

J U N E 2 0 1 1

SS-ASPB

Newsletter of the Southern Section of the American Society of Plant Biologists



Dr. Paxton Payton

Hello from Dr. Paxton Payton, 2010-2011 Chair of the SS-ASPB

First, I'd like to thank the society officers for another great year and another outstanding meeting. Newly elected Secretary/Treasurer Jay Shockey, and local coordinator Doug Van Hoewyk have selected the Ocean Reef Resort in Myrtle Beach, SC for next year's meeting. The meeting will be held March 3-5 and promises to be another excellent meeting in one of the most scenic beach communities in the country.

Many thanks to the Executive Committee members, Kent Chapman, Kelly Major, Marc Cohn, and Stephen Banks, and Tim Sherman, our representative to ASPB, for their dedication and continued service to SS-ASPB.

On a personal note, I'd like to express my gratitude in being able to serve SS-ASPB as an officer for the last three years. My experiences as a graduate student participating in the annual meetings and student competitions were invaluable in my development as a student and young scientist. I have been fortunate enough to now, hopefully, aid in the development of other young scientists, through my participation in organizing these meetings. Often between teaching, writing, guiding students, dealing with paperwork, and ignoring administrators I wonder why I'd make a voluntary commitment that involves dealing with hotels, organizing symposia, and writing newsletters. The simple answer is because someone did it for me when I was a student. I have no doubt that this tradition will continue in the Southern Section.

Best wishes and see you next year in Myrtle Beach.

Symposium

The 2011 Kriton-Hatzios Symposium focused on abiotic stress.

The featured speakers were:

Dr. Barbara Demmig-Adams,
Department of Ecology and
Evolutionary Biology, University
of Colorado, Boulder

*"Photosynthesis, Photoprotection,
and the Environment"*

Dr. Robert E. Sharp,
Department of Plant Sciences,
University of Missouri,
Columbia

*"Root Growth under Water Deficits:
Physiological Complexity and
Coordination"*

Dr. Randy D. Allen, Professor
and Sitlington Chair, Institute for
Agricultural Biosciences,
Oklahoma State University,
Ardmore

*"Transgenic Strategies to Improve
Drought Stress Tolerance in Cotton"*

for more see page 3

What's here...

<i>Message from Vice-Chair</i>	<i>pg. 2</i>	<i>Future meetings</i>	<i>pg. 6</i>
<i>Symposium</i>	<i>pg. 3</i>	<i>ASPB news</i>	<i>pg. 7</i>
<i>Meeting highlights</i>	<i>pg. 4</i>	<i>Elections</i>	<i>pg. 8-10</i>
<i>Student competitions</i>	<i>pg. 5</i>		

Hello from Dr. Rebecca Dickstein, 2010-2011 Vice-Chair of the SS-ASPB

The 2010-2011 Annual Meeting of the ASPB Southern Section took place April 9-11, 2011 at the Gulf Coast Research Laboratory in Ocean Springs, Mississippi. It was attended by participants from Alabama, Arkansas, Georgia, Louisiana, North Carolina, Oklahoma, South Carolina and Texas, representing 19 colleges and universities. Fourteen students competed in the graduate student oral presentation competition. Six posters were entered in the Aubrey Naylor undergraduate poster competition and one student entered in the undergraduate oral competition.

Because of the threatened government shutdown, the United States Department of Agriculture (USDA) canceled all travel Department-wide at about noon on April 8, 2011, the day before our meeting was slated to begin. Even though the threatened shutdown was averted at 11 PM that same day, our USDA colleagues' trips to participate in our meeting were already canceled – we missed you! And we hope that we'll see you next year.



