possible for you to prepare and print out a personal itinerary to guide you at the meeting.

### Poster Topics

Education & Outreach  
Bioenergy Crops & Biofuels  
Environmental Physiology  
Integrative Plant Physiology  
Maize Biology  
Tomato & Solanaceous Species Biology  
Tropical Agriculture Biology  
Heavy Metals & Phytoremediation  
Reactive Oxygen & Nitric Oxide  
Abiotic Stress  
Water Relations  
Membrane Transport  
Mineral Nutrition  
Plant–Herbivore Interactions  
Plant–Pathogen Interactions  
Plant–Symbiont Interactions  
Cell Walls  
Cytoskeleton Structure & Dynamics  
Organelle Biology  
Photosynthesis  
Primary Metabolism  
Secondary Metabolism  
Lipids  
Protein Targeting & Vesicular Trafficking  
Intracellular Signaling  
Cell-to-Cell & Long-Distance Signaling  
Cell Cycle & Division  
Small Regulatory RNAs  
Hormone Biology  
Cellular Growth  
Photomorphogenesis  
Vegetative Development  
Root Biology  
Evolution of Development & Physiology  
Reproduction Development  
Pollen Biology  
Seed Biology  
Rhythms  
Tropisms  
Mechanisms of Gene Regulation  
Protein Modification & Turnover  
Epigenetics  
Chromatin  
Genome Evolution  
Comparative Genomics  
Quantitative Traits  
Modeling & Computational Biology  
Plant Systems Biology  
Metabolic Engineering  
Emerging Technologies  
Cellular Imaging Technologies  
Plant Biotechnology & Risk Assessment

*Five major Symposia and up to 28 Minisymposia*



### Why Become (and Remain) a Scientist?

#### To the Editor:

Earlier, I neglected to respond to a request to contribute to the ASPB membership corner for lack of anything profound to say. During a short visit to Germany, however, an inscription in the Rathaus (town hall) of Göttingen caught my attention: “Extra Gottingam non est vita, Si est vita non est ita.” The translation—“Outside Göttingen, there is no life; if there is life, it is not the same”—made me realize the power and general applicability of that statement to a question that I often encountered as a graduate student and then as a postdoctoral researcher, from myself and from my colleagues, family, and friends. It inspired me to share my view of “Why science? Why a scientist?” with fellow ASPB members, especially graduate students.

As graduate students, we all asked ourselves, more than a few times, whether it was really worth it—the struggle to keep up with research, course work, debts, and above all a lingering uncertainty about the future, only to realize that it did not get any better when we became postdocs, struggling to balance the increasing demands of family and career with a shortage of time and money. I am told that it does not get any better after one joins a faculty. The struggles come in different flavors—manage the laboratory, fix machines, advise quirky students, secure grants, and so forth. So are we really crazy, as the general public might think, to choose a path of seeming distress and to spend our lifetimes in a perpetual question-and-answer session?

Perhaps an oversimplified answer is that we are privileged to encounter and endure the opportunity to quench our curiosity and attain a certain freedom of mind. Within our own limitations, we explore our science and the complexities of nature and hopefully advance our understanding of science and of our own lives. Any major symposium at an ASPB annual meeting attests to the creativity, passion, and above all determination of the speakers. Maybe this insight can be described as “Outside science, there is no life; if there is life, it is not the same.” My research brought me to Germany, and this inscription enlightened me as to why I do what I do.

**Aruna Kilaru**  
kilaru@unt.edu

# NEW!! Pulse Modulated (PAM) Multi-Mode Chlorophyll Fluorometer OS-5p

## Advanced Technology



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- ☑ Intensity Adjustable Far Red 735 nm (Fod)
- ☑ Adjustable Test lengths from 2 sec. ~ 45 min.
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- ☑ 1 GBtype On Board Memory
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 Web: www.optisci.com Email:sales@optisci.com

## Important Dates in 2008

### January 2

2008 call for ASPB award and Executive Committee nominations

### January 15

Travel Grant Application deadline

### January 18

Abstracts (minisymposia) deadline for Plant Biology 2008

### February 1

Mid-Atlantic Section Meeting, University of Maryland College Park  
<http://www.aspb.org/sections/washington/meetings.cfm>

### February 2

Executive Committee Meeting, ASPB Headquarters Rockville, Maryland

### February 8

Award and Executive Committee nominations deadline

### February 22-23

Western Section Annual Meeting, Utah Valley State College Orem  
<http://www.aspb.org/sections/western/08meeting.cfm>

### February 25

Deadline for ASPB Summer Undergraduate Research Fellowship (SURF) applications  
<http://www.aspb.org/education/summerundergrad.cfm>

### March 1-3

Southern Section Annual Meeting, Diamond Jacks Hotel Bossier City, Louisiana

### March 14

Early-bird registration cutoff for Plant Biology 2008

### April 4

Abstract deadline for Plant Biology 2008 program book

### April 18-19

Northeast Section Annual Meeting University of Connecticut, Storrs

### May 9

Executive Committee election closes

### May 30

Pre-registration cutoff for Plant Biology 2008

### June 22-25

The Pan American Congress Plant & BioEnergy Symposium 2008, Mérida, Mexico  
<http://www.aspb.org/meetings/2008>

### June 26

Executive Committee Meeting, Mérida, Mexico

### June 26-July 1

Plant Biology 2008, Mérida, Mexico  
<http://www.aspb.org/meetings/pb-2008>

### September (date to be determined)

Mid-Atlantic Section Crab Feast, ASPB Headquarters Rockville, Maryland

## ANNUAL MID-ATLANTIC SECTION

# Crab Feast

The Mid-Atlantic Section held its annual crab feast at ASPB Headquarters in Rockville on September 28.



A 25th anniversary plaque was presented to the Natural Selection band.



Zhongchi Liu and her students.



(From left) Linda and Neal Barnett, Jerry and Eva Motta, and John and Jean Boyer.



Natural Selection



## The Chicago Experience: Observations of a Marylander from Africa

As a recipient of a 2007 ASPB Minority Affairs Committee (MAC) Recognition Travel Award, I had the opportunity to attend the Plant Biology and Botany Joint Congress in Chicago from July 7 to 11, 2007. It was a very enriching experience, and I am particularly grateful to the organizers—especially ASPB's Minority Affairs Committee and its then-

chair, Dr. Anthony DePass—for the award. The special programs planned by MAC for me and the other awardees proved to be a good platform for networking, both among ourselves and with the ASPB leadership. Although I had attended several other professional meetings, I had never met such a large number of plant scientists in a single conference. As a new member of ASPB, I feel like I have finally found my professional home.

I am an assistant professor of genetics at the Department of Natural Sciences, Bowie State University, Bowie, Md., and an adjunct professor at the Department of Plant Science and Landscape Architecture, University of Maryland, College Park. I obtained my PhD in plant breeding and genetics at the University of Maryland and conducted my research work at the USDA in Beltsville, Md., where I used novel molecular techniques to characterize the DNA of world collections of soybean, opium poppy, and *Erythroxylum coca* (cocaine plants). I have also worked with the International Institute of Tropical Agriculture (IITA) in Ibadan, Nigeria, as the molecular geneticist in charge of molecular marker-assisted breeding in the banana and plantain breeding program. My experience at IITA with African agriculture led to my special interest in the use of biotechnology for the enhancement of tropical crops with the



George Ude

purpose of poverty alleviation in developing nations.

Indeed, I would like to use this forum to share with the ASPB audience some of the efforts that my colleagues and I are making to provide a platform for sustainable growth in research and development in Africa. First, the *African Journal of Biotechnology* (AJB; <http://www.academicjournals.org/AJB/index.htm>), of which

I am editor-in-chief, is a major

publisher of biotechnology research in Africa. This electronic journal, which is published bimonthly, has been in operation for seven years. Full-text articles are free for all readers, which has endeared AJB to students and faculty members working under very poor conditions in African universities and colleges. ASPB members working on genetic improvement of African crops can reach both a targeted and wider African audience by publishing their articles in AJB.

