Plant Biology 2016

JULY 9-13 | AUSTIN, TEXAS

Final Program

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Call for Papers

Plant Physiology®

2017 Focus Issue on Flowering and Reproduction

Deadline for Submission Extended!

Edited by Alice Cheung, Richard Amasino, Cris Kuhlemeier, and Thomas Dresselhaus

Deadline for Submission Extended to August 12, 2016
For more information, go to http://bit.ly/1TnDPiv

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Call for Papers

Plant Physiology®

2017 Focus Issue on Stomata

Edited by Keiko Torii, Timothy J. Brodribb, and Mike Blatt

Deadline for Submission: December 5, 2016
For more information, go to http://bit.ly/1TnDPiv

To submit an article, go to http://pphys.msubmit.net

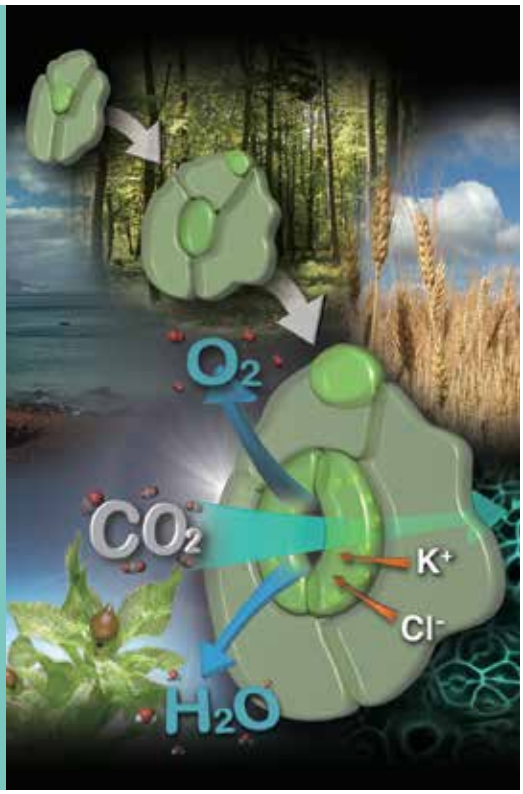

Image by: Haruko Hirukawa

Daily Schedule

Friday, July 8

Start Time	End Time		Room
2:00 PM	6:00 PM	**Registration Open**	Exhibit Hall Foyer

Saturday, July 9

Start Time	End Time		Room
8:00 AM	6:30 PM	**Registration Open**	Exhibit Hall Foyer
9:00 AM	10:00 AM	**Undergraduate Poster Session**	18

Visit the future of plant biology as undergraduates display their posters during this special session. Undergraduates may move their posters to the exhibit/poster hall after this event if an abstract was submitted for the regular poster sessions.

9:00 AM	5:00 PM	**Poster Setup**	
10:00 AM	12:00 PM	**Re-imagining Postgraduate Training for the Plant Sciences**	14

With as few as 10% of biological sciences Ph.D.s ultimately becoming faculty members in the U.S. – but an equally low number exiting the workforce – it is time to rethink training for plant scientists. How can doctoral students and postdocs best be prepared for the wide variety of careers available, even as they pursue their passion of experimental science? The workshop will bring together a diverse group of students and professionals to envision ideas for the future. Organized by the Plant Science Research Network (PSRN), a Research Coordination Network supported by the National Science Foundation. The PSRN is composed of eight scientific societies and councils from all disciplines of research in the plant sciences.

Workshop Audience

This workshop is intended for undergraduate and graduate students, postdocs, and professionals

Please note that this workshop is free, though registration is required.

1:00 PM	3:30 PM	**Opening Address & Awards Presentation**	Ballroom D

1:40 PM - 2016 Leadership in Science Public Service Award: **Howard G. Buffett,** CEO - The Howard G. Buffett Foundation - Decatur, Illinois

2:10 PM - Cyril Zipfel, The Sainsbury Laboratory, "Plant Receptor Kinase-mediated Immunity: From the Plasma Membrane to the Field"

2:50 PM - Bob Goldberg, University of California, Los Angeles, "Seeds of Hope - Back to the Future"

3:30 PM	4:00 PM	**Coffee Break**	Ballroom D Foyer
4:00 PM	6:30 PM	**Major Symposium I: Small RNA Regulation of Genes and Development**	Ballroom D

The discovery of small regulatory RNAs, including microRNAs (miRNAs) and short interfering RNAs (siRNAs), has had a profound impact on our understanding of how genes and transposons are regulated during development. The Gibbs Medal Symposium will feature talks by several leaders in the field, whose laboratories are investigating the biogenesis, turnover and varied functions of miRNAs and siRNAs in plants.

4:00 PM – Overview of Area by Organizer: Craig Pikaard, Indiana University (Gibbs Medal Award Symposium)

4:05 PM – *The RNAs and Enzymes of RNA-directed DNA Methylation*
Craig Pikaard, Indiana University (Gibbs Medal Award Symposium)

4:30 PM – *Germline Reprogramming and Epigenetic Inheritance: How to Avoid Bad Karma*
Rob Martienssen, Cold Spring Harbor Laboratory

5:00 PM – *Coffee Break*

5:30 PM – *The Parasitic Plant* Cuscuta pentagona *(dodder) Produces Large Numbers of 22 nt microRNAs that Regulate Host mRNAs During Parasitism*
Michael Axtell, Penn State University

6:00 PM - *MicroRNA, Argonaute, and the Endoplasmic Reticulum*
Xuemei Chen, University of California, Riverside

6:30 PM	7:45 PM	**Opening Welcome Reception**	Exhibit Hall 4
8:00 PM	9:00 PM	**HHMI BioInteractive Night at the Movies** - ***Popped Secret: The Mysterious Origin of Corn***	Ballroom D

HHMI BioInteractive and ASPB are pleased to announce HHMI Night at the Movies on July 9th at 8:00 pm in the Grand Ballroom D. This free event will include a screening of Popped Secret: The Mysterious Origin of Corn and a short Q&A afterwards. Please check your conference bag for a movie ticket or stop by the ASPB Education Booth #319 to pick one up. Event goers will get popcorn and a bar drink. Don't forget to complete the online survey after the film for a chance to win a future ASPB Conference registration.

hhmi BioInteractive

Daily Schedule

Sunday, July 10

Start Time	End Time		Room
7:30 AM	8:30 AM	**How to Plan an Effective Workshop or Conference**	14

So - you've been appointed to an organizing committee for a conference OR you have a fantastic idea and a burning desire to bring together some of the most inspirational scientists in your field to merge minds. But—where do you start? In this interactive workshop we will bring together representatives from funding agencies, professional society meeting organizers and scientists to share their experiences planning a workshop or conference from beginning to the end. You'll even be able to participate in a "plan-a-thon" where you'll have the chance to collaborate on the details of planning a scientific meeting with advice from planning mentors. There will even be a handout with key takeaways from the session you can reference later.

Siobhan Brady, University of California, Davis

Pre-registration required for this workshop. No fee. Breakfast will be provided.

8:00 AM	8:30 AM	**Morning Coffee Service**	Exhibit Hall 4
8:00 AM	5:30 PM	**Registration Open**	Exhibit Hall Foyer
8:00 AM	9:00 PM	**Posters Open**	Exhibit Hall 4
8:30 AM	11:00 AM	**Major Symposium II: Developing Healthier Foods: Quality, Nutrition, and Molecular Gastronomy**	Ballroom D

This symposium focuses on foods, emphasizing flavor and nutrition. Engaging the public using foods, flavor and nutrition to illustrate modern scientific methodologies. How large, inter-disciplinary approaches including genetics, biochemistry, sensory science and medicine can tackle highly complex challenges and facilitate real world solutions. What do we want in our foods? How do we produce the foods that people want in order to eat better and healthier?

8:30 AM – Overview of Area by Organizer: Harry Klee, University of Florida

8:35 AM – *The Benefits of a Colourful Diet; Some of the Science Behind 5-A-Day*
Cathie Martin, John Innes Centre

9:00 AM – *Exploring all the Options Towards Engineering an Even Healthier Apple*
Andrew Allan, Plant and Food in New Zealand

9:30 AM – *Coffee Break*

10:00 AM – *An Interdisciplinary Approach to Understanding and Improving Tomato Flavor*
Harry Klee, University of Florida

10:30 AM - *Do You Taste What I Taste and Do You Like It?*
Linda Bartoshuk, University of Florida

9:30 AM	10:00 AM	**Coffee Break**	Ballroom D Foyer
11:00 AM	12:00 PM	**Poster Session**	Exhibit Hall 4
11:00 AM	7:00 PM	**Exhibit Hall Open**	Exhibit Hall 4
11:30 AM	1:00 PM	**Bioinformatics Resources for Plant Biology Research**	18AB

The community of plant bioinformatics databases would like to continue the practice that has evolved of the past two years of exposing the content and usefulness of its sites to the plant biology research community. Each group will take 20-30 min (according to time available) to walk users through the site explaining the nature of the data content and the tools available. Due to time limitations, these will not be hands-on workshops. Contributors to the workshops in 2015 were Araport, BioAnalytic Resource, KBase, Legume Federation, MaizeGDB, Planteome and TAIR. Some groups that have participated previously did not attend in 2015 due to funding or other issues but may return in future years. These include PlantCyc and the Sol Genomics Network.

Justin Preece, Oregon State University

Lunch is available for sale in the exhibit area.

No pre-registration is required for this workshop. Seating is first-come, first-served.

Daily Schedule

Sunday, July 10

Start Time	End Time		Room
11:30 AM	1:00 PM	**The Education Committee Workshop – Writing Science: Inspire Careful Thinking and Useful Discourse**	Ballroom F

Writing for or about science is a critical skill used across a wide variety of science-based careers as well as for science literacy. This workshop addresses overarching concepts and examples for using writing (communicating) about plant science in the classroom and sharing plant-based materials with others. Participants will explore writing options useful for teaching in undergraduate settings (small and large enrollment). Key themes will include:

• Critical evaluation and revision of science articles in the public domain to improve not only accuracy and scope of plant science materials being disseminated, but also to enhance critical thinking in our students; as writing quality improves, so, too does the author's ability to think.

• Incorporating technical writing for plant science education to broaden outreach and impact of plant science education.

• Science writing for non-specialist audiences should tell the story behind the science and illuminate (sans jargon) how the data link to big ideas and important issues.

Sponsor: Education Committee

Organizer: Sarah Wyatt, Education Committee Chair

Lunch is available for sale in the exhibit area.