Dr. Rebecca Dickstein

Conference Organizers



The 2011 Annual Meeting was an outstanding success because of the efforts of Dr. Paul Stephenson, 2010-2011 SS-ASPB Secretary/Treasurer, and Dr. Patrick Biber, our local host who is an Associate Professor at the University of Southern Mississippi, affiliated with the Gulf Coast Research Laboratory. They were ably assisted by Ms. Angelia Bone, Physical Plant Office Manager for the GCRL, Ms. Debra "Cookie" Lafayette, Dining Hall Supervisor and Ms. Bone's and Ms. Lafayette's staff



The 2011 Kriton-Hatzios Symposium focused on abiotic stress.

The featured speakers and their presentations were:

Dr. Barbara Demmig-Adams, Department of Ecology and Evolutionary Biology, University of Colorado, Boulder. “*Photosynthesis, Photoprotection, and the Environment*” Dr. Demmig-Adams’s talk focused photoprotection via the safe removal of excess solar energy that otherwise might cause reactive oxygen species to form, through thermal energy dissipation. Dr. Demmig-Adams’ talk started with the molecular mechanisms of excess energy dissipation and continued to its importance in ecosystems, emphasizing its roles in fast-growing versus slower-growing species and in evergreen species under extreme cold stress.

Dr. Robert E. Sharp, Department of Plant Sciences, University of Missouri, Columbia. “*Root Growth under Water Deficits: Physiological Complexity and Coordination*”. Dr. Sharp’s talk focused on maize root growth adaptation and regulation under water stress. Dr. Sharp started his talk by describing kinematic experiments used to characterize which root growth zones are the most affected under water stress- it turns out at growth is less affected at the root apex than more basal parts of the root. Dr. Sharp’s talk then turned to reactive oxygen species found in apoplastic regions and their role in regulating cell wall extensibility and compounds like phenylpropanoid metabolites that have roles in plant root growth.

Dr. Randy D. Allen, Professor and Sitlington Chair, Institute for Agricultural Biosciences, Oklahoma State University, Ardmore “*Transgenic Strategies to Improve Drought Stress Tolerance in Cotton*” Dr. Allen’s talk focused on biotechnological approaches to improve cotton drought stress. He talked about cotton plants that have been engineered to express genes like *ABF3*, encoding a transcription factor. Dr. Allen showed data on cotton constitutively expressing *ABF3* showed enhanced survival under water stress, but also grew slower and flowered later, probably as a consequence of constitutively expressed ABA responsive genes. Dr. Allen also talked about other strategies to improve cotton including expressing the *DREB/CBF3* cold-response transcription factor gene under other stress-inducible promoters, and expressing a heat shock binding protein in cotton.

Organized by Dr. Rebecca Dickstein



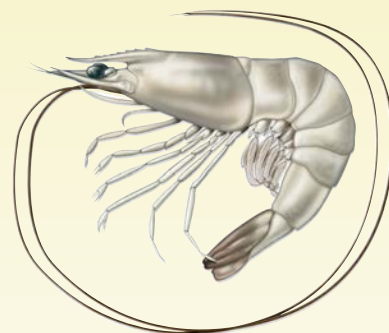
Left to Right: Dr. Robert Sharp, Dr. Barbara Demmig-Adams, Dr. Rebecca Dickstein and Dr. Randy Allen

The Banquet

Before the banquet, **Dr. Biber** (right) gave us an excellent presentation on the effects of the BP oil spill on the coastal community, focusing on the aquatic and marsh plants and animals. Dr. Biber's presentation was during the banquet, and was extremely informative, not only about the spill and the damage it did, but also about the prospects for remediating the effects of the spill on the aquatic and coastal environments.



Dr. Tim Sherman (left), SS-ASPB Sectional Representative to ASPB, talked about the importance of belonging to and participating in our parent organization.



The food and company were excellent.



Student Presentation Competitions

We always look forward to our graduate student and undergraduate student competition talks and posters at the annual SS-ASPB meeting. We had some wonderful student talks at this spring's meeting and it was very difficult for the judges to choose the winner in two of the three categories. For the graduate student talks, **Patrick Horn**, a PhD student in Dr. Kent Chapman's lab at the University of North Texas (UNT) won for his talk "*Direct visualization of lipid molecules in cotton embryos by matrix-assisted laser desorption ionization mass spectrometry.*" As might be expected from the title of his talk, it featured a number of beautiful images resolving the spatial distribution of lipids in sections of cotton embryos.