Second, a few African life scientists and I in the diaspora have cofounded a nonprofit organization called the International Society of African Bioscientists and Biotechnologists (ISABB; [www.isabbio.org](http://www.isabbio.org)). The mission of this organization, which is headquartered in Columbia, Md., is to support research and development in Africa. ISABB is devoted to providing a forum for professionals to network and to share knowledge that can be applied to increasing food security, improving health care, promoting environmental health, and conserving resources—all with a view toward enhancing quality of life in Africa. Membership is open to African and non-African professionals all over the world who are engaged in research, teaching, or service in the areas of biotechnology, food and agriculture, health, and the environment.

ISABB aims to promote communication and collaboration among researchers, pro-

ducers, entrepreneurs, journalists, policy makers, and donors to highlight needs on the African continent and to help mobilize resources to address those needs. To this end, ISABB is committed to promoting the discovery, application, and dissemination of knowledge that has specific benefit to Africa and its people. We welcome partnership with individuals and organizations that are already engaged in, or intend to engage in, Africa-specific endeavors in the areas of food, agriculture, health, and the environment.

The strategy for engaging all stakeholders is through the organization's periodic conferences, workshops, and—more importantly—the publication of journals for the dissemination of knowledge. ASPB members and other professionals may submit original research manuscripts and other pertinent pieces of information that correspond with the society's objectives for review and publication in one of two journals: the *ISABB Journal of Food and Agricultural Sciences* (ISSN 1937-3244) and the *ISABB Journal of Health and Environmental Sciences* (ISSN 1937-3236). Articles are invited for the inaugural issues of these journals, both of which are scheduled for publication in January 2008. Expertise within ISABB is managed under six divisions: agriculture, bioinformatics, biotechnology, environmental sciences, genetics of bioresources, and human health sciences.

To register with ISABB, visit <http://www.isabbio.org> and enter your information as requested, or send an e-mail to [info@isabbio.org](mailto:info@isabbio.org).

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ASPB's 2005 AAAS Mass Media Fellow Sarah Nell Davidson is sending a series of "postcards" back to the ASPB News as she spends the current academic year abroad doing research for her PhD thesis.



## Greetings from Tequila, Mexico Where the Blue Agave Is King!

The Aztecs had their own pretequila tale. According to one version of the legend, a once-mortal woman, Mayahuel, became a beautiful Aztec goddess who eloped with the god Quetzalcoatl. In an effort to hide from her evil grandmother, they both turned into branches of a leafy tree. When they were found out, Mayahuel was eaten up by the stars. At the site of her burial, the first agave plant was born, and the gods showered it with storms that stripped the plant of its long and thorny leaves. When the storm passed, only the heart of the plant remained. From it spewed the blood of Mayahuel, a sweet nectar with the taste of honey and a seductive smell.

In agave country, an hour outside of Guadalajara, fields of corn give way to a steel-blue panorama stretching up and around the foothills of the Sierra Madre Occidental. Vendors with bottles of caramel-colored liquor begin to freckle the roadside as we travel northwest. Never have I seen a succulent so intensively cultivated. Blue agave is planted over 90,000 acres in this nook of Mexico. At Amatitan, an aged cowboy boards our rattletrap bus, a cane in one hand, a violin in the other. Propped against a seat, he stands in the aisle offering folk songs for a peso as we traverse the last kilometers to the town of Tequila. We pass trucks of an even older vintage loaded with what look to the northerner like giant pinecones. These are the source of Mayahuel's sweet blood—the hearts of agave.

Botanists disagree as to the exact number of species of agave, but most estimates

run upward of 300. One hundred and thirty of those species are found in Mexico. In 1905 a German botanist, Franz Weber, set out to classify the species of agave in Mexico and dubbed the blue agave *Agave tequilana*, recognizing its sacred service in producing the quintessentially Mexican liquor.

The blue or tequila agave is native to the Mexican state of Jalisco, favoring altitudes of more than 1,500 meters and sandy soil. The spiky succulent leaves can grow up to one meter in length. In the wild, agaves spurt forth a floral shoot in their fifth year that grows to a length of two meters. At its tip blooms a flower that flirts with a local bat species. Postpollination, several thousand seeds are produced and the plant dies. When cultivated, the shoots are removed from the plant following pollination, allowing more energy reserves to be invested in the production of the agave heart or fruit. In its 10th to 12th year, the heart weighs between 35 and 90 kg (80–200 lb) and is carefully removed by harvesters called *jimadores*. The fruit is sent back to the distillery to remove the sap, ferment the sugars, and convert the crude wine into fine liquor.

During their exploration of the New World in the late 1400s, Spanish conquistadors encountered a native wine called "pulque" produced by the Nahuatl people and used in religious ceremonies by the Aztec elite. When their brandy reserves were spent, Spanish explorers adopted the Nahuatl *pulque*. They were quick to add Spanish fermentation know-how and the Moorish art of distillation to produce the



Blue agave (*Agave tequilana*) blankets the foothills of the Sierra Madre occidental in this region of Jalisco, Mexico.

first tequilas—a fusion of three cultures. In 1600, the first tequila factory was established. Following Mexican independence, tequila production flourished and became a national symbol. Subsequent railroad construction, as well as prohibition in the United States, contributed to the widespread popularity of tequila—the first American distilled liquor.

Visitors to any of the many tequila factories in the region can witness the process—from fruit to distillation—first-hand. On this day, we head to La Cofradía, where our guide Rosa takes us through the process. We disembark the trolley that carried us from the pueblo proper to the distillery, where a group of *jimadores* are sorting agaves to be trimmed and replanted to produce a subsequent year's harvest.

Rosa rounds up the visitors and gives us a lesson on the botany of agave. Silhouetted by the bright, arid landscape, she

*continued on page 16*

continued from page 15

describes the succulents as “nocturnal” and finds her own ways of explaining crassulacean acid metabolism without confounding the visitors. After our Botany 101 lesson, she leads us into a fermentation chamber overseen by the Virgin of Guadalupe. Although no agave sap is cooking at the moment, the cavern reeks of diesel, yeast, and  $C_2H_5O_6$ . Rosa explains that it takes a day and a long, thin red line on the centigrade scale to extract the juices of the agave and concentrate the sugars. The “must” is then transferred to the fermenters, and the fibers are recycled into ropes and cloth. According to Rosa, in days of old, *jimadores* took the job of inoculating the vats of must by swimming around in the buff after a day’s work in the field. The Virgin of Guadalupe apparently doesn’t bat an eye at the notion of nudity, but today things are done differently.

After fermentation and distillation, the product goes to the onsite laboratory for tests. In the interest of the human lifespan, the alcohol content is

adjusted appropriately—as high as 58% for the Russians and 38% to 40% for the rest of us. Regardless of the alcohol content, in order to be called tequila, 51% of the brew must come from the blue agave. Premium tequilas may be made from 100% blue agave. Just as champagne must be made with grapes from the Champagne region of France, liquor labeled tequila must be made from blue agave cultivated in government-approved appellations.

The tasting room at La Cofradía looks like a tropical cava. Mango trees grown to heights that tickle the ceiling are interspersed with wooden barrels to moderate the temperature and humidity. Rosa pours us samples of the various tequilas we’ve been learning about, beginning with the clear silver tequila with a characteristic agave flavor. According to Rosa, it is favored by Mexican cowboys and is responsible for their “sexy, raspy voice.” Next we try the *resposado*, or “rested” version, which has spent two to 11 months in oak and has hints of pepper. If the tequila is barreled for a year or more, it’s called “*añejo*” and brings more oak to the palette. Much like wine aged in barrels, the liquor acquires its color and smooth flavor from the vessels. But buyer beware! The mythic worm originated as a 1940s marketing gimmick in bottles of mescal, tequila’s cousin. Actually a pest of the agave, a worm in a processing plant is akin to a fly in your soup.