Daily Schedule

Sunday, July 10

Start Time	End Time		Room
11:30 AM	1:30 PM	**How to Present Yourself and Make your Elevator Pitch (Bring your Lunch)**	14

In this comprehensive, hands-on workshop, presented by the American Society for Biochemistry and Molecular Biology, participants will learn how to construct an elevator pitch, a brief, engaging research description that can be used to do exactly that.

During the workshop, participants will learn the importance of having strong communication skills. We will go through examples of successful (and unsuccessful) communication approaches, and will walk through the necessary steps for constructing a successful elevator pitch. Participants will then break out into groups in order to work directly with one of our expert mentors to develop their own pitch. To put practice into play, the ASPB has arranged to have a videographer present at the meeting so that participants can be recorded trying out their elevator pitches.

Lunch may be purchased in the exhibit hall or concession stands in the lobby.

Organizers: Geoff Hunt & Teresa Evans

11:30 AM	1:00 PM	**Publishing in and Reviewing for the Plant Cell**	16AB

What do Plant Cell editors look for in a submission? Why is the cover letter so important? How does one respond to a negative review? Editor-in-Chief of The Plant Cell Sabeeha Merchant and Senior Features Editor Nan Eckardt will provide an overview of the editorial decision process and describe what happens after your paper is submitted. Guidelines for how to respond to peer review as well as how to be an effective peer reviewer will also be discussed.

Lunch may be purchased in the exhibit hall or concession stands in the lobby.

Sabeeha Merchant, University of California, Los Angeles & **Nan Eckardt,** ASPB

11:30 AM	1:00 PM	**USDA, DOE and NSF GRANTSMANSHIP Workshop**	17AB

The workshop will feature talks on Plant related funding opportunities from each agency by Program staff and a panel discussion with Program staff at the end of all the talks. In addition to the workshop, there will be ample time to meet the Program staff at the Joint USDA, DOE and NSF Booth to discuss the funding opportunities offered by the respective agencies.

Lunch may be purchased in the exhibit hall or concession stand in lobby.

No pre-registration is required for this workshop. Seating is first-come, first-served.

1:30 PM	3:17 PM	**Concurrent Symposium 1: Salt & Minerals | Track: Abiotic, Biotic**	17AB

1:30 PM: Overview of Area by Chair, Jiping Liu, Robert W. Holley Center for Agriculture and Health, USDA-ARS

1:35 PM: *Identification of Plant Vacuolar Transporters Mediating Phosphate Storage*
Teng-Kuei Huang, Agricultural Biotechnology Research Center, Academia Sinica

1:55 PM: *Characterization of the Role of an Iron-binding Protein in Seed Development*
Rozalynne Samira, North Carolina State University

2:15 PM: *Computational Prediction of Regulatory Relationships: New Players in the* Arabidopsis thaliana *Iron Deficiency Response*
Anna Matthiadis, North Carolina State University

2:35 PM: *Metal Hyperaccumulation and Hypertolerance in* Arabidopsis halleri
Ute Kraemer, Ruhr University Bochum

2:55 PM: *NIP1;2 Is a Plasma Membrane-localized Channel for Aluminum Uptake and Aluminum Tolerance in Arabidopsis*
Jiping Liu, Robert W. Holley Center for Agriculture and Health, USDA-ARS

3:15 PM: *Genome Wide Association Analysis of Salinity Adaptation Traits in* Medicago truncatula *HapMap Populations*
Yun Kang, The Samuel Roberts Noble Foundation, Inc.

1:30 PM	3:17 PM	**Concurrent Symposium 2: Epigenetics | Track: Genomics**	16AB

1:30 PM: Overview of Area by Chair, Chuanzhu Fan, Wayne State University

1:35 PM: *Modelling Transcript Abundance from Chromatin Immunoprecipitation Data in Plants: Lessons from* Eucalyptus grandis
Steven Hussey, University of Pretoria

1:55 PM: *Small RNAs from Natural Antisense Transcripts of GhMIXTAMYB-Like3_A12 Play Roles in Cotton Seed Fiber Development*
Xueying Guan, Nanjing Agricultural University

2:15 PM: *Elucidating the Molecular Mechanisms of Histone Lysine to Methionine Mutation in Plants*
Dean Sanders, University of Wisconsin-Madison

2:35 PM: *Generating a Novel Early Flowering Phenotype in* Brassica napus *by Modifying Epigenetic Information*
Raghavendra prasad Savada, Agriculture and Agri-Food Canada

2:55 PM: *Epigenetic Divergence and Evolution of Plant New Genes*
Chuanzhu Fan, Wayne State University

Daily Schedule

Sunday, July 10

Start Time	End Time		Room
1:30 PM	3:17 PM	**Concurrent Symposium 3: Seed Development | Track: Development**	19AB

1:30 PM: Overview of Area by Chair, Donald McCarty, University of Florida

1:35 PM: *The Role of Plastid Signaling in Maize Embryogenesis*
Donald McCarty, University of Florida

1:55 PM: *The Maize Dosage-effect Defective kernel1 (ded1) Locus Encodes a MYB Transcription Factor Controlling Endosperm Development and Grain-fill*
Janaki Mudunkothge, University of Florida

2:15 PM: *Regulation of Calcium Accumulation in Finger Millet (Eleusine Coracana) Grains by CBL-CIPK Interaction and Its Potential for Crop Biofortification*
Anil Kumar, G.B. Pant University of Agriculture & Technology

2:35 PM: *A Search for Novel GID1 Interacting Proteins*
Amber Hauvermale, Washington State University

2:55 PM: *Maternal AFB1 Positively Regulates Seed Dormancy in Arabidopsis*
Ming Yang, Oklahoma State University

Start Time	End Time		Room
1:30 PM	3:17 PM	**Concurrent Symposium 4: Metabolic Diversity | Track: Biochem**	18AB

1:30 PM: Overview of Area by Chair, Hiroshi Maeda, University of Wisconsin - Madison

1:35 PM: *In Vitro Reconstruction and Analysis of Evolutionary Variation of the Tomato Acylsucrose Metabolic Network*
Pengxiang Fan, Michigan State University

1:55 PM: *Role of Bifunctional Ammonia-Lyase in Grass Cell Wall Biosynthesis*
Jaime Barros-Rios, University of North Texas

2:15 PM: *Relaxation of Tyrosine Pathway Regulation Facilitated the Evolution of Betalain Pigmentation in Caryophyllales*
Samuel Lopez Nieves, University of Wisconsin - Madison

2:35 PM: *Insights into a Role of Arabidopsis Mediator in the Crosstalk Between Glucosinolate Biosynthesis and Phenylpropanoid Biosynthesis*
Jeong Im Kim, Purdue University

2:55 PM: *Sensor Kinases TOR and GCN2 Orchestrate Translation and Autophagy in Response to Carbon, Nitrogen and Sulfur Supply for Cysteine Synthesis in Higher Plants*
Yihan Dong, University of Heidelberg

Start Time	End Time		Room
1:30 PM	3:17 PM	**Concurrent Symposium 5: Novel Breeding Resources | Track: Various**	18CD

1:30 PM: Overview of Area by Chair, Steven Strauss, Oregon State University

1:35 PM: *Engineering Oilseed Crop to Produce DHA Using Algal Pufa Synthases - A Novel Approach*
Bala Pudota, Dow AgroSciences

1:55 PM: *Root Traits Contributing to Drought Tolerance of Maize Inbred Lines in the Drought Tolerant Maize for Africa Project*
Patompong Saengwilai, Mahidol University

2:15 PM: *Biofortification of Chickpea for Enhanced Iron Accumulation and Bioavailability*
Thi My Linh Hoang, Queensland University of Technology

2:35 PM: *Lysine-rich Transgenic Rice Enhanced the Growth, Strength and Quality of Muscles in Growing Rats*
Pui Kit Suen, The Chinese University of Hong Kong

2:55 PM: *Wide Mutation Spectrum in Floral Genes from Single- and Double-guide RNA CRISPR/Cas9 Transgenic Poplars*
Steven Strauss, Oregon State University

Start Time	End Time		Room
3:20 PM	3:45 PM	**Coffee Break**	Exhibit Hall 4

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Daily Schedule

Sunday, July 10

Start Time	End Time		Room
3:45 PM	5:34 PM	**Concurrent Symposium 6: Plant-Insect Interactions | Track: Abiotic, Biotic**	17AB

3:45 PM Overview of Area by Chair, Meredith Schuman, Max Planck Institute for Chemical Ecology

3:50 PM: *Oviposition by* Pieris brassicae *Induces a Systemic Acquired Resistance in* Arabidopsis thaliana
Olivier Hilfiker, University of Lausanne

4:10 PM: *Turnabout Is Fair Play: The Fall Armyworm Co-opts a Plant Defense Protein for Its Own Benefit*
Swayamjit Ray, The Pennsylvania State University

4:30 PM: *Understanding the Role of miRNAs in Auxin Signaling during Vat-mediated Aphid Resistance*
Sampurna Sattar, Penn State University

4:50 PM: *Genetic Mapping Shows Intraspecific Variation and Transgressive Segregation for Caterpillar-induced Aphid Resistance in Maize*
Vered Tzin, Boyce Thompson Institute for Plant Research

5:10 PM: *The Smell of Spacetime? Plant Volatiles in Four Dimensions*
Meredith Schuman, Max Planck Institute for Chemical Ecology

5:30 PM: *Pennycress Nectaries and Nectar: Molecular Dissection and Evaluation as a Nutritional Resource for Pollinators*
Clay Carter, University of Minnesota Twin Cities

Start Time	End Time		Room
3:45 PM	5:34 PM	**Concurrent Symposium 7: Phenotyping for the Future | Track: Genomics**	16AB

3:45 PM Overview of Area by Chair, Lisa Ainsworth, University of Illinois

3:50 PM: *High Fidelity Detection of QTL for Biomass Production from Rapid Imaging of a C4 Grass Crop in the Field*
Andrew Leakey, University of Illinois at Urbana-Champaign

4:10 PM: *Revealing the Temporal Patterns of QTL Associated with Stress-Responsive Traits in Cotton*
Michael Gore, Cornell University

4:30 PM: *Open-source Tools for High-throughput Plant Phenotyping*
Noah Fahlgren, Donald Danforth Plant Science Center

4:50 PM: *Probabalistic Network Modeling Predicts Gene Regulating Metabolic Pathway Underlying Quantitative Trait Locus for High-throughput Hyperspectral Imaging Index*
RJ Cody Markelz, University of California, Davis

