Hello! This year we had a fantastic meeting in downtown Little Rock, Arkansas, in the historic Capitol Hotel. It’s hard to imagine a more genteel venue, a more exciting series of presentations and posters, or a more enthusiastic group of attendees! Many thanks go to our Secretary/Treasurer, Dr. Ashlee McCaskill, for organizing this year’s meeting. We were fortunate this year to share our meeting with the Arkansas Center for Plant Powered Production (P3) and special thanks go to Dr. Carol Cramer and Emily Devereaux for their help and collaboration. It was wonderful to have P3 members at the meeting sharing their research interests with us. This was one of our largest meetings in recent years, with 157 people attending. This year’s Kriton-Hatzios symposium was equally exciting and focused on secondary metabolism, signaling and plant defense. Thanks to our Vice-Chair Dr. Jay Shockey for organizing a great panel of speakers: Drs. Ken Korth, Eric Schmelz, Natalia Dudareva, and Linda Walling. Thanks to all who attended and helped make this year’s meeting a great success.
This year’s meeting was held at the elegant Capitol Hotel in Little Rock, Arkansas. The fine accommodations provided ample room and comfort for relaxed socializing during meeting breaks. The Saturday night mixer was held in the Baxter Room, a lively and well-attended affair.

It was my pleasure to open the meeting on Sunday morning promptly at 8:00 a.m. in the Ballroom. A large group was on hand to hear presentations ranging from transgenic control of aflatoxins to the potential of using Camelina sativa for aviation fuel. These were wonderful presentations and we finished the general sessions just in time for lunch. The Capitol Hotel offered two great venues for lunch “Ashley’s” and the “Capitol Bar and Grill” (I can personally vouch for the Reuben Sandwich at the Capitol Bar and Grill).

The afternoon was busy and exciting! The graduate student competition comprised 32 presentations divided into three venues which ran concurrently. Many congratulations are due to the students. Their talks covered a remarkable array of plant biology topics and presentations were polished and very professional. Many thanks to the session moderators who kept things running on time so that our meeting participants could shuttle between venues and be assured of catching the talks they wanted to hear. My only regret was that I did not have time to attend all of the presentations!
After a short break following the conclusion of the graduate student presentations, the poster session began at 4:30. This year we had 56 posters and a great time was had by all as the lively discussions at the poster boards continued well past the 6:30 p.m. end of session.

This year’s graduate presentation winners: Mark Bundy and Ritu Mahani. (not pictured: Komal Ramesh Kunder)

Our banquet was held in the ballroom and we had a delicious dinner and dessert followed by a brief presentation by Kent Chapman with latest news from the ASPB and concluding with the awards to graduate students and poster winners.

Congratulations once again to our graduate speakers and poster presenters!

Graduate Presentations
1. Mark Bundy (University of Tenn.): Characterization of GPI transamidase in Arabidopsis thaliana and the role of GPI-anchors in stomata development.

2. Ritu Mihani (University of AR): Regulation of lignocellulose pathway in rice as model for grasses.


Undergraduate Poster Presentations:
1. Kathryn Lankford and Darreyl Wilson (University of W. Georgia): Characterization of two Chlamydomonas reinhardtii mutants defective in chlorophyll biosynthesis and photosynthesis under different irradiance conditions.

2. Miranda Jarrett (AR State University): Development of a recombinant trout IL-22 as a ‘natural’ therapeutic for enhanced innate immune defense in aquaculture systems.

3. Drew Sturtevant (U. North TX): Mass spectrometry imaging of mature cotton embryos with altered seed oil and protein reserves from diverse cotton (Gossypium sp.) genotypes.
Secondary Metabolism, Signaling, and Plant Defense

Dr. Ken Korth
Dept. of Plant Pathology, University of Arkansas-Fayetteville, Fayetteville, Arkansas
“Exploring the role of triterpene saponins in plant-pest defenses using a metabolomic approach”
Volatile terpenes can be induced by insect feeding, and play important roles in plant communication with insects and neighboring plants. Triterpene saponins are also induced by insect feeding, and have anti-herbivore and anti-pathogen effects. We have applied genomic and metabolomic approaches to characterize terpene biosynthesis in Medicago truncatula. This legume species serves as a valuable tool to study secondary metabolism because of its diverse array of metabolites, and because of the collection of accessions with widely varied metabolite profiles. We have demonstrated a clear correlation between biosynthetic gene expression patterns and insect-induced terpenes. Current studies focus on the biological role of terpene profiles in plant defense against pests.