Our group leaves the tasting room, and soon the trolley departs the distillery for town. The crowd is much more lively than on our ascent. The jolly Spanish-speaking tourists sing their way down the hillside, fueled by spirits. Their laughter is punctuated only by the burps of the cobblestone streets. Not a bad way to slide in a lesson on agave botany and fermentation chemistry!

Sarah Nell Davidson  
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Field hands at La Cofradia select agave plants to be trimmed and replanted for a subsequent harvest.



Harvest time in agave country. The fruit of the agave looks like a giant pine cone, weighing between 34 and 90 kg.



# Embracing My Inner Role Model

by Mary Williams

Associate Professor, Harvey Mudd College, [mary\\_williams@hmc.edu](mailto:mary_williams@hmc.edu)

Some of us are of an age at which we can still remember the heated discussions following NBA star Charles Barkley's denial that he should feel compelled to act as a role model; "I am not paid to be a role model. I am paid to wreak havoc on a basketball court."

Barkley was widely criticized for not using his position of prominence to inspire and encourage others. As a scientist, I am not paid to be a role model, and I certainly don't feel qualified to be considered one. But I realize that my professional success and my ability to pursue a career that I love are due, in part, to the "hands-up" I got along the way. I believe that I have a responsibility to pass this encouragement along.

The simplest way for me to encourage young scientists is by being visible as a scientist. I'm a soccer mom, I'm reasonably cool (according to my kids), and I'm a scientist too! Sadly, most kids haven't met a professional scientist and, as a consequence, have predictable ideas of whom and what we are. Don't believe me? Check out, at <http://ed.fnal.gov/projects/scientists/>, what seventh graders think of us and how a short visit to Fermilab changed their perspectives.

Before the visit, Ashley said, "To me, a scientist is bald and has hair coming out of the sides of his head. Scientists live in their own world, and the rest of society puts them there." After the visit, Andrea said, "Scientists love their jobs. They wake up in the morning and are excited to come to work. When you are a scientist, you come to work ready to explore and learn new things. Things that may change the world someday."

This Fermilab study demonstrates the power of personal experience—tell a kid you're a scientist, and you'll have a remarkable effect on his or her perceptions. If your social network doesn't currently include children, you can easily connect with them by contacting a local elementary school to volunteer as a science fair judge. (For more on

how to contribute to science fairs, see the ASPB Education Forums from November/December 2002 [[www.aspb.org/education/forumnovdec02.cfm](http://www.aspb.org/education/forumnovdec02.cfm)] and March/April 2004 [[www.aspb.org/newsletter/marapr04/19edforum9.cfm](http://www.aspb.org/newsletter/marapr04/19edforum9.cfm)].)

The hardest transition in my career was becoming a parent, and now that I've successfully navigated that transition, I try to be highly visible in my role as a scientist-parent. None of my scientific mentors were women, and the men were either childless or had very minor child care responsibilities. Many of the women undergraduate students with whom I interact cite their biggest concern for their future career as the challenge of raising children while working as a scientist.

Who can blame them? We've all heard, and often experienced, horror stories about advisers, colleagues, and employers who can't tolerate the bumps and obstacles that go along with child rearing. I want my students to know that I'm a successful scientist and a successful parent and that they can do it, too. I bring my kids to my job when appropriate. Working at Harvey Mudd, a small residential college, provides lots of these opportunities, such as collegewide picnics. I'm now hearing back from former students who are having children themselves, thanking me for my high-profile parenting.

In my role as a tenured faculty member, I also have the opportunity to shield junior colleagues from criticism. For example, even though my kids are now old enough to be left alone at times, I raise the issue of child care when weekend or evening meetings are scheduled, and I discourage the scheduling of too many meetings during the after-school hours, when kids may need care or chauffeuring.

Because of my many informal actions, I've been asked by my department chair and my dean to coordinate formal departmental and collegewide mentoring programs. In this new role, I persuaded my college to enroll all

faculty and staff in a backup care program called Work Options Group (WOG; <http://workoptionsgroup.com>). WOG provides emergency family care solutions to help eliminate the bumps and obstacles that affect parents. (A picture on the website shows a post-it note saying, "Michelle will NOT be attending the conference—couldn't find backup child care." We all know how this incident will affect Michelle's next performance evaluation or letter of reference!) The cost for this benefit is surprisingly small.

The National Academy of Sciences report on women in science ("Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering"; see [http://books.nap.edu/catalog.php?record\\_id=11741](http://books.nap.edu/catalog.php?record_id=11741)) found that "anyone lacking the career and family support traditionally provided by a 'wife' is at a serious disadvantage in academe." I'm hopeful that adopting programs like WOG can help alleviate some of those disadvantages! (*Editor's note:* Please see the article on p. 32 of the September/October 2007 issue of the *ASPB News* [<http://www.aspb.org/newsletter/septoct07/12childcare.cfm>] outlining ASPB's reinvigorated annual meeting child care reimbursement program.)

Women have made great strides in reaching equality in science, but we're not there yet. Old biases remain, frequently involving concerns about our ability to combine motherhood and professionalism. By our visibility and accomplishments, we are silencing our critics, inspiring our successors, and using our power to make their road a little smoother. If those are the consequences of being a role model, then I'm willing to accept them. ♣

View past columns of *Women in Plant Biology* at <http://www.aspb.org/newsletter/wipb.cfm>.



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](mailto:info@aspb.org).



**Name:** Hemanth Vasanthaiah

**Title:** Postdoctoral Research Associate

**Place of Work or School:** Center for Viticulture and Small Fruit Research, Florida A&M University

**Research Area:** Mango/Grape Genomics and Proteomics

**Member since:** 2006

**1. Why has being a member of ASPB been important?**

Although I am a new member, I have had a desire to become a member since my undergraduate days. Our library used to subscribe to all the journals published through ASPB. I was very happy reading different scientific findings, job opportunities, scholarships, and awards offered. Some of my colleagues have found it beneficial to be a member of ASPB.

**2. Was someone instrumental in getting you to join ASPB?**

No, nobody. The journals published by this Society inspired me to become a member to get firsthand information.

**3. What would you tell colleagues to encourage them to join?**

Being a member of ASPB will really help a lot toward the accomplishment of one's goal. It will widely open the opportunity to meet stalwarts in this field of study. This will be a great platform to discuss various issues related

to research and also to exchange ideas and views. Membership will also help in building scientific relationships for mutual benefit.

**4. Have you enhanced your career using ASPB job postings or through networking at an ASPB function?**

Because I am in my initial years of postdoctoral studies, I have not yet used this opportunity. But I have gone through this resource and have suggested it to my friends. This will be my next step—to hunt for a job.

**5. Have you had any success at finding candidates as a result of a job posting at the meeting or on our online Job Bank?**

No, I have not yet used this service. If given a chance, I will be glad to recruit through ASPB.

**6. Do you read print journals? If so, where do you usually read them?**

Not much, but I enjoy occasionally going through them at our college campus library.

**7. What do you think is the next "big thing" in plant biology?**

The discovery and study of microRNA (miRNA), which appears to be involved in gene regulation. This is vital to trigger pathways that are necessary to keep plants healthy.

**8. What person, living or deceased, do you most admire?**

Mohandas Karamchand Gandhi, proudly called Mahatma Gandhi, who brought freedom to my home country, India. He adopted and taught nonviolence, which is admired throughout the world.

**9. What are you reading these days?**

*Functional Genomics*, which has revolutionized the way of addressing scientific problems.

**10. What are your hobbies?**

Stamp and coin collection, photography, reading books, and gardening. These have given me peace of mind and knowledge.

**11. What is your most treasured possession?**

My family, of course. The happiness and encouragement that I get from them keep me afloat and help me to do things successfully.

**12. What do you still have left to learn?**

Learning is endless, and we can't learn everything. I have to learn a lot in my field of study. Thanks to ASPB and its dedicated members, who are enriching the knowledge of science daily. 

## CALL FOR APPLICATIONS

**ASPB Travel Grant Program**  
for Plant Biology 2008  
in Mérida, Mexico

Travel grant applications are now being accepted.