5:10 PM: *Live Cell Imaging of Phosphate Distribution Profiles in Arabidopsis*
Wayne Versaw, Texas A&M University

5:30 PM: *A Genome-wide Indexed Mutant Library of* Chlamydomonas reinhardtii *Provides a Platform for High-throughput Genetics Research in Plants*
Xiaobo Li, Carnegie Institution for Science

Start Time	End Time		Room
3:45 PM	5:35 PM	**Concurrent Symposium 8: Networks in Development | Track: Development**	19AB

3:45 PM: Overview of Area by Chair, Daniel Runcie, University of California, Davis

3:50 PM: *Temporal and Spatial Uncoupling of WUSCHEL Expression and Cytokinin Signaling in the Shoot Apical Meristem*
Paul Tarr, California Institute of Technology

4:10 PM: *LEUNIG Interacts with ANGUSTIFOLIA3 and Functions as Transcriptional Co-activator During Leaf and Flower Development*
Million Tadege, Oklahoma State University

4:30 PM: *Spatial Encoding of Temporal Memory Through the Vernalization Pathway of* Arabidopsis thaliana
Daniel Runcie, University of California, Davis

4:50 PM: *The CDK8 Module of Mediator Controls Vegetative Phase Change in* Arabidopsis thaliana
Manuel Buendia-Monreal, Cinvestav Irapuato/Langebio

5:10 PM: *A Network Approach to Study Brassinosteroid-Regulated Plant Growth and Stress Responses in Arabidopsis*
Trevor Nolan, Iowa State University

Notes

Daily Schedule

Sunday, July 10

Start Time	End Time		Room
3:45 PM	5:35 PM	**Concurrent Symposium 9: Signaling | Track: Signaling**	18AB

3:45 PM: Overview of Area by Chair, Amy Marshall-Colon, University of Illinois at Urbana-Champaign

3:50 PM: *Crossed Signals: Using Systems Biology to Uncover a Transcriptional Crosstalk Network*
Amy Marshall-Colon, University of Illinois at Urbana-Champaign

4:10 PM: *IBR5 Is a Central Regulator of Plant Hormonal Responses*
Nihal Dharmasiri, Texas State University

4:30 PM: *Unraveling an Elegant Net of Sensation and Reaction: Modeling Responses to Multiple Stressors in Tomato*
Claire Hann, University of South Carolina

4:50 PM: *Cell Wall Regulation at the Trans-Golgi Network*
Heather McFarlane, University of Melbourne

5:10 PM: *RGS Proteins Are Prevalent in Monocots and Maintain Functional Compatibility with Gα Across Kingdoms*
Sona Pandey, Donald Danforth Plant Science Center

Start Time	End Time		Room
3:45 PM	5:35 PM	**Concurrent Symposium 10: Plastids & Organelles | Track: Cell Biology**	18CD

3:45 PM Overview of Area by Chair, Liwen Jiang, The Chinese University of Hong Kong

3:50 PM: *Biogenesis and Function of Plant Multivesicular Prevacuolar Compartment*
Liwen Jiang, The Chinese University of Hong Kong

4:10 PM: *Improving Plant Stress Responses to Stress-induced Senescence by Silencing Thylakoid Turnover in Crop Plants*
Eduardo Blumwald, University of California, Davis

4:30 PM: *Cytoplasmic Control of Plastid Retrograde Signaling by SCF(DIF)-Mediated Degradation of DIFFERENTIATION and GREENING-LIKE*
Zhihua Hua, Ohio University

4:50 PM: *Chloroplast Protein Homeostasis; Protein Maturation and Degradation*
Klaas van Wijk, Cornell University

5:10 PM: *Molecular Function of a Plastid-targeted RNA-binding Protein in RNA Editing and Photosynthesis*
Yan Lu, Western Michigan University

5:30 PM: *The Role of Arabidopsis SIG2 in Phytochrome-Dependent Anterograde Signaling and Coordinated Control of Nucleus and Chloroplast Gene Expression During Photomorphogenesis*
Sookyung Oh, Michigan State University

5:32 PM: *Guard Cell Photosynthesis Is Critical for Stomatal Turgor Production, yet Does Not Directly Mediate CO_2- and ABA-induced Stomatal Closing*
Tamar Azoulay-Shemer, University of California, San Diego

5:35 PM	6:00 PM	**Exclusive Poster Session Reception Room**	Exhibit Hall 4
5:45 PM	6:30 PM	**Exclusive Poster Session "Y" Presentations**	Exhibit Hall 4
6:30 PM	7:00 PM	**Exclusive Poster Session "Z" Presentations**	Exhibit Hall 4
7:00 PM	9:00 PM	**Posters Open**	Exhibit Hall 4
7:00 PM	9:00 PM	**Minority Affairs Committee Dinner**	Ballroom F

The Minority Affairs Committee Dinner Theme is "Effective Mentoring – Evidence-based Tools and Strategies". SPEAKER: Dr. Amber Smith, Director of Mentor and Mentee Training Wisconsin Institute for Science Education and Community Engagement University of Wisconsin-Madison and Master Facilitator for the National Research Mentoring Network.

Real time training can m ake the difference between a mutually beneficial and productive mentoring relationship and one that's draining for the mentor and discouraging for the mentee. Dr. Smith will present data on the positive impact of research mentor training and provide an overview of resources for implementing research mentor training at your campus. Opportunites for mentors and mentees through NRMN will also be shared. The session will conclude with a panel discussion of indviduals who have used some of the resources available through NRMN in their professional practice to promote inclusion and the sucess of diverse trainees.

Amber Smith, University of Wisconsin-Madison

Please note, pre-registration is required for this workshop.

Cost: $35.00 regular, $25.00 for students

Daily Schedule

Sunday, July 10

Start Time	End Time		Room
7:00 PM	9:00 PM	**PUI Networking Workshop: Funding Research at PUIs**	Ballroom E

This workshop is for faculty currently working at primarily undergraduate institutions (PUIs) or younger scientists who would like to get a job at a PUI. PUIs are defined as institutions that offer few PhDs in the sciences. While teaching is a large part of being a PUI faculty member, maintaining a successful research program is also critical for career advancement and for providing undergraduates with high-caliber research experiences. This workshop will include presentations and small group discussions of the best practices in research at a PUI. The focus of the workshop for 2016 will be on obtaining funding from NSF and USDA. PUI faculty members who have been successful in obtaining funding will share their experience and program officers will address the concerns of preliminary data and previous publications.

Please note that pre-registration is required for this workshop.

Cost: $25.00

Start Time	End Time		Room
7:00 PM	9:00 PM	**Relationship Building in Science Communication**	14

This workshop provides guidance on building relationships with journalists and policymakers as well as the ethical issues surrounding public engagement. Forming relationships with journalists and encouraging them to speak with experts is key for disseminating science-based information to the public. Further, relationships between scientists and policymakers can help policymakers serve the public interest with science-based regulation and laws. Participants in this workshop will learn good practices for interacting with journalists and policymakers. Building effective relationships requires trust, so this session will also include guidance on how to handle conflicts of interest and other ethical issues in science communication. Ample time will be provided for discussion and materials and recordings from this session will be published on Plantae.org.

Please note that pre-registration is required for this workshop.

Cost: $25.00

Daily Schedule

Monday, July 11

Start Time	End Time		Room
8:00 AM	8:30 AM	**Morning Coffee Service**	Exhibit Hall 4
8:00 AM	5:30 PM	**Registration Open**	Exhibit Hall Foyer
8:00 AM	9:00 PM	**Posters Open**	Exhibit Hall 4
8:30 AM	11:00 AM	**Major Symposium III: New Biological Insights from Large Scale Biology Overview**	Ballroom D

The Plant Cell is sponsoring a major symposium entitled New Biological Insights from Large-Scale Biology to showcase the best of plant biology and the type of research we would like to publish within our pages. The symposium will highlight how high-throughput genomic, proteomic, metabolomic, and modeling approaches are providing novel insights into principles of biological phenomena. The speakers will show that state-of-the-art methodologies coupled to computational approaches can reveal complex biological networks in all areas of plant biology, including development, metabolism, interactions with the abiotic and biotic environment, and dynamics in the molecular ecology and evolution of plant populations. The speakers will use conceptual slides to address a general plant biology audience and focus on novel biological insights in the context of how they were obtained using large-scale biology tools.

8:30 AM – Overview of Area by Organizer: Ute Kraemer, Ruhr University Bochum

8:35 AM – *Transcriptional Regulation of Plant Metabolism*
Siobhan Brady, University of California, Davis

9:00 AM – *Novel Insights in Plant Biology Through Integration of Data in Large-scale Cellular Networks*
Zoran Nikoloski, Max Planck Institute of Molecular Plant Physiology

9:30 AM – *Coffee Break* **Generously Sponsored by** THE PLANT CELL

10:00 AM – *Widespread Occurrence of Metabolic Gene Clusters in Plants and Evolutionary Driving Forces of Cluster Formation*
Seung Yon Rhee, Carnegie Institution for Science, Stanford, California

10:30 AM - *Large-scale Biology from Small-scale Plant RNAs*
Blake C. Meyers, University of Missouri

9:30 AM	10:00 AM	**Coffee Break** **Generously Sponsored by** THE PLANT CELL	Ballroom D Foyer
11:00 AM	12:00 PM	**Poster Session**	Exhibit Hall 4
11:00 AM	3:45 PM	**Exhibit Hall Open**	Exhibit Hall 4
11:30 AM	1:00 PM	**Ethics, Writing, and Social Media: Communication Pre- and Post-Publication**	18AB

Science publishing is undergoing radical change that is affecting the fabric of how we undertake and think about research. How do the opportunities for online discussions pre- and post-publication work? How do they add value to the scientific enterprise, and how can they be harnessed to facilitate communication without undermining the scientific community? Features Editor Mary Williams and PLANT PHYSIOLOGY Editor-in-Chief Mike Blatt will host a panel discussion of issues around writing, publishing, and enhancing the impact of your research in this new world of post-internet communication.

Lunch is available for sale in the exhibit area.

No pre-registration is required for this workshop. Seating is first-come, first-served.