Dr. Eric Schmelz
USDA-ARS, Center for Medical, Agricultural & Veterinary Entomology, Gainesville, Florida
“Newly discovered maize metabolites involved in signaling and defense against biotic attack”
Induced-terpene volatile emissions and other dynamic plant responses to insect attack are initiated in part through the recognition of oral secretion and salivary derived elicitors which include proteins, peptides and fatty acid-amino acid conjugates. In maize (Zea mays) and other major crops, these defensive processes are amplified by Plant Elicitor Peptides which further trigger the production of jasmonic acid, ethylene, accumulation of terpene synthase and protease inhibitor transcripts, volatile emission, increased parasitoid attraction and herbivore growth inhibition. Non-volatile terpenoid phytoalexins are less commonly elicited by insects; however, maize stems accumulate 2 diverse classes of acidic sesquiterpenoids and diterpenoids, termed zealexin and kauralexins, respectively, following insect and fungal attack. Insect-induced terpenoid phytoalexins can function as anti-feedants and exhibit potent anti-fungal activity.
Secondary Metabolism, Signaling, and Plant Defense

Dr. Natalia Dudareva
Dept. of Horticulture and Landscape Architecture, Purdue University, West Lafayette, Indiana
"Biosynthesis, regulation and metabolic engineering of plant secondary metabolites"
Throughout their life cycles, plants release diverse blends of volatile compounds that play crucial roles in pollinator attraction, defense and communication. Plants' amazing suites of volatile organic compounds (VOCs) facilitate interactions with their environment, by protecting them from pathogens, parasites and herbivores. Floral volatiles also contribute to plant biodiversity and are crucial in various agricultural processes due to their role in seed dispersal and mediating plant-pollinator interactions. The importance of plant volatiles (in addition to the general appeal of fragrances and flavors to humans), have made secondary metabolites an attractive target for metabolic engineering. In the past decade, significant discoveries in the plant volatile biosynthetic pathways have provided a starting point for their modification. Pioneering attempts to alter plant volatile profiles have uncovered the complexity of networks and their regulation, and have built new avenues for future successful metabolic engineering.

Dr. Linda Walling
Center for Plant Cell Biology, University of California, Riverside, California
"Plant defense responses to phloem-feeding insects: the role of plant leucine aminopeptidases"
Phytophages breach the integrity of plant tissues to recover nutrients from foliage, seeds, pollen, nectar, roots, or shoots. While many herbivores cause extensive damage, phloem-feeding insects, such as aphids and whiteflies, cause modest to barely perceptible damage, respectively. Phloem-feeding insects provide additional challenges to plants as they deplete photosynthates, vector viruses, and introduce chemical and/or protein effectors that alter plant defense signaling, infestation symptoms, and plant development. Phloem-feeding insects cause heavy losses in agriculture and horticulture due to their broad host ranges, breeding strategies that promote invasiveness, highly evolved feeding strategies, and their ability to adapt to a wide range of plant habitats. With the tools of cell and molecular biology, genetics, genomics, electrophysiology, and biochemistry, investigators are providing novel insights into the complexity and dynamics of plant-herbivore interactions. Aphids and whiteflies take advantage of their adept feeding strategies and avoid or deter many plant defenses. These insects disguise themselves and deceive their hosts and natural enemies by using their stylets to deliver salivary chemicals and/or proteins into the plant to influence wound healing, defense-signaling pathways, and volatile emissions. Professor Walling's talk covered a variety of topics under investigation in her laboratory, with the primary focus being the comparison of the interaction of plant hosts with whiteflies versus aphids. Of particular interest is the ability of certain insects to interfere with the plants' ability to sense and respond to the pest by "misguiding" the plant host into altering the balance of jasmonic acid-based and salicylic acid-based gene expression and signal transduction.
Next Year’s Meeting is in...  

Lexington

Kentucky!
Local Host: Dr. Joseph Chappell
Dates to be established this fall.

Nestled in the heart of Kentucky’s Bluegrass Region, Lexington has the amenities of bustling city, wrapped in small-town charm and surrounded by rolling hills and beautiful horse farms.

The University of Kentucky campus with over 22,000 students is just minutes away from downtown Lexington, where you’ll find a variety of restaurants and local eateries specializing in everything from Southern-style home cooking to sushi and all cuisines in-between. Lexington is known as the horse capital of the world. In 2010, Lexington hosted the World Equestrian Games, and each October and April live racing season at Keeneland Race Course is a favorite pastime for everyone. And if time permits, you can always explore the art and science behind our proud traditions along the Kentucky Bourdon trail, where for more than 200 years legendary distilleries have been crafting the world’s finest Bourbon.
Welcome to Dr. Rick Turley our new Secretary/Treasurer for the Lexington KY meeting. Congratulations also to Dr. Ashley McCaskill who will be Vice Chair for 2013-14 and organizing this year’s Kriton-Hatzios symposium, also to Dr. Jay Schockey our 2013-14 Chair. Finally, many thanks to Dr. Stephen Banks who will be rotating off the Executive Committee following six years of outstanding service! We wish you well.

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Remember, this year’s National ASPB Meeting will be held in Providence Rhode Island. July 20-24, 2013  
More information available at WWW.ASPB.ORG