For the undergraduate student competition, we had only one brave undergraduate who entered the undergraduate talk competition, so he was the clear winner. This was **Cliff Sandlin**, a Biological Sciences and Mathematics double major who carried out his research project in Dr. Rebecca Dickstein's lab, also at UNT. The title of Cliff's talk was "*Medicago truncatula NIP affects lignin and callose deposition and regulation of genes important for secondary metabolism and fungal defense.*"

The undergraduate poster competition featured a number of graduate-student quality research presentation posters and the judges grilled the poster presenters in their attempts to choose the winner. **Milo Lewis**, a Biological Sciences major who performed his research in Dr. A. Scott Holaday's lab at Texas Tech University emerged as the winner for his poster "*A Comparison of Nitrogen Allocation Strategies for the Invasive Wetland Grass, Phalaris arundinacea, and the Native Sedge, Carex stricta.*"

In addition to our winners, we want to congratulate all of the students who gave posters and talks: you are the core and the future of the SS-ASPB and we congratulate you for the outstanding research that you do!



Patrick Horn (left), accepting his prize for Best Graduate Oral Presentation from Dr. Paul Stephenson (right),



Clifford Sandlin (left), accepting his prize for Best Undergraduate Oral Presentation



Milo Lewis (left), accepting his prize for Best Undergraduate Poster Presentation

A personal note about the graduate and undergraduate student presentations from Rebecca Dickstein:

I wanted to comment about several students who presented posters and talks at both last year's and this year's meetings. I think this is a complete list of students who presented at both meetings: Bikash Adhikari, Hasitha Guvvala, Patrick Horn, Chris James, Jantana Keereetaweeep and Yuanhua Wang; I hope I haven't omitted someone. One of these students gave talks at both meetings, two of them presented posters at both meetings, and three of them gave poster presentations last year and an oral presentation this year. I think each of these students gave stronger presentations this year than last year, and I would like to think that the process of preparing and presenting a poster or a talk helped each of them to rise to the challenge of doing stronger science. It's really gratifying to me to see these students' research progress and to see their development as scientists. And, I hope I'll see them again at future meetings, as I do for the other students that I met at the SS-ASPB meeting these past two years.



Left to right: Jantana Keereetaweeep, Hasitha Guvvala, Patrick Horn, Chris James, Yuanhua Wang, and Bikash Adhikari

Speaking of meetings...

This year's national ASPB meetings are in Minneapolis. ([http://my.aspb.org/?page=Meetings Annual](http://my.aspb.org/?page=Meetings%20Annual)).

Symposia planned for this year include...

- *Harvesting Bio-("Biological and Biochemical") Diversity*
- *The Regulatory World of RNA*
- *Vegetative Development: Dynamism and Plasticity*
- *Organelle responses and adaptations to environmental and developmental signals*
- *Plant Carbon Cycling*
- *ASPB President's Symposium: Plants & BioEnergy*



2012 SS-ASPB meetings

Also, don't forget to plan for our sectional meeting that will be held on March 3-5, 2012 in Myrtle Beach, SC.

We hope to see you at both meetings!

ASPB Executive Committee Report

by Tim Sherman, SS-ASPB Rep to ASPB

Here's a very brief summary of the ASPB Excom meeting held March 4-6th.

The overall message is that health of the parent society, in terms of net worth, membership and meeting attendance, is good. The journals are doing well and financial investments have recovered well from the crash. This is not to say that there are not issues on the horizon that are of concern.

New Public Affairs Director - Adam Fagan has taken on the position of Public Affairs Director, a job that Crispin Taylor has been handling since the health-related departure of Brian Hypes.