11:30 AM	1:00 PM	**Now That Funds Are Being Awarded, Hear from New Foundation for Food and Agricultural Research**	17AB

The 2014 Farm Bill included a provision to create the Foundation for Food and Agricultural Research (FFAR) and in doing so infused $200 million in federal matching funds to the nation's agricultural research enterprise. The new foundation will operate as a non-profit corporation and leverage public and private resources to increase the scientific and technological research, innovation, and partnerships critical to boosting America's agricultural economy and addressing problems of national and international significance. Please join us to learn more about FFAR and opportunities it is anticipated to present for plant scientists. .

Lunch is available for sale in the exhibit area.

No pre-registration is required for this workshop. Seating is first-come, first-served.

This event is generously sponsored by the ASPB Science Policy Committee

Daily Schedule

Monday, July 11

Start Time	End Time		Room
11:30 AM	1:00 PM	**Work-Family Policies and Gender Inequality – Luncheon Sponsored by the Women in Plant Biology Committee**	Ballroom F

Why has progress toward gender equality at work and at home stalled in recent years? A growing body of scholarship suggests that workplace policies, practices, and norms contribute in key ways to the persistence of inequalities between men and women. Engaging with this broader set of concerns, this talk will address two central issues at the nexus of work-family policy and gender inequality. First, I will examine how institutional forces – such as supportive work-family policies – affect men's and women's preferences for allocating responsibilities for earning, housework, and caregiving. Second, I will explore how the design and implementation of work-family policies – including parental leave, flexible scheduling, and subsidized childcare – influence men's and women's preferences for utilizing such policies. Throughout the presentation, broader issues related to work-family policy and gender inequality will be discussed.

David Pedulla, University of Texas at Austin

No pre-registration is required for this workshop. Seating is first-come, first-served.

Lunch may be purchased in the exhibit hall or concession stands in the lobby.

Cost: $35.00 regular, $25.00 students

12:00 PM	3:00 PM	**Wikipedia Edit-a-Thon**	13A

Wikipedia is often the first place people go to learn about new science... so let's work together edit it to reflect the best in plant science! Attend the ASPB Edit-a-thon to help ensure this powerful tool for communicating science to the general public is as accurate, as balanced and as up to date as possible. Over a light lunch, learn basic editing skills and best practices for editing science content on Wikipedia. Contribute information within your field and connect with other colleagues. Enhance your teaching and Broader Impacts outcomes. Bring your WiFi-ready laptop (preferred) or tablet, and you're ready to go.

The event is hosted by the Simons Foundation in partnership with the Wiki Education Foundation in support of the Wikipedia Year of Science 2016. A light lunch and refreshments will be served.

1:30 PM	3:15 PM	**Concurrent Symposium 11: Biotic Interactions in Roots | Track: Abiotic, Biotic**	17AB

1:30 PM: Overview of Area by Chair, Arijit Mukherjee, University of Central Arkansas

1:35 PM: *Root-knot Nematode Infection of Arabidopsis thaliana Is Mediated by MscS-Like Mechanosensitive Channels*
Heather Marella, Bridgewater State University

1:55 PM: *Determining the Role of IDA (INFLORSCENCE DEFICIENT in ABSCISSION)-like Genes in Plant Development and Plant-parasitic Nematode Infection*
Joonyup Kim, USDA/Soybean Genomics and Improvement Lab

2:15 PM: *Identification of a Core Set of Genes Conserved for Arbuscular Mycorrhizal Symbiosis Identified Through Phylogenomics*
Armando Bravo, Boyce Thompson Institute

2:35 PM: *Root Derived Signaling: Arabinosylation of Peptides and Their Role in Medicago truncatula Nodule Regulation*
Stephen Nowak, Clemson University

2:55 PM: *Using Genomic Approaches to Study the Formation of Nodule-like Structures in Land Plants*
Arijit Mukherjee, University of Central Arkansas

Notes

Daily Schedule

Monday, July 11

Start Time	End Time		Room
1:30 PM	3:15 PM	**Concurrent Symposium 12: Heterosis | Track: Genomics**	16AB

1:30 PM: Overview of Area by Chair, Z Jeffrey Chen, University of Texas at Austin

1:35 PM: *Circadian and Epigenetic Perspectives on Heterosis*
Z Jeffrey Chen, University of Texas at Austin

1:55 PM: *sRNAs Drive Epigenetic Reprogramming in F1 Hybrids*
Ian Greaves, CSIRO

2:15 PM:*Contributions from Polyploidy to an Understanding of Heterosis*
James Birchler, University of Missouri

2:35 PM: *Inclusion Of Dominant Gene Action Explains Much Of The Genetic Variance And Provides Insight Into Heterosis In Maize*
Patrick Schnable, Iowa State University

2:55 PM: *Organelle-triggered Epigenetic Changes in Plant Growth Behavior*
Sally Mackenzie, University of Nebraska

Start Time	End Time		Room
1:30 PM	3:15 PM	**Concurrent Symposium 13: Environmental & Eco-physiology | Track: Development**	19AB

1:30 PM: Overview of Area by Chair, Carl Bernacchi, USDA ARS

1:35 PM: *Natural Variation and Co-expression Network Analysis to Understand Temporal Regulation of Plant Fitness*
Kathleen Greenham, Dartmouth College

1:55 PM: *Integrated RNA-Seq and Metabolic Profiling Reveal Novel Aspects of Light-Regulated Phenylpropanoid Metabolism in Tomato Leaves*
Stephen Grace, University of Arkansas at Little Rock

2:15 PM:*Overexpression of Bifunctional FBP/SBPase May Prevent Soybean Yield Depression Under Future Climate*
Iris Koehler, USDA ARS

2:35 PM: *Maternal Environment History Strongly Influences Progeny Germination Responses to Post-dispersal Cues*
Gabriela Auge, Duke University

2:55 PM: *Resource Allocation in Sorghum: Trade-offs Between Plant Growth and Defence*
Viviana Rosati, Monash University

Start Time	End Time		Room
1:30 PM	3:15 PM	**Concurrent Symposium 14: Bioenergy | Track: Biochem**	18AB

1:30 PM: Overview of Area by Chair, Jonathan Monroe, James Madison University

1:35 PM: *Inhibition of Arabidopsis β-amylase3 Activity by Glutathionylation: A Potential Cold Stress Response*
Jonathan Monroe, James Madison University

1:55 PM: *Molecular Jigsaw: Piecing Together Cellulose Synthase Assembly into the Cellulose Synthesis Complex*
Joseph Hill, Penn State University

2:15 PM: *Activation of miR165b Represses AtHB15 Expression and Induces Pith Secondary Wall Development in Arabidopsis*
Qian Du, University of Connecticut

2:35 PM: *A Novel Squalene Synthase-like Enzyme Initiates Production of Tetraterpenoid Hydrocarbons in Botryococcus Braunii Race L*
Hem Raj Thapa, Texas A&M University

2:55 PM: *Exploring a Photosynthetic Carbon Sink to Enhance Limonene Production in Cyanobacteria*
Xin Wang, Texas A&M University

Start Time	End Time		Room
1:30 PM	3:15 PM	**Concurrent Symposium 15: Plant-Pest Interactions -** *Organized by the Minority Affairs Committee* **| Track: Various**	18CD

1:30 PM: Overview of Area by Co-Chairs, Gustavo MacIntosh, Iowa State University & **Adán Colón-Carmona,** University of Massachusetts Boston

1:35 PM: *How Aphids and Associated Microbes Modulate Plant Immunity?*
Isgouhi Kaloshian, University of California, Riverside

1:55 PM: *Plant Isoflavone Defenses and Insect Counterattack in the Soybean Aphid-soybean War*
Gustavo MacIntosh, Iowa State University

2:15 PM: *Herbivore Saliva as the First Line of Defense Against Induced Plant Defense*
Loren Rivera Vega, Pennsylvania State University

2:35 PM: *Bioorthogonal Non-Canonical Amino Acid Tagging (BONCAT) to Interrogate Nascent Protein Synthesis in Native Plant Tissues*
Weslee Glenn, California Institute of Technology

2:55 PM: *The Chloroplast-resident RNA Helicase ISE2 is an Important Determinant of Plant Susceptibility to Pathogen Infection*
Tessa Burch-Smith, University of Tennessee- Knoxville

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Daily Schedule

Monday, July 11

Start Time	End Time		Room
3:15 PM	3:45 PM	**Coffee Break**	Exhibit Hall 4
3:45 PM	5:32 PM	**Concurrent Symposium 16: Temperature Stress | Track: Abiotic, Biotic**	17AB

3:45 PM: Overview of Area by Chair, Allison Barnes, University of Nebraska-Lincoln

3:50 PM: *Comparative Analysis of Alternative Splicing in* Arabidopsis thaliana *and* Boechera depauperata
Sumetha Kannan, San Diego State University

4:10 PM: *Hsf-Hsp Circuitry Regulates the Transcription of OsClpB-C/Hsp100 Gene in Rice* (Oryza sativa L.)
Dhruv Lavania, University of Delhi

4:30 PM: *Curvularia Protuberate Trehalose Is Important for a Three-way Symbiosis That Controls Plant Thermotolerance*
Chengke Liu, University of West Alabama

4:50 PM: *Wheat Leaf Lipid Composition Under High Day and Night Temperatures Stress*
Sruthi Narayanan, Clemson University

5:10 PM: *Chloroplast Membrane Remodeling During Freezing Stress Is Accompanied by Cytoplasmic Acidification Activating Sensitive to Freezing 2*
Allison Barnes, University of Nebraska-Lincoln

3:45 PM	5:32 PM	**Concurrent Symposium 17: Gene Networks & Regulators | Track: Genomics**	16AB

3:45 PM: Overview of Area by Chair, Kevin Folta, University of Florida

3:50 PM: *Rewiring Photosynthesis for Terpene Production*
Hong Ma, Texas A&M University

4:10 PM: *Molecular Genetics of Plant-insect Interactions*
Sumitha Nallu, University of Chicago

4:30 PM: *A Bioinformatic Analysis Reveals Common Genes Involved in Heat and Nitrogen Signaling Networks in* Arabidopsis thaliana
Clayton Dilks, University of Illinois Urbana-Champaign

4:50 PM: *Related Myb-like Transcription Factors Function Antagonistically Within the Circadian Clock Network*
Akiva Shalit-Kaneh, University of California, Davis

5:10 PM: *Identification of Potential New Plant Growth Regulators by Screening for Biologically Active Random Peptide*
Kevin Folta, University of Florida

3:45 PM	5:32 PM	**Concurrent Symposium 18: Root Development | Track: Development**	19AB

3:45 PM: Overview of Area by Chair, Patrick Masson, University of Wisconsin-Madison