The submission deadline is  
**January 15, 2008**

**All applications must be submitted electronically at [www.aspb.org/2008TravelGrant/](http://www.aspb.org/2008TravelGrant/)**

Recipients will be notified by email by March 5, 2008



## The Bioethics Imperative XXXII

### Does Gender Matter?

(continued from the September/October 2007 issue of the ASPB News)

“Mokita”: The truth we all know and agree not to talk about. *Papua New Guinea*

The preceding TBI presented two scenarios addressing gender discrimination. We continue here with two additional scenarios, concluding with a suggestion that I hope will help you succeed in your career.

**Scenario #3:** *A short, rather mousy-looking woman with brown skin joins the faculty at the same time as a tall blonde with a radiant complexion. Both excel in their careers, but the route for the first woman is probably five times harder in terms of raises and opportunities both within her department and outside it.*

Hard to imagine that physical stature and skin color make a difference these days in the USA? Do looks still “make the man”? Unfortunately, a recent study indicates just that: Physical attractiveness, especially skin color and height, makes a difference in perceptions of success (1). This perception often leads to more favorable treatment of those deemed more attractive.

**Scenario #4:** *A chairman is doing a report for his dean. In it he tracks salaries for all his faculty members. He documents that all females have lower salaries than their male counterparts. He justifies this by saying that women are not there on the weekends or at night and are not as meritorious as the men in the department. He turns in his report to the dean with no qualms.*

On an individual basis, pay inequity is not a concrete issue. There is no question that work–life issues play an important role in the way that women and men live their lives. Women are far more likely to shoulder the bulk of child care and eldercare than are men. Someone has to go get the kids! This situation is exacerbated by the fact that white women earn roughly \$0.74 and African

American women \$0.65 for every \$1.00 a man earns (2). The one who gets paid less “should” or sometimes “must” take on more of the unpaid work of having a family, thus creating a vicious cycle. It is important to note that pay inequity is not just a women’s issue, but a family issue.

On paper, universities are making great strides in ameliorating pay inequities, but we are not there yet. In sports, despite Title IX, we have a ways to go too. Indeed, entire fields can change in value depending on the fraction of women in the field. It is a fact that as men enter a female-dominated field such as nursing (3), the average pay increases. Conversely and logically, as women enter a male-dominated field such as law, the average pay declines. There are even some fields where women have no place (4). Two examples are noteworthy: It was only in 2007, during its 371st year of existence, that Harvard University elected its first female president. And the United States has yet to elect a female president, lagging far behind other countries in Europe and Africa.

In concluding this two-part column, it is worth thinking about what you can do to increase your chances of success and avoid being a case in an ombudsman’s file. If you are being reviewed in an environment composed of people with a gender or sexual difference (e.g., woman in a predominantly male department, gay person in a predominantly straight department), then your portfolio needs to be especially well crafted. To increase the probability for a favorable review, you need to educate others in your department about who you are, what you do, and your future plans. And, to preempt possible prejudice, you need to do this well in advance of when you are up for promotion. This is sound advice for anyone who stands out from the norm in any work or social

situation. As you become proactive, you will see greater opportunities to be included on projects, grants, and committees.

**Next time:** Sexual Harassment Cases from NSF

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*I thank one anonymous faculty member and one anonymous staff member for their input and discussion surrounding this topic. I thank Vidhi Tyagi for editing a draft of this column.*

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# CALL FOR 2008 APPLICATIONS

## ASPB Summer Undergraduate Research Fellowship

### About the SURF Program

The goal of the ASPB Summer Undergraduate Research Fellowship (SURF) program is to provide opportunities for students to pursue meaningful research in plant biology at their home institutions early in their college years. Ideally, students should be **sophomores** at the time of application and would conduct their research the summer following their sophomore year. Exceptionally well-prepared first-year students and juniors who provide evidence of a strong commitment to plant biology will also be considered. In addition to conducting the research, recipients will be expected to present their results at the ASPB national meeting the following summer, July 18–July 22, 2009, in Honolulu. Funding is available to attend the meeting through a special SURF Travel Grant (although this may not cover all expenses). ASPB hopes that the opportunity to pursue research during the summer and then present findings at a national meeting will encourage students to pursue advanced degrees and careers in plant biology.

### Funding

Each fellowship provides the following:

- \$3,000 student stipend
- \$500 for supplies
- free student membership in ASPB (April 2008 to August 2009)
- a travel allowance to attend the ASPB national meeting. Up to a \$500 travel grant has been set aside for each recipient to offset travel expenses. The student must be a coauthor on an abstract to qualify for the travel grant. Students from overseas or who have very limited access to other resources for travel may make a case for additional travel funds. The student must pay registration and other required meeting fees.

### Eligibility

Open to students from both within and outside the United States. *Students must*

- be enrolled as a full-time, degree-seeking student
- be involved in a research project in the laboratory of a faculty mentor who is a member of ASPB
- not receive other direct financial support for their research (institutional stipend, Sigma Xi Grants-in-Aid of Research, Council on Undergraduate Research Fellowship, etc.).

*Mentors must*

- be a member of ASPB
- have an ongoing research program.

### Selection Criteria

*Competitive student applicants should demonstrate*

- strong motivation for research
- career objectives relevant to the aims of the fellowship program
- academic achievement
- preparation for conducting the research.

*The faculty member sponsoring the project should demonstrate*

- a commitment to undergraduate education and research
- a research program that is of high scientific merit—the project should clearly support the goals of the research program

- the appropriateness of the project for undergraduate research
- the existence of facilities to support the proposed work
- support from the administration (department chair or dean) for the project.

Preference is given to proposals that demonstrate the mentor's and the institution's financial commitment to the work and to proposals that show a significant impact on the mentor's ongoing research program.

### Proposal Evaluation

ASPB is interested in supporting undergraduates at all types of institutions. To facilitate this goal, the proposals are grouped according to the applicant's institution type within the Carnegie classification scheme as follows:

#### GROUP A

Research Universities I  
Research Universities II  
Doctoral Universities I  
Doctoral Universities II

#### GROUP B

Master's Universities and Colleges I  
Master's Universities and Colleges II  
Baccalaureate Colleges I  
Baccalaureate Colleges II  
Associate of Arts Colleges

The number of proposals awarded funding in each group will be weighted according to the number of proposals received.

### To Apply

The application must be submitted online. Starting December 12, the form can be downloaded through the ASPB website at [www.aspb.org](http://www.aspb.org). Look on the **ASPB homepage** for the link to the **2008 SURF Application** or click on EDUCATION or AWARD for a link.

### Deadline: February 25, 2008

- Postmark date for mailed transcript(s). Note: Transcripts may be sent electronically instead (see below).
- Midnight upload to ASPB designated website at <http://www.aspb.org/education/summerundergrad.cfm>.

### Application and Attached Files of

- letter of recommendation
- transcripts (that can be sent electronically)
- supporting documents.

The 2008 recipients are expected to be announced by March 31. There will be 15 awards granted for SURF 2008. Recipients are notified by e-mail, and contracts are sent by mail. Announcements are posted within the ASPB website and newsletter. News releases are sent to the recipients' institutions. Recipients will need to submit a photo of themselves and a paragraph about their project for these announcements.

### Questions

Contact [info@aspb.org](mailto:info@aspb.org)



## Senators Bond, Mikulski Call for Continued Support of NSF Plant Genome Research Program and 2010 Project

In a colloquy conducted by Senators **Christopher Bond** (R-MO) and **Barbara Mikulski** (D-MD) during Senate consideration of the fiscal year 2008 appropriations bill for the National Science Foundation (NSF), both senators expressed their expectation that the highly acclaimed Plant Genome Research Program be funded at no less than \$100 million. They added that the 2010 project should continue to receive separate NSF BIO (Directorate for Biological Sciences) support, as it has in the past. The senators' colloquy provides importance guidance to NSF.

Senator Mikulski is chair of the Senate Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies that approves spending bills for NSF. Senator Bond formerly chaired the subcommittee that approved NSF spending bills at a time when Senator Mikulski was ranking member. Both have worked closely in support of plant genome research.