Membership – ASPB membership numbers for 2010 showed a small upward trend, an increase of 303 members, with a total of 3401 for 2010.

Strategic Planning and Business Development - ASPB's ad hoc Business Development Committee and ASPB's director-level staff is addressing the pros and cons of various potential revenue-generating ideas to prepared for the anticipated decline in revenues from institutional journal subscriptions. A new idea the committee addressed was to recruit a human-centered design firm. In this design approach, consultants observe and interact intensively with plant scientists while they are at work to come up with products or services that ASPB can provide its members to address perceived needs and gaps.

ASPB Development Foundation – To address the financial challenges addressed above, the society is looking into the creation of an ASPB Development Foundation. The charge to foundation would be to intensify efforts in development to significantly increase endowment funds to meet not only the charter mission of the Education Foundation, but also numerous other outreach missions of ASPB.

New ASPB website – Web Overhaul Committee (chaired by Sally Assmann), ASPB's webmaster, Wendy Sahli, have overhauled the APB website. The new design is radically

different and offers a great deal more functionality, but is not entirely intuitive. It offers much greater focus on social interaction (reminiscent of Facebook). It is likely to appeal more the younger members. Check it out: www.aspb.org

SURF networking – SURF is one of the Society's largest direct investments in a specific program. All current funds (\$70,000 annually) are granted directly to fellowship winners. ASPB will support a SURF networking event(s) and refreshments at the Undergraduate poster session at the summer meeting.

Outreach activities - ASPB will provide support to the Washington, DC based USA Science and Engineering Festival 2012. ASPB is also budgeting for a booth at the National Science Teachers Association annual meeting.

Laboratory Leadership Workshop 2011 – You've been receiving mailing from ASPB about this. At this summer's meeting, ASPB will hold a two-day Laboratory Leadership Workshop targeted toward senior postdocs and junior faculty. This is being supported by ASPB, DOE, Monsanto, and potentially by NSF and USDA (grants pending). More info can be at: <http://my.aspb.org/event/LabLeadership2011>

Plant Science Research Summit - Several ASPB members and other prominent plant scientists have been working over the past year to develop a plan to convene a Plant Science Research Summit in fall 2011. This summit will bring together key stakeholders from across the plant science community to develop a consensus plan to invigorate and guide plant science research over the next decade. The summit's main goal is to bring together representatives of the full spectrum of plant science research, from basic to applied, to identify critical gaps in our understanding of plant biology that must be filled over the next 10 years or more in order to address the grand challenges facing our nation—in areas such as health, energy, food, and environmental sustainability. Funds for this conference are being solicited from HHMI, DOE, NSF, USDA, and NIH. ASPB is planning to fund a policy fellow who will provide support for many aspects of the project.



Election for next year's officers

Each year we fill four positions on our executive committee and vote for the site of our next year's annual meeting. This year we will also be electing a new sectional rep to ASPB.

The candidates...

Our executive committee nominates a candidate for each position from within the current executive committee. This allows for continuity in these important offices. You can vote for the person that we have nominated or a write-in candidate of your choice.

For 2012-2013 we are nominating:

- **Dr. Rebecca Dickstein** to our Executive committee
- **Dr. Paul Stephenson** to Chair
- **Dr. Jay Shockey** to Vice Chair

For the position Secretary-Treasurer, we recruit volunteers from the membership at large to serve.

The candidates for Secretary-Treasurer- 2012-2013 are:

- **Dr. Rick Turley**, USDA-ARS, Stoneville, MS
- **Dr. Ashley McCaskill**, North Georgia College & State University, Dahlonega, GA

A biographical sketch of each candidate is given below.