3:50 PM: *Shoot-to-root Translocation of Arabidopsis HY5 Coordinates Plant Growth and Nutrition*
Xiangdong Fu, Chinese Academy of Sciences

4:10 PM: *Insensitivity to Phosphorus Deficiency Conferred by a Recessive Mutation in Totec, a Key to Uncover the Genetic Control of Root Development*
Javier Mora-Macias, LANGEBIO, Cinvestav Irapuat

4:30 PM: *Identification of Biotin as a Mediator of Cadaverine Response in Arabidopsis*
Nicole Gibbs, University of Wisconsin-Madison

4:50 PM: *Identifying Apocarotenoid Regulators of Lateral Root Formation*
Alexandra Dickinson, Duke University

5:10 PM: *The Interaction Between Rice ERF3 and WOX11 Promotes Crown Root Development by Regulating Gene Expression Involved in Cytokinin Signaling*
Yu Zhao, Huazhong Agricultural University

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Daily Schedule

Monday, July 11

Start Time	End Time		Room
3:45 PM	5:32 PM	**Concurrent Symposium 19: Hormone Biology | Track: Signaling**	18AB

3:45 PM Overview of Area by Chair, Tai-Ping Sun, Duke University

3:50 PM: *O-GlcNAcylation of Master Growth Repressor DELLA by SECRET AGENT Modulates Multiple Signaling Pathways in Arabidopsis*
Tai-Ping Sun, Duke University

4:10 PM: *Jasmonate reshapes etiolated seedling morphology through deactivating COP1*
Ziqiang Zhu, Nanjing Normal University

4:30 PM: *Auxin Biosynthesis Regulation*
Javier Brumos, North Carolina State University

4:50 PM: *Characterization of a DII-based Auxin Reporter in Maize*
Ricardo Mir Moreno, University of California, Riverside

5:10 PM: *Tissue-specific Ca^{2+} Signaling Regulates Transcriptional Responses to Auxin in Growing Roots of* Arabidopsis thaliana
Cody DePew, Pennsylvania State University

5:30 PM: *Functional Analysis of Auxin Biosynthesis, Transport and Signaling in Root Phototropism of Arabidopsis Thaliana*
Taro Kimura, Nigata University

Start Time	End Time		Room
3:45 PM	5:32 PM	**Concurrent Symposium 20: Cell Biology | Track: Cell Biology**	18CD

3:45 PM: Overview of Area by Chair, Marisa Otegui, University of Wisconsin-Madison

3:50 PM: *The Arabidopsis Protein Disulfide Isomerases-7 and -8 Are Transmembrane Proteins of the Cis-Golgi and Endoplasmic Reticulum: Oxidase and Secretory Functions*
David Christopher, University of Hawaii

4:10 PM: *Rethinking the Biogenesis and Function of Multivesicular Endosomes*
Marisa Otegui, University of Wisconsin-Madison

4:30 PM: *Compensatory Missense Mutations in Genes Encoding the Interacting ATPases PEX1 and PEX6 Restores Peroxisome Function in Arabidopsis*
Kim Gonzalez, Rice University

4:50 PM: *Mutations in Splicing Factor 1 Suppress Leaf Variegation of Thylakoid Formation 1 in Arabidopsis*
Yajuan Zhu, Institute of Plant Physiology and Ecology

5:10 PM: *Efficient Selection of Antibody Fragments Using Phage Display and Exhaustive Yeast Two-hybrid Screening*
Petra Tafelmeyer, Hybrigenics Corp.

5:35 PM	6:00 PM	**Exclusive Poster Session Reception Room**	Exhibit Hall 4
5:45 PM	6:30 PM	**Exclusive Poster Session "Z" Presentations**	Exhibit Hall 4
6:30 PM	7:00 PM	**Exclusive Poster Session "Y" Presentations**	Exhibit Hall 4
7:00 PM	9:00 PM	**Posters Open**	Exhibit Hall 4
7:00 PM	9:00 PM	**Membership Committee Workshop: Job offer? Negotiating for Success Before You Sign**	Ballroom G

This workshop is intended for students and postdocs who are searching for a permanent job. Speakers representing academic departments, government labs and private companies will discuss how new hires can set themselves up for success through negotiating start-up funds, appropriate salary, and other support. Round table discussions with the speakers will allow participants to raise questions in a smaller group setting.

Please note, pre-registration is required for this workshop.

Cost: $25.00

7:00 PM	9:00 PM	**Women in Plant Biology Workshop - Family-Related Policies in the Workplace**	Ballroom F

This event is targeted to biologists at all stages of their career. Come and discuss with a group of panelists useful practices to implement family-related policies in academia and industry.

Panelists: Judy Callis, University of California, Davis; **Rob McClung,** Dartmouth College; **Diane Okamuro,** National Science Foundation; **Anne Osbourn,** John Innes Centre; **David Pedulla S**tanford University; **Tom Sharkey,** Michigan State University

Please note, pre-registration is required for this workshop.

Cost: $25.00 regular, $15.00 students

Daily Schedule

Tuesday, July 12

Start Time	End Time		Room
8:00 AM	8:30 AM	**Morning Coffee Service**	Exhibit Hall 4
8:00 AM	1:30 PM	**Posters Open**	Exhibit Hall 4
8:00 AM	5:30 PM	**Registration Open**	Exhibit Hall Foyer
8:30 AM	11:00 AM	**Major Symposium IV: Long Distance and Cell to Cell Signaling**	Ballroom D

To respond to developmental and environmental changes, plants use a range of signaling strategies. Molecules that act as signals include hormones, peptides, proteins and RNAs. Some act between adjacent cells, while others function between distant organs. Speakers in this symposium will describe their research aimed at uncovering the mechanisms behind both short and long-range signaling in plants.

8:30 AM - Overview of Area by Organizer, Philip Benfey, Duke University

8:35 AM - *Underground Signaling Networks*
Philip Benfey, Duke University

9:00 AM - *What Yeast Might Teach Us about Plant Development*
Jennifer Nemhauser, University of Washington

9:30 AM - *Coffee Break*

10:00 AM - *Genetic Control of Phloem Morphogenesis*
Ykä Helariutta, Sainsbury Laboratory

10:30 AM - *Root-to-Shoot Mobile Peptides Mediate Systemic Nitrogen-demand Signaling*
Yoshikatsu Matsubayashi, Nagoya University

9:30 AM	10:00 AM	**Coffee Break**	Ballroom D Foyer
11:00 AM	1:30 PM	**Exhibit Hall Open**	Exhibit Hall 4
11:30 AM	1:00 PM	**Poster Session**	Exhibit Hall 4
1:30 PM	3:17 PM	**Concurrent Symposium 21: Light Biology | Track: Abiotic, Biotic**	17AB

1:30 PM: Overview of Area by Chair, Winslow Briggs, Carnegie Institution for Science

1:35 PM: *Ultra-fast Alterations in mRNA Levels Uncover Multiple Players in Light Stress Acclimation in Plants*
Amith Reddy Devireddy, University of North Texas

1:55 PM: *Mechanistic Studies of Light-enhanced Translation in De-etiolating Arabidopsis Seedlings*
Guan-Hong Chen, Academia Sinica

2:15 PM: *Phytochrome Interacting Factors (PIFs) Mediate Metabolic Regulation of the Plant Circadian Clock*
Inyup Paik, University of Texas at Austin

2:35 PM: *Custom Light Mixtures to Manipulate Plant Metabolite Profiles – a Case Study in Sweet Basil*
Sofia Carvalho, University of Florida

2:55 PM: *SLAC1, S_Type Anion Channel Is Relocated from Plasma Membrane to Cytosol in Guard Cells During Stomatal Closure*
Winslow Briggs, Carnegie Institution for Science

1:30 PM	3:17 PM	**Concurrent Symposium 22: Gene Expression and Regulation | Track: Genomics**	16AB

1:30 PM: Overview of Area by Chair, Shin-Han Shiu, Michigan State University

1:35 PM: *WOX9 Affects Leaf Blade Development and Floral Transition in Nicotiana Sylvestris*
Tezera Watira, IBA-OSU

1:55 PM: *Examining Mobile Small RNAs Exchanged Between the Parasitic Plant Dodder and Its Hosts*
Saima Shahid, Pennsylvania State University

2:15 PM: *Arabidposis PUMilo Group 3 Proteins Function in Targeted Cytosolic Regulation of mRNAs*
Lauren Dedow, University of California, Riverside

2:35 PM: *Regulated Alternative Splicing Contributes to Gametophyte-specific Expression of Arabidopsis Ras-group LRR Gene PIRL6*
Daniel M. Vernon, Whitman College

2:55 PM: *Do the Novel Transcripts in Intergenic Regions of Plant Genomes Represent Noisy or Functional Activity?*
Shin-Han Shiu, Michigan State University

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Daily Schedule

Tuesday, July 12

Start Time	End Time		Room
1:30 PM	3:17 PM	**Concurrent Symposium 23: Reproductive Biology | Track: Development**	19AB

1:30 PM: Overview of Area by Chair, Elizabeth Haswell, Washington University in Saint Louis

1:35 PM: *LORELEI Function in Pollen Tube Reception at the Interface of the Synergid Cell and the Pollen Tube Requires the Modified Eight-Cysteine Motif and FERONIA Receptor-Like Kinase*
Ravishankar Palanivelu, University of Arizona

1:55 PM: *The PLC2-involved Auxin-modulation Is Essential for the Reproductive Development of Arabidopsis*
Yan Wu, Wuhan University

2:15 PM: *Analysis of MLO Function During Pollen Tube Reception*
Daniel Jones, University of Oklahoma

2:35 PM: *Demonstration of a Distinct Polar Exocytosis for Plant Cell Wall Formation That Is Regulated by Rop1*
Hao Wang, South China Agricultural University

2:55 PM: *Mechanosensitive Ion Channel MSL8 Protects Pollen from Developmental Osmotic Shocks*
Elizabeth Haswell, Washington University in Saint Louis

1:30 PM	3:17 PM	**Concurrent Symposium 24: Metabolic Networks | Track: Biochem**	18AB

1:30 PM: Overview of Area by Chair, Samuel Seaver, Argonne National Laboratory

1:35 PM: *PlantSEED v2: Enabling the Systemic Inter-specific Comparison of Predicted Metabolic Responses via Integration of Protein Families and Transcript Profiles*
Samuel Seaver, Argonne National Laboratory

1:55 PM: *Flux Analysis in Developing Tomato Fruit by Omics Data- based Modeling Integrated with a Genome-scale Model*
Nadine Töpfer, Weizmann Institute of Sciences