Senator Bond noted, "Together, as leaders of the [former] VA/HUD and Independent Agencies Subcommittee, we [Bond and Mikulski] began this initiative in 1997. It remains critical that we protect the integrity of the program and ensure it remains a priority at NSF."

Senator Bond pointed out, "The Plant Genome Research Program produces basic scientific research by providing for peer-reviewed competitive research grants to qualified institutions. Maintaining significant

support for fundamental research in crop systems is more important than ever as agriculture is trying to meet the demands of consumers worldwide by providing a safe and secure supply of resources for human and animal nutrition, fiber, green products, bioenergy, and plant-based nutraceuticals and other leading-edge applications. This initiative has had strong backing over the years from the broad-based science community in conjunction with farmers and those up the food supply chain."

"Is it the expectation of the Subcommittee that the Plant Genome Research Program is funded at no less than \$100 million?" Senator Bond queried.

"That is correct," Senator Mikulski responded.

"Further, is it the expectation of the Subcommittee that funding for the Arabidopsis 2010 program continue to be financed through the BIO directorate, yet separate from funds provided for the plant genome project as it has in the past?" Senator Bond asked.

"That is my expectation. I appreciate your longstanding support of plant genomics and



Senator Barbara Mikulski



Senator Christopher Bond

will work to see that these important programs continue to receive support as they have in the past," Senator Mikulski replied.

ASPB Committee on Public Affairs Chair **Gary Stacey** and ASPB member **Doug Randall**, both of the University of Missouri, met with Senator Bond's office in support of the Plant Genome Research Program and 2010 Project. ASPB and representatives of several other science societies and growers have been urging continued strong support for plant genome research. Senators Bond and Mikulski have championed world-leading, competitively awarded plant genome research since 1997. Their leadership has propelled plant science into a new era of exciting advances that would not have been possible without their support.



## ASPB, 12 Science Societies Urge Comparable Spending Increases for NSF's BIO, SBE, GEO

A dozen science societies joined with ASPB in sending a letter on October 10 to key members of Congress urging acceptance in House/Senate Conference of language in House Report 110-240 recognizing the need for higher increases in the NSF fiscal year 2008 budget for biological, social, behavioral, economic, and geosciences that are comparable to increases NSF requested for engineering, math, and computer and physical sciences.

NSF requested increases twice as high for engineering, math, and computer and physical sciences as for biological, social, behavioral, and economic sciences for FY2008. ASPB drafted the October 10 letter with input from science societies allied on this issue.

The language in H.R. 110-240 accompanying H.R. 3093, the FY2008 appropriations bill written by the Subcommittee on Commerce, Justice, Science and Related Agencies (CJS), would provide needed support for research across the broad spectrum of science. Subcommittee Chair **Alan Mollohan** (D-WV) championed efforts to include this needed language in the House report. If Senate conferees accept the language in House/Senate conference, the language would result in needed increases for NSF biological, social, behavioral, economic, and geosciences while also providing comparable increases that NSF requested for engineering, math, and computer and physical sciences.

Following are major portions of the science societies' October 10 letter:

The nation's science communities in biological sciences, social, behavioral, economic sciences and geosciences and America's producers of products dependent on this research deeply appreciate your strong support for all science



Chairman Alan Mollohan

disciplines. As Congress recognized in passing the America COMPETES Act and as the House recognized in passing the FY2008 House Appropriations bill for Commerce, Justice, Science and Related Agencies, world leadership in all science disciplines is essential to comprehensive development of job-creating technologies for America's workers.

The NSF FY2008 budget request seeks increases we support of 8 to 9 percent for the math and physical sciences,

computer sciences, and engineering directorates. However, the NSF budget request for the biological sciences directorate is half that, at 4.1 percent; the NSF budget request for social, behavioral, and economic sciences is 3.9 percent; and the NSF budget request for geosciences is 6.3 percent. We have never seen such a disparity in percentage increases for research directorates requested by NSF. At this rate of increase, the proposed doubling for NSF math and physical sciences, computer sciences, and engineering will occur in 8 to 9 years, and the rate of the proposed doubling for biological, social, behavioral, and economic sciences research will be in 18 years. We agree with the House Appropriations Committee, which said, "As the Innovation Agenda moves forward, it is important to note that maintaining U.S. competitiveness will depend on advances in, and the interactions among, all fields of science.

Following this paragraph is an excerpt from H.R. 110-240 accompanying H.R. 3093, the FY2008 appropriations bill for CJS. This language is similar to the authorization report language for NSF that was agreed to by the House, the Senate, and the president in enacting the America COMPETES Act.

The Committee strongly supports increases for the math and physical sciences, computer sciences, and engineering directorates in fiscal

year 2008 for research and related activities (R&RA). However, the Committee also believes the Foundation should maintain comparable growth in fiscal year 2008 for the biological sciences, geosciences, and social, behavioral, and economic sciences directorates. As the Innovation Agenda moves forward, it is important to note that maintaining U.S. competitiveness will depend on advances in, and the interactions among, all fields of science. The Committee expects NSF to ensure that the biological sciences, geosciences, and social, behavioral, and economic sciences directorates receive increases in fiscal year 2008 that are comparable to the other directorates.

Please urge acceptance in the future House/Senate Conference on the CJS Appropriations Bill of this House-approved language to maintain U.S. competitiveness in all fields. America's workforce of tomorrow will be shaped by the innovations across the broad spectrum of science that your support makes possible.

Sincerely,

American Dairy Science Association  
 American Institute of Biological Sciences  
 American Society of Agronomy  
 American Society for Biochemistry and  
 Molecular Biology  
 American Society for Horticultural Science  
 American Society for Microbiology  
 American Society of Plant Biologists  
 Consortium of Social Science Associations  
 Crop Science Society of America  
 Ecological Society of America  
 Federation of Animal Science Societies  
 Natural Science Collections Alliance  
 Soil Science Society of America

## NSF Awards 26 Plant Genome Grants to Seed Plant Systems Biology

The National Science Foundation (NSF) announced October 11 that it has made 26 new awards totaling \$85.8 million during the 10th year of its Plant Genome Research Program (PGRP).

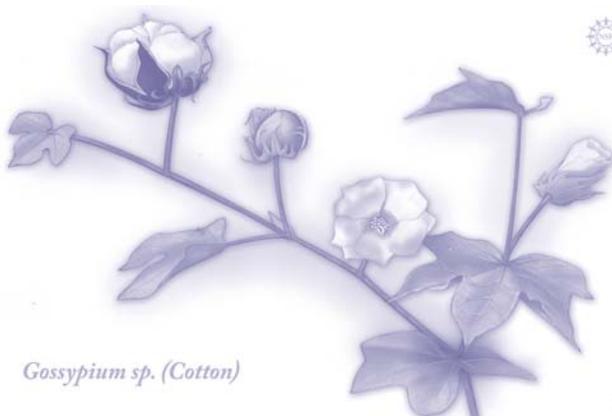
These awards—which cover two to five years and range from \$400,000 to \$7.9 million—support research and tool development to further knowledge of genome structure and function. They will also increase understanding of gene function and interactions between genomes and the environment in economically vital crop plants such as corn, rice, and cotton.

“Plant biologists continue to exploit genomics tools and sequence resources in new and innovative ways,” said **James Collins**, NSF assistant director for biological sciences. “It’s exciting to see research involving biologists and mathematicians, computer scientists and engineers, all working to address major unanswered questions in plant biology. These latest projects will also have a significant impact on how we train the next generation of plant scientists to carry out research at the cutting edge of the biological sciences.”

The new awards—made to 45 institutions in 28 states—include international groups of scientists from Asia, Australia, and Europe.

First-time recipients of PGRP awards include Auburn University, Dana-Farber Cancer Institute, SUNY Stony Brook, University of Alaska–Fairbanks, University of Toledo, and University of Virginia.

The wealth of genomics tools and sequence resources developed over the past 10 years of the PGRP have opened up exciting, new comparative approaches in plant biology. PGRP researchers continue to uncover gene networks that regulate plant development and growth in concert with environmental signals, such as temperature, light, disease, and pests.