Dr. Rick Turley

Rick Turley received his B.S. degree in botany with a minor in chemistry from Brigham Young University in 1983. He spent his next two years at Michigan State University studying the biochemistry of plant peroxisomes with Dr. Ed Tolbert. In 1985, he transferred to Arizona State University and investigated the biogenesis of specialized oilseed peroxisomes, called glyoxysomes, with an emphasis on the enzymes malate synthase and isocitrate lyase. At Arizona State University, Rick completed his Ph.D. in 1990 with Dr. Richard Trelease. Dr. Turley accepted a position as a Plant Physiologist and joined the Cotton Physiology and Genetics Research Unit (now the Crop Genetics Research Unit) USDA-ARS in Stoneville, MS in 1990. His primary research focus has been to understand the initiation and growth of cottonseed fibers. His research approach has been to use genetics to produce and release experimental lines, such as the fiberless cotton line "MD17", to develop numerous near isogenic lines, and to determine the number of loci involved in cotton fiber initiation. This research complements his physiological approach to understanding trichome initiation on cotton ovules. Dr. Turley has provided numerous groups with the standard cotton fiber mutants and is presently collaborating with different groups on mapping and elucidating the transcription factors involved. Dr. Turley has served as an adjunct professor in the Biology Department of Delta State University, Cleveland, MS, and as Assistant Editor of the Journal of Cotton Science. He has been a member of ASPB since 1986.

Dr. Ashley McCaskill

Ashlee McCaskill received her B.S. in Botany from the University of Arkansas at Fayetteville in 1995. She received her Ph.D. in Plant Molecular Biology from Cornell University in Ithaca, NY, in 2007. Her thesis advisor was Dr. Robert Turgeon, with whom she investigated the polymer trap model of symplastic phloem loading. Their work culminated in the first molecular genetic data supporting this model. While in graduate school, Ashlee helped establish the Plant Biology Graduate Student Association and served as that group's first president. In addition she garnered extensive teaching experience, acting as a teaching assistant for numerous courses for four years and was awarded the honor of Outstanding Graduate Teaching Assistant in Plant Biology. In 2009, Ashlee accepted the position of Assistant Professor of Plant Biology at North Georgia College and State University in Dahlonega, GA. Since North Georgia is primarily an undergraduate institution, Ashlee has spent her first years engaged in teaching Botany, Plant Physiology, Mycology and both the majors and non-majors courses in Introductory Biology. In addition to teaching, she has been developing her research program, which currently focuses on the roles of raffinose family oligosaccharides on stress tolerance. Ashlee has been a member of ASPB since 2003.