2:15 PM: *Extensions of Flux Balance Analysis for Constraint-based Modelling of Plant Metabolism*
Maurice Cheung, Yale-National University of Singapore

2:35 PM: *A Simplified Computational Framework with Single Nodes Representing Rapidly Equilibrating Metabolic Segments for Metabolic Flux Estimation in Spirodela Polyrhiza*
Erin Jewett, University of Minnesota

2:55 PM: *Explaining Heterosis as an Emergent Property of Metabolic Networks*
Michael Vacher, University of Western Australia

3:15 PM: *Bypassing Redundancy Using F-box Decoys Reveals New Roles of Lov/kelch/f-box Proteins in the Circadian Clock*
Chin-Mei Lee, Yale University

1:30 PM	3:17 PM	**Concurrent Symposium 25: Education | Track: Various**	18CD

1:30 PM: Overview of Area by Co-Chairs, Erin Friedman, Lynchburg College & **Ken Helm,** Siena College

1:35 PM: *Peer Teaching as a Method for Improving Students' Understanding of and Attitude Toward GMO Technology*
Jordan Chapman, Wake Forest University

1:55 PM: *Connect the Dots: Using Concept Maps to Overcome Students Misconceptions About Photosynthesis*
Valerie Haywood, Case Western Reserve University

2:15 PM: *Helping Students Understand How DNA Mutations Cause a Phenotype by Incorporating Computational Molecular Modeling into the Classroom*
Tara Phelps-Durr, Radford University

2:35 PM: *Bridging the Gap Between Two- and Four-year Colleges: A Bioinformatics Learning Pipeline for Non-traditional Students*
Ursulla Idleman, University of Illinois at Urbana-Champaign

2:55 PM: *Transforming a Large Lecture Class: Learning Assistant Program in Biology at the University of Florida*
Alice Harmon, University of Florida

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Daily Schedule

Tuesday, July 12

Start Time	End Time		Room
3:20 PM	3:45 PM	**Coffee Break**	Exhibit Hall 4
3:45 PM	5:32 PM	**Concurrent Symposium 26: Plant-Pathogen Interactions | Track: Abiotic, Biotic**	17AB

3:45 PM: Overview of Area by Chair, Anjali Iyer-Pascuzzi, Purdue University

3:50 PM: *Microbe-associated Molecular Pattern-induced Monoubiquitination of Receptor-like Cytoplasmic Kinase BIK1 in Arabidopsis Immunity*
Xiyu Ma, Texas A&M University

4:10 PM: *The Pseudomonas Syringae Type III Effector HopBB1 Modulates Plant Immunity by Recruiting Transcriptional Regulators for Degradation*
Li Yang, University of North Carolina Chapel Hill

4:30 PM: *Cell Death Control and Its Function in Plant Autoimmunity and Stress Tolerance*
Zuhua He, Chinese Academy of Sciences

4:50 PM: *Involvement of Two Arabidopsis Triphosphate Tunnel Metalloenzymes in Pathogen Resistance and Leaf Senescence: Characterization and Agricultural Application*
Wolfgang Moeder, University of Toronto

5:10 PM: *Getting to the Root of Resistance to Ralstonia Solanacearum in Tomato and Arabidopsis*
Anjali Iyer-Pascuzzi, Purdue University

Start Time	End Time		Room
3:45 PM	5:32 PM	**Concurrent Symposium 27: Applied Biotech | Track: Genomics**	16AB

3:45 PM: Overview of Area by Chair, Stanislaw Flasinski, Monsanto

3:50 PM: *Towards an RNAi-based Control of Plant Diseases*
Aline Koch, Institute for Phytopathology

4:10 PM: *Transcript Switches for Fine-tuning of Transgene Expression*
Yan Liang, *Lawrence Berkeley National Lab*

4:30 PM: *Application of a Transient Viral Vector for Efficient Genome Editing in Plants*
Will Cody, Texas A&M University

4:50 PM: *The Arabidopsis QQS Orphan Gene Modulates Carbon and Nitrogen Allocation Across Species*
Ling Li, Iowa State University

5:10 PM: *The Introduction of RNAi Technology to Protect Crop Plants Against Insect Pests*
Stanislaw Flasinski, Monsanto

5:30 PM: *New Plant Breeding Techniques: Global Opportunities and Regulatory Hurdles for a Field That Could Revolutionize Agriculture*
Miguel Vega-Sanchez, Monsanto

Start Time	End Time		Room
3:45 PM	5:32 PM	**Concurrent Symposium 28: Shoot Development | Track: Development**	19AB

3:45 PM: Overview of Area by Chair, Juan Dong, Rutgers University

3:50 PM: *miR156/SPL4 Module Regulates Axillary Bud Formation and Shoot Architecture*
Jiqing Gou, The Samuel Roberts Noble Foundation

4:10 PM: *Modifications to a Late Meristem Identity 1-like Gene Are Responsible for the Major Leaf Shapes of Upland Cotton* (Gossypium hirsutum L.)
Vasu Kuraparthy, North Carolina State University

4:30 PM: *Patterning of a Desert-adapted Leaf: Utilizing Natural Variation to Dissect the Genetic Basis and Developmental Trajectory of Leaf Thickness in Tomato*
Viktoriya Coneva, Donald Danforth Plant Science Center

4:50 PM: *Control of Vein Formation by Auxin Movement*
Carla Verna, University of Alberta

5:10 PM: *Cell Polarity and Asymmetric Cell Division: The Crosstalk Between MAPK Signaling and the Polarity Protein BASL in Arabidopsis Stomatal Development*
Juan Dong, Rutgers University

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Daily Schedule

Tuesday, July 12

Start Time	End Time		Room
3:45 PM	5:32 PM	**Concurrent Symposium 29: MAPK/Ca++ Signaling | Track: Signaling**	18AB

3:45 PM Overview of Area by Chair, Keiko Yoshioka, University of Toronto

3:50 PM: *Functional Involvement of a Mitogen Activated Protein Kinase Module, OsMKK3-OsMPK7-OsWRKY30 in Mediating Resistance Against* Xanthomonas oryzae *in Rice*
Siddhi Jalmi, National Institute of Plant Genome Research

4:10 PM: *Multiple Calmodulin-binding Sites Positively and Negatively Regulate an Arabidopsis Cyclic Nucleotide-gated Channel (CNGC)*
Keiko Yoshioka, University of Toronto

4:30 PM: *Ca2+ Signaling Just Got More Complex: Regulatory Interaction of Conserved Calmodulin with* Arabidopsis thaliana *Ca^{2+}-dependent Protein Kinase 28 (CPK28)*
Kyle Bender, University of Illinois at Urbana-Champaign

4:50 PM: *Molecular Mechanisms Underlying Wound-induced Rapid Systemic Calcium Signaling*
Masatsugu Toyota, University of Wisconsin-Madison

5:10 PM: *Development of a Genetically Encoded Fluorescent Biosensor for MAPK Activity in* Arabidopsis thaliana
Najia Zaman, University of Wisconsin-Madison

5:30 PM: *Functional Analysis of Auxin Biosynthesis, Transport and Signaling in Root Phototropism of Arabidopsis Thaliana*
Taro Kimura, Nigata University

Start Time	End Time		Room
3:45 PM	5:32 PM	**Concurrent Symposium 30: Cell Wall | Track: Cell Biology**	18CD

3:45 PM: Overview of Area by Chair, Erik Nielsen, University of Michigan

3:50 PM: *Identification of the Cell Wall Polysaccharide Class That CSLD3 Synthesizes*
Erik Nielsen, University of Michigan

4:10 PM: *Determination of the Disordered Amorphous, Surface Ordered, and Anhydrous Crystalline Core Domains of Cellulose Microfibrils*
Nicholas Carpita, Purdue University

4:30 PM: *Identification of a Sphingolipid Mannosyltransferase That Is Required for Normal Cellulose Deposition in Arabidopsis*
Jenny Mortimer, Lawrence Berkeley National Laboratory

4:50 PM: *The Effect of CGR2 and CGR3 Mediated Pectin Methylesterification on the Relationship Between Photosynthesis and Plant Growth in Arabidopsis Thaliana*
Sarathi Weraduwage, Michigan State University

5:10 PM: *Evaluation of Endogenous Natural Antisense Transcript and Small RNA Based Regulation of Cellulose Synthase Family Members*
Daniel Nething, Ohio University

5:30 PM: *AtMYST4 Encodes a Functional Rhamnogalacturonan Lyase with Similarity to Family 4 Polysaccharide Lyases, Essential for Plant Growth and Development*
Matheus Benatti, Purdue University

5:30 PM	6:30 PM	**ASPB Town Hall Meeting**	Ballroom F
5:30 PM	8:00 PM	**Posters Open**	Exhibit Hall 4
7:00 PM	8:30 PM	**Environmental and Ecological Plant Physiology Section of ASPB Business Meeting and Mixer**	15

Open to all attendees interested in environmental and ecological plant physiology.

8:30 PM	12:00 AM	**Plant Biology 2016 Annual Party- Speakeasy**	412 Congress Ave Austin

Join your colleges for the annual tradition of desserts, games and dancing with The Nines! Hosted bar until 10:30 pm.

Walk to the Speakeasy at 412 Congress Ave. From the Hilton Austin/Convention Center, walk 4 blocks to Congress Ave on either 4th or 5th Street. The Speakeasy is located on Congress between 4th and 5th.

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Daily Schedule

Wednesday, July 13

Start Time	End Time		Room
8:00 AM	11:00 AM	**Registration Open**	Exhibit Hall Foyer
8:30 AM	9:00 AM	**Morning Coffee Service**	Ballroom D Foyer
9:00 AM	11:30 AM	**Major Symposium V: Plant Specialized Metabolism**	Ballroom D

One of four major priorities in ASPB's Decadal Vision document entitled "Unleashing a Decade of Innovation in Plant Science" is to develop an understanding of the synthesis and biological purposes of plant-derived chemicals. Although around 30% of the genes in most plant genomes are involved in metabolism, the specialized metabolites of only a small number of the approximately 400,000 species of flowering plants on our planet have been characterized. Plant specialized metabolism has, for many years, been treated as a "specialized" subject, primarily because many metabolites are restricted to specific plant families or occasionally even species, and therefore not seen to be of general interest to plant scientists, of broad relevance to plant biology, or attractive to funding agencies. This situation is now changing. The purpose of the 2016 President's Symposium is to highlight aspects of plant specialized metabolism that relate to broader aspects of biology, namely genome organization, evolution, ecology and exploitation for bio-based products.