*Gossypium sp. (Cotton)*

NSF’s Plant Genome Research Program funds studies on economically important plants. ILLUSTRATION BY ZINA DERETSKY, NATIONAL SCIENCE FOUNDATION.

These projects include the following:

- Researchers at the University of Alaska–Fairbanks are using poplar to develop population genetics tools to identify genes involved in phenotypic variation in bud set, a critical adaptive trait for cold tolerance and growth rate. This project is supported in part by the NSF Office of Polar Programs and includes collaborations with scientists in Canada and Sweden.
- A project led by Michigan State University is using a combination of computation and functional genomics resources to learn more about low-temperature regulatory networks and factors involved with freezing tolerance in tomato and potato.
- Washington State University is leading a project that uses biochemical genomics to reveal components of biosynthesis pathways necessary to produce novel fatty acids in oilseeds. Plants are natural producers of nonsaturated fatty acids.
- A project led by Alabama A&M University is working to identify regulatory gene networks responsible for changes in gene expression in response to nematode infection in cotton plants.

PGRP is also continuing to support the development of tools to enable researchers to make breakthroughs in understanding the structure and function of economically important plants—from the gene level to the

whole plant.

The following are example projects:

- A multidisciplinary team of investigators at the University of Wisconsin–Madison will develop cutting-edge technology using cameras, robotics, and computational tools to enable high-throughput analysis of traits in mutant or naturally varying plant populations.
- A project led by the Dana-Farber Cancer Institute is using Arabidopsis and rice genomic resources to produce a plant “interactome,” a map of all protein–protein interactions. This map will provide scientists with testable predictions of how genes and the proteins they encode interact to carry out complex functions within a plant cell.

The PGRP, which was established in 1998 as part of the coordinated National Plant Genome Initiative by the Interagency Working Group on Plant Genomes of the National Science and Technology Council, has the long-term goal of advancing the understanding of the structure and function of genomes of plants of economic importance.

Senators **Christopher Bond** (R-MO) and **Barbara Mikulski** (D-MD) are leading supporters of the Plant Genome Research Program. (Please see a related story on page 21.)

## ASPB, CoFARM Support Farm Bill Reauthorization of Leading Research Programs

ASPB joined other science societies in the Coalition on Funding Agricultural Research Missions (CoFARM) to send a letter to members of the Senate Committee on Agriculture, Nutrition and Forestry in support of Chairman **Tom Harkin's** (D-IA) proposed reauthorization of leading research programs sponsored by the U.S. Department of Agriculture.

The proposed reauthorization bill (Farm Bill) included some needed provisions recommended by ASPB and other CoFARM members. The letter was sent in October in advance of the scheduled committee markup (vote) on the Farm Bill. ASPB drafted the letter with input from other science societies.

Following is the body of the CoFARM letter:

The Coalition on Funding Agricultural Research Missions (CoFARM), a coalition of more than 20 nonprofit science societies representing more than 100,000 scientists, urges you

to support key research provisions in the Senate Agriculture, Nutrition and Forestry Committee Chairman's mark for the 2007 Farm Bill.

CoFARM supports the legislation's reauthorization of leading U.S. Department of Agriculture (USDA) research programs, including the National Research Initiative Competitive Grants Program (NRI), Initiative for Future Agriculture and Food Systems (IFAFS), and other currently authorized competitive and capacity-building research programs. All programs currently sponsored by the USDA Cooperative State Research, Education, and Extension Service (CSREES) would continue under a newly formed National Institute of Food and Agriculture (NIFA).

The Committee's past support of USDA research programs has been key to increasing the productivity of American agriculture. Increased productivity has helped America's farmers to compete and survive in the increasingly competitive global marketplace.

The USDA Economic Research Service (ERS) September 2007 Economic Brief, entitled "Economic Returns of Public Agricultural Research," shows the average social rate of return to public investment in agricultural research is 53 percent. Research shows that public investment in agricultural research today will begin to have a noticeable influence on agricultural productivity in as few as 2 years, and its impact will be felt for as long as 30 years (ERS 2007). The report can be found at <http://www.ers.usda.gov/Publications/EB10/>.

Thank you for your strong support in past years for world-leading USDA research programs. Please help farming in the U.S. continue to exist by overcoming through research and technology the lower land and labor costs of many world competitors. We urge your continued support of USDA's research programs in the Farm Bill.

## Plant Genome Research Program 10th Annual Awardees Meeting

A number of ASPB members were among the grantees participating in the Plant Genome Research Program 10th Annual Awardees Meeting on September 6 and 7. The meeting, which was held in Arlington, Va., near National Science Foundation offices, provided opportunities for poster presentations, talks on new developments in plant genome research and technology, and networking between scientists.

Among the topics discussed were rapid advances in DNA sequencing technologies and technology development for functional genomics research. Advances in technologies continue to reduce the cost of genome sequencing, making possible accelerated

progress in understanding plant structure and functions. A number of multidisciplinary research teams were represented at the awardees meeting, reflecting the effectiveness of plant scientists in their collaborations with researchers in bioinformatics and other science disciplines.

A reception was held in honor of Dr. **Machi Dilworth** on September 6 at the NSF offices. Machi has taken an assignment as head of the NSF Tokyo office for approximately two years. Many ASPB members and staff expressed their sincere appreciation for her tremendous contributions to plant science and to the broader science community. She served as director of the Biological Infra-



ASPB then-President-Elect Rob McClung (now President; left) and NSF Assistant Director for BIO James Collins (right) participated in the reception honoring Dr. Machi Dilworth for her continuing outstanding contributions to NSF and to science.

structure Division and will return to the NSF Directorate for Biological Sciences after her assignment in Tokyo is completed.

## Siedow, Bailey-Serres Conduct Hill Visits Supporting NSF, BIO

ASPB members **James Siedow** of Duke University and **Julia Bailey-Serres** of the University of California, Riverside, participated in a congressional visits program coordinated by the Coalition for National Science Funding (CNSF) and its member societies on September 18 and 19. Siedow and Bailey-Serres thanked congressional offices for their support of 10% funding increases for NSF research and related activities in fiscal year 2008. The ASPB members also urged continued support for NSF and acceptance in conference of House Report 110-240 language calling for comparable (higher than the budget request) increases for the biological, social, behavioral, economic, and geosciences.

NSF requested percentage increases twice as high for engineering, math, and computer and physical sciences than for biological, social, behavioral, and economic sciences for fiscal year 2008. The language in H.R. 110-240 accompanying H.R. 3093, the FY2008 appropriations bill written by the Subcommittee on Commerce, Justice, Science and Related Agencies (CJS), would provide needed support for research across the broad spectrum of science. ASPB had earlier recommended the House Report provision for the subcommittee, together with the American Society for Biochemistry and Molecular Biology and the Consortium of Social Science Associations. Subcommittee Chairman **Alan Mollohan** (D-WV) championed support for comparable increases across the science disciplines to help strengthen the broad array of U.S. industries dependent on basic research in all science disciplines. (For a related story please see page 22.)

Congressman **David Price** (D-NC), one of eight Democrats on the CJS Subcommittee, expressed to Siedow his interest in conference acceptance of the House Report language calling for comparable increases for all NSF research directorates. Price is a likely conference member in the future House/Senate Conference on CJS appropriations. Siedow thanked the congressman for his strong



Congressman David Price



Congresswoman Marsha Blackburn



James Siedow (left) and Julia Bailey-Serres commend Congressman Patrick Kennedy (D-RI) on his support for NSF-sponsored basic research. Kennedy is on the Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies that recommends spending for NSF.

record of support for competitively awarded basic research funded by NSF.

Siedow also led the science society delegation in meetings with the offices of Senators **Elizabeth Dole** (R-NC) and **Richard Burr** (R-NC). Siedow participated with a neuroscientist from the University of Tennessee in meetings with Congresswoman **Marsha Blackburn** (R-TN) and her staff and with Senator **Bob Corker's** (R-TN) office. Several staff members expressed interest in support for NSF and the House report language. ASPB Public Affairs staff participated in the visits conducted by Siedow and colleagues. Siedow is a member of the ASPB Committee

on Public Affairs and chair of the ASPB Education Foundation Board.