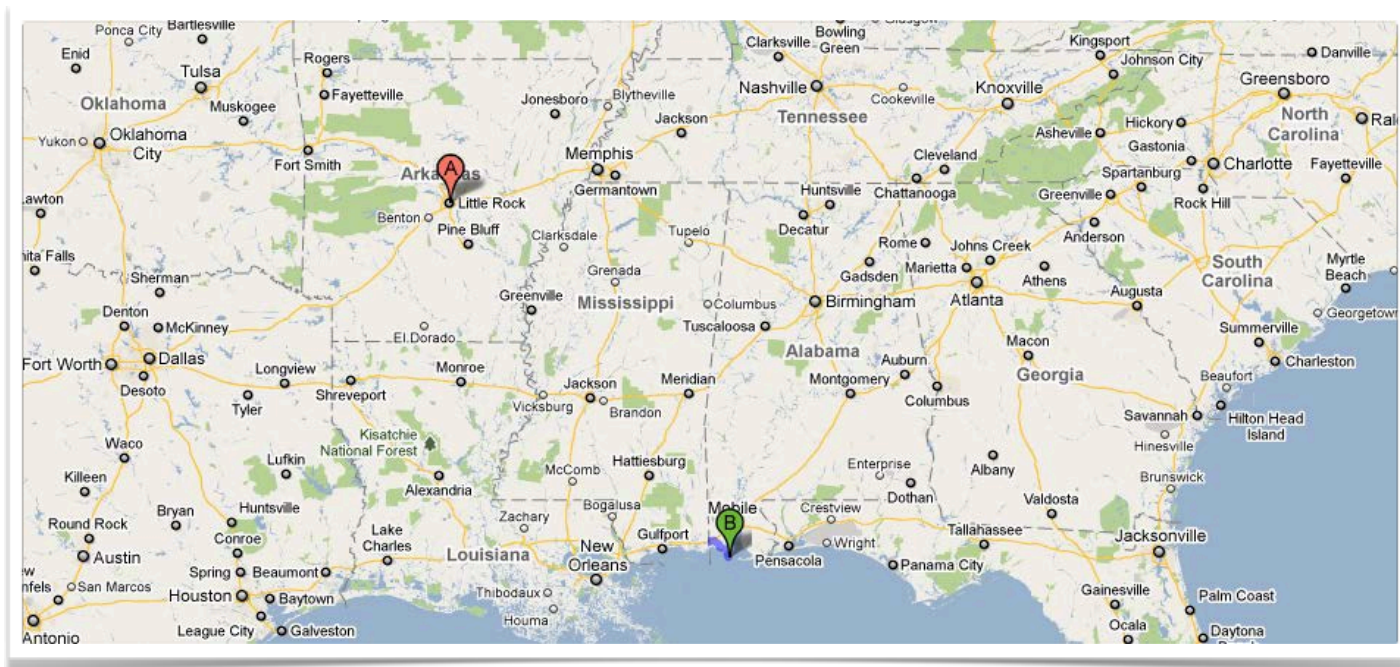
Southern Section Representative to ASPB

Every three years we elect a new member of the Southern Section to serve as our representative to the parent society. This representative acts a voice for our section in the ASPB Executive Committee.

This year our nominee is **Dr. Kent Chapman**, Division of Biochemistry & Molecular Biology, Department of Biological Sciences, University of North Texas. He has served on the SS-ASPB for 7 years, as Sec-Treas., Vice-Chair, Chair, and as an executive committee member for 4 years. He is familiar with our history and will be happy to give ear to any concerns you that you feel should be presented to the national ASPB executive committee.

On the ballot, please vote for him or any write-in candidate that you feel will be willing and able to serve in this position.

Site Selection for the 2013 annual meeting



Little Rock, Arkansas

With an area population of 700,000, Little Rock is an often overlooked destination. It is home to Univ. of Arkansas at Little Rock with a student population of about 10,000.

Little Rock is Arkansas's capital city. Located near the geographic center of Arkansas, this city derives its name from a small rock formation on the south bank of the Arkansas River called la Petite Roche (French: "the little rock").

Little Rock is located at the intersection of I-40 and I-30. A number of airlines service Little Rock via the Little Rock Regional Airport (LIT) and offer non-stop jet service to Atlanta, Dallas, Memphis, and Charlotte.

Housing here will be in a hotel.

Mobile, AL (Dauphin Island Sea Lab)

Mobile has a metro-area population of 400,000 and is home to the University of South Alabama, fourth largest university in the state with a student population of about 15,000. Mobile itself was founded in 1702 as the original capital of the Louisiana Territory. The correct pronunciation of the city's name is "Mo-beel", given the soft emphasis on the second syllable by its French founders.

The meeting will be held at Dauphin Island Sea Lab. Mobile is located at the intersection of I-65 and I-10. Four airlines (Continental, Delta, Northwest, U.S. Airways) service this area via the Mobile Regional Airport and offer non-stop jet service to Atlanta, Dallas, Houston, Memphis, and Charlotte. Dauphin Island is about a minute drive from the airport or a 30 minute drive south of I-10.

Housing here will be dorm-style.



Remember to vote!

All current of SS-ASPB can vote for officers and the upcoming meeting site. If you are also current member of the ASPB national, you can vote online at: <http://www.aspb.org/sections/southernvote.cfm>

If you have paid dues to only the Southern Section, you will have to vote via email. Our Secretary-Treasurer, Jay Shockey (Jay.Shockey@ars.usda.gov) will email a ballot to you email that you can use to vote.

The voting deadline is July 8th, so don't wait!

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