9:00 AM - Overview of Area by Organizer, Richard Dixon, University of North Texas

9:05 AM - *Harnessing Plant Metabolic Diversity*
Anne Osbourn, John Innes Centre

9:30 AM - *Coevolution of Hormone Metabolism and Signaling Networks Expands Plant Adaptive Plasticity*
Joseph Noel, Salk Institute

10:00 AM - *Coffee Break*

10:30 AM - *"Asking the Ecosystem" to Understand the Ecological Function of Specialized Metabolism*
Ian Baldwin, Max Planck Institute, Jena

11:00 AM - *Lignin Valorization via Biological Funneling: Tailoring the Biocatalyst to the Plant Feedstock*
Gregg Beckham, National Renewable Energy Laboratory

10:00 AM	10:30 AM	**Coffee Break**	Ballroom D Foyer
12:00 PM	5:00 PM	**Media Workshop for Scientists**	15

After great success last year, Sense About Science USA is once again offering this workshop is for graduate students, postdoctoral fellows, and early career researchers who are interested in learning more about: why it is important to communicate to a general audience about plant genetics, biotechnology and GMOs; how journalists work on their stories; and how scientists can better cooperate with journalists to accurately spread research findings and progress. The workshop will include presentations from scientist and journalist, ample time for questions and answers, and time for small group discussions. The day will end with an opportunity for attendees to pitch their research to a general public. Lunch and end of day drinks will be provided.

Please note that pre-registration is required for this workshop.

Notes

Daily Schedule

Thursday, July 14

Start Time	End Time		Room
8:00 AM	5:00 PM	**Post-transcriptional Gene Regulation in Plants (PGRP)**	18CD

This meeting will immediately follow the Plant Biology 2016 meeting and will be the 10th meeting (meetings started in 1997) on plant regulation of gene expression at the post-transcriptional level. The paradoxical discoveries that led to the understanding of RNA-mediated gene silencing were first discussed at the first of these meetings in Riverside, CA and Switzerland in the late 1990s. The field of RNA-based gene regulation continues to grow at a rapid pace, due to the importance of diverse post-transcriptional control mechanisms. New unexpected paradigms of gene regulation are emerging from these studies. Novel experimental and computational tools are being developed to address the extent of this regulation globally and its impact on plant growth, development and responses to diverse stresses.

PGRP-2016 will consider all aspects of post-transcriptional regulation of gene expression ranging from RNA biogenesis, structure and function, turnover, and targeting, as well as mechanistic studies of translation and protein stability. This event will bring together a diverse group of researchers from different disciplines (e.g., biology, biochemistry, computer sciences, and statistics) that investigate various aspects of gene regulation at the post-transcriptional level.

Daily Schedule

Friday, July 15

Start Time	End Time		Room
8:00 AM	2:00 PM	**Post-transcriptional Gene Regulation in Plants (PGRP) *Continued***	18CD

This meeting will immediately follow the Plant Biology 2016 meeting and will be the 10th meeting (meetings started in 1997) on plant regulation of gene expression at the post-transcriptional level. The paradoxical discoveries that led to the understanding of RNA-mediated gene silencing were first discussed at the first of these meetings in Riverside, CA and Switzerland in the late 1990s. The field of RNA-based gene regulation continues to grow at a rapid pace, due to the importance of diverse post-transcriptional control mechanisms. New unexpected paradigms of gene regulation are emerging from these studies. Novel experimental and computational tools are being developed to address the extent of this regulation globally and its impact on plant growth, development and responses to diverse stresses.

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Notes

Committee Meetings

Friday, July 8

Start Time	End Time		Room
8:00 AM	5:00 PM	**ASPB Council Meeting**	15

Saturday, July 9

Start Time	End Time		Room
7:30 AM	9:00 AM	**Education Committee Meeting**	11A
8:00 AM	9:30 AM	**Science Policy Committee**	15
11:30 AM	1:00 PM	**Minority Affairs Committee RTA Orientation Lunch**	13A

Monday, July 11

Start Time	End Time		Room
7:30 AM	9:00 AM	**Membership Committee**	11A
9:00 AM	11:00 AM	**Minority Affairs Committee**	11A
11:30 AM	3:15 PM	**ASPB Board of Directors**	15

Tuesday, July 12

Start Time	End Time		Room
7:30 AM	9:00 AM	**Program Committee**	15
8:00 AM	5:00 PM	**The Plant Cell Editorial Board**	14
9:00 AM	11:00 AM	**Women in Plant Biology Committee**	11A

Notes

Notes

A Guide to Using the Plant Biology 2016 App

STEP 1

If you **previously created an account** using Plant Biology 2016 Online Planner, log in with the **same username** (your email) and **password**. Don't know your password, click on "**Forgot your password?**" to have it emailed to you. Otherwise, select "**Create Account**" and type your name and email address.

STEP 2

Find the presentation you want quickly and interact with the presentation slides by **drawing on slides and highlighting text.** Use the **note-taking** mode to type your notes next to each slide. Please note that you will need an **internet connection** to download all slides but can later view them and take notes on them without one. Access/Print the notes you take by clicking **"My Notes"** on the main screen or **"Online Personal Summary"** in the sidebar menu.

STEP 3

If you don't have a mobile device that is able to download the app, you can use your **laptop**. As long as you have an internet connection, you can take notes on presentations through your laptop, or access slides following the conference on a laptop or desktop via the following website link:
https://www.eventscribe.com/2016/ASPB/
If you already have an account on a mobile device, use the same account information that was emailed to you. Otherwise follow the steps to create an account.

Help us continue to support the plant science co

ASPB: Making a Difference in 2015

A summary of ASPB's major accomplishments
and positive impacts on the plant science community in 2015

Supporting a global plant science community

ASPB serves a community of more than

39,000
scientists from

103
countries

Partnering for a better future

Partnered with more than 20 different organizations and groups on a variety of activities, including grants, projects, and strategic initiatives, to support the community

Bringing plant scientists together in person and online

Convened **more than**

1,600
plant scientists at six in-person meetings

Plantae

Launched Plantae.org—the digital ecosystem for plant science that connects the community online

Engaged a growing online community through social networks, Twitter, and Facebook

Grew Twitter community to more than **16,000** followers across all profiles

Grew Facebook community to more than **26,000** across all pages

ommunity: Join today http://www.aspb.org/join

Bringing research to the world

Published over **750** papers representing the work of **more than 4,400** authors in the highest-impact *(The Plant Cell)* and the most highly cited *(Plant Physiology)* plant biology primary research journals

Translated the coloring/activity book ***My Life as a Plant*** into **18** languages

Facilitated the presentation of **more than 1,300 posters across six meetings**

Copublished such important texts as ***Biochemistry & Molecular Biology of Plants,*** **2nd edition;** and ***Plant Genes, Genomes and Genetics***

Helping secure funding for important projects and initiatives

Working with other organizations and groups, **ASPB helped to secure more than**

$610 million

in funding for plant science research, community projects, and activities

Supporting, recognizing, and inspiring plant scientists

Awards and recognition for scientists and educators

ASPB granted more than **$320,000 through 148 awards**

25 ASPB members received major recognition through external fellowships and awards

Supporting plant science educators

Published 32 Teaching Tools in Plant Biology, which have been **downloaded thousands of times** by individuals in **more than 100 countries**

"Why Study Plants?" has been translated into **18** languages

Helping plant scientists navigate careers

Two education sessions, 13 workshops, more than 75 resume reviews, and more than 200 high-quality job opportunities were held or posted at Plant Biology 2015 in Minneapolis

Inspiring and nurturing future plant scientists

Participated in **six major public outreach events** in large settings and **distributed more than 10,000 giveaways**

ASPB Education & Outreach

Eradicating plant blindness by supporting scholarly teaching, active learning, effective mentoring, and evidence-based public engagement.

K-12 Roots & Shoots

Teaching & Learning with Plant Science

- The 12 Principles of Plant Biology
- Science Literacy

Higher Education

Scholarly Teaching, Active Learning , & Communicating Science

- Vision & Change
- Authentic Publication
- Broader Impacts
- Funding & Professional Development
- Collaborations

Public Engagement & Outreach

Exploring plant biology in informal community settings

- Science Festivals
- Exhibits at professional conferences

www.aspb.org/education-outreach

Save the Date!

Plant Biology 2017

JUNE 24-28 | HONOLULU, HAWAII

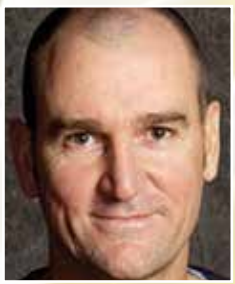
Major Symposia Organizers

Liam Dolan
University of Oxford

Natalia Dudareva
Purdue University Indiana

Eran Pichersky
Michigan State University

Sally Mackenzie
University of Nebraska



Michael Udvardi
Noble Foundation Oklahoma

Barbara Valent
Kansas State University

Registration and Abstract Submission Opens Fall 2016

Plantbiology.aspb.org/futuremeetings

General Information

Location of Events and Exhibits

All Plant Biology 2016 events will be held in the Austin Convention Center, unless otherwise noted. Please refer to the daily schedule for locations of specific events.

Registration

The conference Registration Desk will be available for questions and registration during the hours below. Tickets for available events may be purchased at the on-site Registration Desk, and t-shirts will have a separate pickup area. The Registration Desk will be at the convention center outside of the exhibit hall. There will be no shirts available for purchase on-site and no exchanges of sizes.

Registration Hours

Friday, July 8th:	2:00 PM - 6:00 PM
Saturday, July 9th:	8:00 AM - 6:30 PM
Sunday, July 10th:	8:00 AM - 5:30 PM
Monday, July 11th:	8:00 AM - 5:30 PM
Tuesdsay, July 12th:	8:00 AM - 5:30 PM
Wednesday, July 13th:	9:00 AM - 11:00 AM

Housing

Any questions or problems concerning roommate matching will be handled at the Registration Desk. Individual housing concerns should be addressed with the respective hotel directly

Badge Scanning

The bar codes on your badges allow exhibitors to scan your badge to contact you after the meeting. The bar codes contain your name, institution, address, email, and phone number and no additional information.

Scanning requires direct contact to gather the information on them. Attendees are welcome to not allow exhibitors to scan their badges if they so choose. Exhibitors will receive a post-meeting mailing list. The list contains address, e-mails, and phone numbers-unless the attendee has chosen to “opt-out”. Plant Biology will honor any attendee who wishes to not be placed on the mailing list.