Bailey-Serres met with staff in the offices of Senator **Barbara Boxer** (D-CA), Congresswoman **Loretta Sanchez** (D-CA), Congressman **Ken Calvert** (R-CA), and Congresswoman **Mary Bono** (R-CA). She urged support for NSF, including NSF biological research. She also discussed NSF's support of interdisciplinary research in plant biology at UC Riverside's Center for Plant Cell Biology through an Integrative Graduate Education and Research Traineeship (IGERT) program grant.



## Who Says Plants Can't Be Fun?

*"Light and Life," International Photosynthesis Congress 2007, Glasgow, Scotland*

Last winter ASPBE received an invitation from the Society of Experimental Biology (SEB) to sponsor an education booth in its family event "Light and Life." This science education and outreach project took place during the 14th International Photosynthesis Congress in Glasgow, Scotland, July 22–27, 2007. Meeting organizer Sarah Blackford, SEB External Affairs Officer, extended the invitation. This was the first international event for the ASPBE Education Booth, which now exhibits at the annual meetings of the National Science Teachers' Association, the National Association of Biology Teachers, and AAAS.

Sarah Blackford organized an outstanding set of interactive, hands-on activities and demonstrations for all ages to enjoy. An estimated 800 to 900 visitors came through the "Light and Life" plant and photosynthesis exhibits located in the Glasgow Science Centre while the International Society of Photosynthesis Research (ISPR) meeting was taking place next door in the Scottish Exhibition and Conference Centre.

At our ASPBE Education Booth, everyone enjoyed Roger Hangarter's *sLowlife* DVD; the "12 Principles" bookmarks; and many other handouts, including flyers entitled "How many plants does it take to make a fast-food hamburger?" and "How many plants are used in your house?" All the children enjoyed making and wearing Paul and Coe Williams's Lilliput Garden Necklaces. These brightly colored necklaces with little plastic containers holding small plants were a big hit around the Glasgow Science Centre. We thank John Ward and Jiffy Peat Products for donating materials for the necklaces.

Across from our exhibit, the Royal Botanic Garden in Edinburgh had boys and girls following a floor maze that taught about some common trees of Scotland. Matching a leaf shape to follow a proscribed path, the children traveled from square to square, learning various facts about their specific leaf-type. For example, the final square revealed the



Gillian Dugan, SEB Science Communication Officer, welcomes conference attendees.



Jane Ellis, ASPBE Education Committee chair, helps plant the seeds of knowledge.



(From left) Louise Bustard (Glasgow Botanic Gardens), Melih Sener (Cornell University), Gillian Dugan (SEB Science Communication Officer), Sharon Neilson (Scottish Crop Research Institute; SCRI), Dominic Delaney (Edvotech; SEB), Jane Ellis (ASPBE Education Committee), Jeremy Pritchard (University of Birmingham, SEB Education Committee chair), Sarah Blackford (SEB Education & Public Affairs officer), Alison Roberts (SCRI), Kath Wright (SCRI), and Max Coleman (Royal Botanic Garden Edinburgh).

name of the tree whose leaf they were holding. Students seemed to really enjoy this activity, along with handouts and other take-home items.

Next to us was a wonderful exhibit on medicinal plants provided by the Glasgow

Botanic Gardens (GBG). Here GBG's assistant curator, Louise Bustard, showed examples of medicinal plants and told interesting stories about their history and uses.

In one exhibit, children enjoyed using interactive computer games to understand

how photosynthetic molecules convert energy like a molecular pinball machine.

The SAPS (Science and Plants for Schools) booth had several experiments set up for families to observe. One showed the immediate effect of light on bubble production using *Cabomba*. The children and their parents also enjoyed working with algae balls (immobilized algae with sodium alginate), studying the rate of photosynthesis and then looking through microscopes at samples of the algae.

SEB's booth handed out T-shirts, magnets, magnifiers, and posters promoting photosynthesis. There were many other exhibits for families to enjoy, from "Photosynthesis Up Close" to "Understanding Plants and Climate Change." The Scottish Crop Research Institute's "Lunch From Light" exhibit used computers and microscopes to show children and adults where starch comes from.

Jeremy Pritchard, SEB Education Committee chair, presented a series of lively lectures and interactive demonstrations for all ages on photosynthesis and energy transfer.



Studying lunch with the Scottish Crop Research Institute.

Also included in "Life and Light" was a public interactive debate on global issues related to photosynthesis with a panel of representatives from the community of photosynthesis researchers, environmental groups, policy makers, and agriculturalists.

We thank Sarah Blackford for organizing and inviting ASPB to take part in this wonderful event!

Jane Ellis  
jellis@presby.edu



Jeremy Pritchard, SEB Education Committee chair, demonstrates energy exchange.

## Classroom Activities for Plant Science Radio

The ASPB Education Foundation now offers K–12 teachers two multimodal, interrelated plant science resources for use in almost any classroom.

First, there are three ASPB-sponsored Plant Science Radio shows linked to our website at <http://www.aspb.org/education/NEWK12.CFM>. *Flora Delaterre*, *Plant Detective*, *A Moment in Science*, and *MicrobeWorld* each offer 90- to 120-second programs that can be downloaded for classroom use. Complete descriptions of these programs are at the site.

Second, the website also offers a printable handout, "10 Classroom-Friendly Uses for Plant Science Radio." The handout lists easy-to-use activities to enhance and expand the radio show learning experience. The 10 activities range from simple group warm-ups to more elaborate yet student-driven projects. These adaptable learning opportunities help convey top-quality plant science in formats that will engage students. Better still, most of these activities require very little teacher setup to be successful. Teachers simply download the radio episode of their

choosing and introduce one or more of the activities for students to complete.

Foundation assistant Katie Engen developed the 10 activities together with input from the Education Foundation and Education Committee. For more information, contact [katie@aspb.org](mailto:katie@aspb.org).

## NASA Launches New Plants-in-Space Program

### ASPB Helps Spread the Word

NASA and its program partner, the International Technology Education Association, have launched their 2007–2008 Engineering Design Challenge: *Lunar Plant Growth Chamber*. This new plant biology and engineering program invites K–12 students and educators to conduct research about plant growth in space. The challenge encourages students to design, build, and evaluate their very own lunar plant growth chambers. Students could also receive seeds that have flown in space on the most recent space shuttle mission and use them to validate their growth chamber designs.

Plant growth will become critical as space exploration expands and long-duration missions require the growth of renewable food sources. Astronauts might run out of oxygen on long-duration missions unless they have plants to recycle atmospheric carbon dioxide into useful oxygen. NASA scientists also expect that we may need to grow supplemental food supplies on the moon. Lunar farmers must be able to grow plants where there is no atmosphere, no liquid water, and no “normal” nutritional components in the soil. Obviously, much research is needed to overcome these inhospitable conditions. Properly designed plant growth chambers in space will provide the controlled temperature, light, humidity, atmosphere (including carbon dioxide and oxygen concentrations), moisture, and nutrient delivery that plants require.

The ASPB Education Committee is pleased to promote this challenge, as it combines a variety of comprehensive complexities within plant science and Science, Technology, Engineering, and Mathematics (STEM) Education Coalition research. Participants will follow standards-based learning experiences to design, build, and evaluate lunar plant growth chambers. This synergy of processes allows students to apply the scientific method to discover new aspects of plant science in collaboration with engineering design.



STS-118 space shuttle mission crew, including educator astronaut Barbara Morgan (front row, center), on the International Space Station with a bag of basil seeds. PHOTO PROVIDED BY NASA.



A second-grade student constructing a lunar growth chamber. PHOTO PROVIDED BY NASA.



A student-made growth chamber growing basil. PHOTO PROVIDED BY NASA.



A growth chamber that is currently growing basil on the International Space Station. PHOTO PROVIDED BY NASA.

Students can participate in one of three ways:

1. design, build, and evaluate a chamber
2. design and evaluate a chamber
3. evaluate a chamber (commercially available).

A full description of each of these options can be found on the Hot News and Education pages of [www.aspb.org](http://www.aspb.org) or at <http://www.nasa.gov/education/plantchallenge>. NASA's site also offers many free educational resources, including lesson plans related to

this challenge for educators and activities for students.

The first 100,000 qualified educators who complete the challenge with their students can request cinnamon basil seeds that have flown in space on the STS-118 space shuttle mission with educator astronaut Barbara Morgan.

Students can compare plants grown from both space-flown and Earth-based control seeds and test the designs of the lunar plant growth chambers.

As the challenge is expected to continue beyond this academic year, ASPB will keep promoting the Plants-in-Space challenge via

our website, plant science education information services, and professional conferences. For more information, contact Katie Engen at [katie@aspb.org](mailto:katie@aspb.org) or Matt Keil at [Matthew.J.Keil@nasa.gov](mailto:Matthew.J.Keil@nasa.gov).

**Katie Engen**  
[katie@aspb.org](mailto:katie@aspb.org)

## Roger Hangarter's sLowlife Moves Steadily Forward

It's fascinating stuff—the slow, liquidy unfurling, swaying, and reaching of plants as they delicately dance to their own life rhythms. These beautiful, botanical actions captured on film by Roger Hangarter form the foundation of sLowlife, recipient of the ASPB 2004 Grant Awards Program (GAP). Roger, in collaboration with others, has created an artistic yet accurate portrayal of an array of plant activity in his multimodal sLowlife plant science outreach exhibit.

sLowlife is an educational art installation that uses video, live plants, photographic prints, and interactive environments to draw the viewer into the steadily mesmerizing life activities of plants. Centered on a series of time-lapse movies, the exhibit conveys that plants are complex and vitally alive; they are not inanimate objects. This choreographed experience gives humans auditory and visual access to the unhurried chronology of plants. Such a unique combination of data and art intrigues and even awes both scientists and nonscientists with the mystery of plants in their environment.

An ASPB Education Foundation GAP award of \$30,000 was the initial source of funding for Roger's sLowlife exhibit. He was subsequently awarded a combined amount more than 10 times the GAP award to fully develop and present sLowlife at nationally prominent exhibition sites. Sponsors of the

sLowlife exhibit, in addition to GAP, include the National Science Foundation, the Chicago Botanic Garden, the U.S. Botanic Garden, and Indiana University. Roger's work with current Foundation board member Christine

Roger delivered a lecture about sLowlife entitled "Communicating an Awareness of Plants Through Science and Art" at the Chicago Botanic Garden on October 14, 2007. He also was invited to give a public lecture at the 2007 Chicago Humanities Festival (<http://www.chfestival.org/>). The festival, entitled *The Climate of Concern*, addresses various environmental issues. Roger's presentation explains the plant awareness concepts that are at the core of sLowlife.

Many images from sLowlife also are incorporated into David Salt's *Genomics eXplorer* exhibit, an interactive walk-through model of a plant cell. *Genomics eXplorer* was most recently displayed at the Indiana State Fair in August.

A variety of ancillary programs based on sLowlife have been developed. Although these programs are not directly connected to the exhibit,

Roger uses knowledge gleaned from creating sLowlife to complete aspects of these programs. For example, he included excerpts from sLowlife in several movies he presented at two Chicago art shows. One movie collection aired from March 2 to May 5, 2007, with *Inflorescence*, a gallery show of five artists' work at the David Weinberg Collection ([www.davidweinbergcollection.com](http://www.davidweinbergcollection.com)). The same movie collection was included in an art exhibit entitled *Arts Botanica* at the

*continued on page 30*



The exhibit invites viewers to compare Un-still Life videos to traditional still life paintings.

Flanagan of the U.S. Botanic Garden helped open access to public venues for plant science education for ASPB. Included are such beautiful venues as the U.S. Botanic Garden and the Chicago Botanic Garden. To date, sLowlife has been installed at the following locations:

- U.S. Botanic Garden, Washington, DC  
November 1, 2005–March 26, 2006
- Museum of the Earth, Ithaca, New York  
December 23, 2006–April 1, 2007
- Chicago Botanic Garden, Glencoe, Illinois  
June 23–October 21, 2007



## Mark Jaffe

Mordecai “Mark” Jaffe, a distinguished plant physiologist, died at his home on Sunday, October 14, 2007.

He was 74. During his three decades of teaching career, Mark was an innovative teacher and researcher. He published more than 100 research papers that crossed from plant physiology to biophysics, neurology, and anthropology. He retired in 1988, but he never gave up

being a research experimentalist. He set up his own laboratory in a room above his garage, a laboratory that he called the Jaffe Institute for the Absorption of Jaffe Funds (JIFAJAF). When he died he had just published a paper on contractile roots and was currently doing experiments on thigmo reactions in *Parmecium*. It was a characteristic of his research career that he would pursue highly original research on entirely new areas of study. Examples include his seminal thesis work on tendril coiling, and then his surprising finding of acetylcholine in plants,



and then his origination of the new field of thigmomorphogenesis as a basic phenomenon in plant growth and differentiation. He made numerous contributions to areas of growth regulation, phytochrome actions, tissue differentiation, and signal transduction.

Mark did his doctorate work at Cornell and a post-doc at Yale under Art Galston. He became an endowed professor at the University of

Ohio, then Charles Babcock Professor of Botany at Wake Forest University. After his official retirement, he moved to Ithaca, where he continued his research activities as an associate in the Boyce Thompson Institute for Plant Research.

Mark found joy in the search for answers to questions about underlying units of nature—a true intellectual researcher. 🌿

**Carl Leopold**

Emeritus Scientist

Boyce Thompson Institute of Plant Research, Cornell University

## Hangarter's *sLowlife* continued from page 29

Loyola University Chicago Museum of Art in Chicago, June 1–8, 2007.

Roger states, “It is extremely rewarding to see that my hope for reaching a broad audience with *sLowlife* is also resulting in other opportunities to bring plant science to the public.”

The *sLowlife* exhibit continues to be stewarded by the Chicago Botanic Garden.

Their offices are in the process of scheduling *sLowlife*'s next location since it left Chicago on October 21. Interested parties can contact [exhibits@chicagobotanic.org](mailto:exhibits@chicagobotanic.org) or review [www.chicagobotanic.org/exhibits](http://www.chicagobotanic.org/exhibits) for information about scheduling *sLowlife* at a venue. More information and teaching resources also can be found at Roger's website, <http://www.bio.indiana.edu/~hangarterlab/>. 🌿

**Katie Engen**

[katie@aspb.org](mailto:katie@aspb.org)



## Future ASPB Meetings

### Pan American Congress Plant and BioEnergy Symposium 2008

Mérida, Mexico

June 22–25, 2008

Registration opening January 2008

### Plant Biology 2008

Mérida, Mexico

June 26–July 1

Joint Annual Meeting of the American Society of Plant Biologists and the

Sociedad Mexicana de Bioquímica

Rama: Bioquímica y Biología

Molecular de Plantas

### Plant Biology 2009

Honolulu, Hawaii

July 18–22

### Plant Biology 2010

Montreal, Canada

July 30–August 5

Joint Annual Meeting of the American Society of Plant Biologists and the Canadian Society of Plant Physiologists—

*Société Canadienne de*

*Physiologie Végétale*

For more information, go to [www.aspb.org/meetings/](http://www.aspb.org/meetings/).



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i. Percent Paid (15c divided by 15f times 100)		99.9%	99.9%

16. Publication of Statement of Ownership  
 If the publication is a general publication, publication of this statement is required. Will be printed in the Nov/Dec 2007 issue of this publication.  Publication not required.

17. Signature and Title of Editor, Publisher, Business Manager, or Owner  
  
Date  
September 24, 2007

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## ASPB Headquarters

### Telephone Extensions and E-Mail Directory

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

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