Cameras/Video/Audio Recording

Taking photos, video, or recording of any kind of the posters and sessions will be strictly PROHIBITED unless an author/speaker provides specific permission. This prohibition includes but is not limited to the use of camera phones and any other digital recording devices.

Plantae Pavilion

Join your colleagues at The Plantae Pavilion - a centralized gathering place for meet-ups, tweet-ups, career center activities, job boards, and to learn more about plantae.org, our new digital ecosystem for Plant Science. If you need assistance setting up your Plantae profile, staff will be on hand at the Pavilion to assist you. The Pavilion will be open during all poster viewing times.

Thank you to our Generous Sponsor

DUPONT

PIONEER.

Onsite Childcare

ASPB is happy to announce that on-site childcare will be provided at Plant Biology 2016. We have contracted with Elegant Event Sitters to be the official childcare provider for 2016. ASPB is subsidizing the cost through the ASPB Women in Plant Biology Committee, from the bequest of Eli Romanoff, a longtime member of ASPP/ASPB and winner of the Adolph E. Gude Award in 1995. This is a continuation of a program that was originally funded with a donation from John Radin. This subsidized child care will cost the parents $7/hour for each child. Contact the Registration Desk for more information or to sign up.

Child Attendance Policy

Plant Biology is family friendly and we welcome parents of minor children (ages 0-17) to attend the meeting. Please note that modifications to this policy have been instituted in response to feedback from past annual meetings and based on the requirements of the convention center. To ensure the safety and care of minors, we have the following policy for attendees. There are no exceptions.

Onsite childcare services are available.

- *Children should be supervised by their caregiver at all times in the Plant Biology 2016 meeting facilities.*
- *Mandated by the convention center, children are not allowed in the exhibit hall during setup or breakdown for their safety due to forklifts and the use of heavy equipment.*
- *Do not leave your child unattended in the public areas of the meeting facilities, including restrooms, empty meeting rooms, hallways, lobbies, registration, or in hallways outside of meeting rooms.*
- *ASPB, partnering societies, meeting facilities, and meeting staff are not responsible or liable for your children at any time.*
- *Youth 18 and above should be a registered attendee to attend any event which does not provide a guest ticket.*

Minors are allowed at events as follows:

Opening Mixer

- *Ages 0-2 years will be allowed without a ticket*
- *Ages 3 - 12 years will NOT be allowed.*
- *Ages 13 and up requires guest ticket*

Scientific Sessions

- *Under 13 will NOT be allowed to attend. Over 13 must be fully registered attendees.*

Evening Poster Sessions

- *This event will serve alcohol. The drinking age in the USA is 21.*
- *Ages 0-2 years will be allowed without a ticket*
- *Ages 3 and up requires guests ticket or must be a fully registered attendee*

Wednesday Night Party at Speakeasy

- *Due to the fact that in the United States the legal drinking age is 21 for all alcohol that is purchased and consumed in a public place, at the party:*
- *Children ages 0-2 will be allowed without a ticket*
- *All those age 3 and up will be allowed with a ticket*
- *All attendees may be carded before being served.*

Selfie Contest
Take a photo in each participating company's booth, with their logo, and post it to Twitter and Instagram using #PLANTBIO16. Each submission will be entered into a drawing at the end of each day *(Saturday - Tuesday)* for $100USD.

ASPB, Booth 313
ASPB Education, Booth 309
Hybrigenics, Booth 210
Nature Publishing Group, Booth 205
Promega, Booth 219
Plantae Pavilion, Booth 507

Exhibits & Posters
Exhibits and posters are open during the exhibit hours as listed in the schedule.
(Exhibit Hall 4) Refrain from entering exhibits when they are closed. The posters will be organized by category. Poster session times are listed in the schedule. Please attend posters during the compulsory time slots based on your final poster number. Titles and authors only are printed in the program book. Poster abstracts are provided online.

Internet Café and Charging Station
Plant Biology 2016 features an Internet Café and charging station in the Exhibit Hall. It will be open the same hours as the posters. Please limit your online time to 10 minutes or less if others are waiting.

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Smoking Policy
Smoking is prohibited at any Plant Biology 2016 function or event areas.

Parking
There is parking at the Austin
Convention Center. Please check with the convention center for current rates.

Wireless Internet
Plant Biology attendees will have free wireless internet throughout the convention Center. Connect to either "convention center" or "convention center 5G".

Meeting/Workshop Surveys
A meeting survey will be e-mailed to attendees immediately following the meeting. Workshops will provide a handout survey for response after the event. Your response is considered valuable by the society Program Committees. Thank you for your cooperation.

Message Board
Plant Biology 2016 has the traditional message boards near the Registration Desk for attendees to send and receive messages. Look for this board near the Registration Desk also. Messaging is available through the app in the "People" section.

What to Eat and Where to Go Nearby
The Austin Convention and Visitors Bureau will have a booth near the exhibit hall with information on local restaurants and places to see.

Safety/Health Notice
While enjoying Austin, please remember to keep your personal belongings secured. Traveling in groups is a safe way to visit the many attractions available. The convention center is constantly monitored by surveillance and security patrols. Emergency response staff are headquartered in the convention center. Please report any security concerns or emergencies to the conference Registration Desk.

Additional Information/Questions
The conference Registration Desk will be able to assist you with any additional questions regarding the meeting.

Exhibit Hall Schedule

Saturday, July 9

Start Time	End Time	
6:30 PM	7:45 PM	**Opening Welcome Reception**

Sunday, July 10

Start Time	End Time	
11:00 AM	7:00 PM	**Exhibit Hall Open**
11:00 AM	1:00 PM	**Lunch available for purchase at the concession stands**
3:20 PM	3:45 PM	**Coffee Break**
5:35 PM	7:00 PM	**Exclusive poster session and reception**

Monday, July 27

Start Time	End Time	
11:00 AM	3:45 PM	**Exhibit Hall Open**
11:30 AM	1:00 PM	**Lunch available for purchase at the concession stands**
3:15 PM	3:45 PM	**Coffee Break**

Tuesday, July 28

Start Time	End Time	
11:00 AM	1:30 PM	**Exhibit Hall Open**

For a complete exhibitor listing, please download the Plant Biology 2016 App!

Convention Center Floorplan


LEVEL 4
E
F
G
D
Major Symposia Room
Emergency Exit Corridor
FE
19 B
19 A
18 D
18 C
18 B
18 A
17 B
17 A
12 A
11 A
12 B
11 B
14
13 A
13 B
16 B
16 A
15
Emergency Exit Corridor
Emergency Exit Corridor
Concurrent Session Rooms
Rooms 16, 17, 18, 19

Notes

Notes

Hettich
LAB TECHNOLOGY

Room For Growth

Introducing Hettich Plant Growth Chambers



See our showcase at **Plant Biology 2016** Booth No. **213!**

ADVANCED LED LIGHTING SYSTEM

Unique LED grid layout with adjustable LED outfitted shelves, provides 100% homogeneous white light throughout chamber for maximum growth and efficiency.

- 100% PAR light spectrum
- Stable light intensity through LED lifespan at 200, 400 or 1,100 µmol
- Independent switchable far-red lighting
- Low heat output for growth up to 5cm below LED lights

ENHANCED CONTROL

Total system control via intuitive **touch screen** interface (on chamber) or **web browser**.

- Day-night control
- Ramping up/down
- Data logging (opt.)
- Humidification control
- Timescales
- Light dimming per tier
- Heating/cooling control
- CO^2 control

THE CHAMBER

Ergonomic design makes chamber easy to install, service access and clean.

- White-coated interior doors for max. light reflection
- Stainless steel floor with drain and hose
- Units fit through standard doorway fully assembled
- Easy-access service compartment

CREATING THE IDEAL CLIMATE

Uniform, horizontal airflow for a stable and homogeneous climate throughout chamber. Low airflow intensity prevents stress and dehydration.

- Heating (optional)
- Humidification (optional)
- Cooling (optional)
- CO2 (optional)

Please contact us for more information email: **info@hettweb.com** web: **hettweb.com/plantgrowth** toll free: **1-866-370-4388**

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The 2010 Geno/Grinder® has a unique vertical grinding motion that prepares samples for extraction of DNA, RNA, proteins or pesticides. It accommodates multiple vials from 0.6 to 50 mL and up to six deep-well titer plates.

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6775 FREEZER/MILL®

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The Freezer/Mill® cools samples in a grinding vial to cryogenic temperatures, then pulverizes them by magnetically shuttling a steel impactor back and forth against two stationary end plugs.

The vial is cooled by liquid nitrogen throughout the grinding cycle, keeping the sample at cryogenic temperatures and preserving its key aspects. The touch screen control panel allows up to 20 user-defined grinding programs for simple and fast recall.

Plant Biology 2016

JULY 9-13, 2016
AUSTIN, TEXAS
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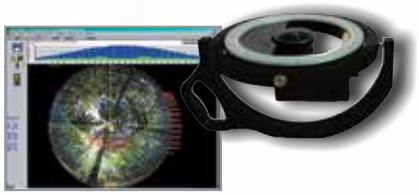
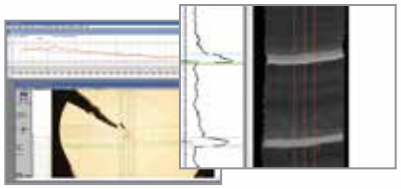


WinCELL™
Wood-Cell Structure Parameters over Annual Rings

WinDENDRO™
Tree Rings and Wood Density Measurement



WinFOLIA™
Leaf Morphology, Healthy and Damage Areas

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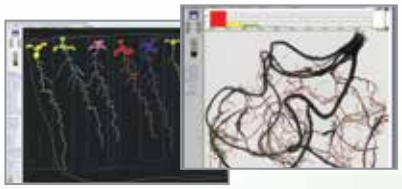
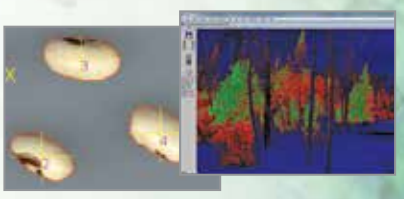
WinRHIZO™
Washed Root and Arabidopsis Seedling Morphology



WinRHIZO™ Tron
Morphology of Roots Growing in Soil

WinCAM NDVI™
Color Area Quantification, NDVI and Basic Morphology



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