

*2015 Meeting of the Southern Section of the
American Society of Plant Biologists*

Program



March 28th – 30th

Dauphin Island Sea Lab

Dauphin Island, Alabama

General Meeting Schedule

Saturday, March 28th

- 1:00 - 6:00 p.m.** Registration Dauphin Island Sea Lab (DISL)
Check-in for those staying at the DISL Dorm
- 1:00 - 6:00 p.m.** Poster Set-Up (Shelby Auditorium)
- 5:30 - 8:00 p.m.** Networking Welcome and Mixer
- 8:00 - 9:30 p.m.** Executive Committee Meeting

Sunday, March 29th

- 7:00 - 8:15 a.m.** Breakfast, DISL Cafeteria
- 8:15 - 9:45 a.m.** Opening Session (location: Shelby Auditorium)
- 9:45 - 10:30 a.m.** Break, Posters open for viewing
- 10:30 a.m. - 12:00 p.m.** Concurrent general talks and Graduate Oral Competitions,
Session 1A (Shelby Hall) and 1B (Weise Hall)
- 12:00 - 1:30 p.m.** Lunch, DISL cafeteria
- 1:30 - 2:30 p.m.** Undergrad poster judging, Group A (posters # P1 thru P9)
- 1:30 - 3:00 p.m.** Graduate Student Oral Competition
Session 2A (Shelby) and 2B (Weise Hall)
- 2:30 - 3:30 p.m.** Undergrad poster judging, Group B (posters # P10 thru P19)
- 3:00 - 3:30 p.m.** Break (posters are open)
- 3:30 - 4:30 p.m.** Undergrad poster judging, Group C (posters # P20 thru P28)
- 3:30 - 4:30 p.m.** Graduate Student Oral Competition
Session 3A (Shelby) and 3B (Weise Hall)
- 4:30 - 6:30 p.m.** Poster Session, ALL presenters should be at their posters
- 7:00 - 9:00 p.m.** Banquet and Awards Ceremony, DISL Estuarium

Monday, March 30th

- 7:00 - 8:15 a.m.** Breakfast, DISL Cafeteria
- 8:30 a.m. - 12:00 p.m.** Kriton Hatzios Symposium
- 12:00 p.m.** General business meeting / Sack lunches available
- 12:30 p.m.** Meeting adjourns

Detailed Meeting Schedule

Saturday, March 28th

- 1:00 p.m. - 6:00 p.m.** Registration Dauphin Island Sea Lab (DISL)
Check-in for those staying at the DISL Dorm
- 1:00 p.m. - 8:00 p.m.** Poster Set-Up (Shelby Auditorium)
- 5:30 p.m. - 8:00 p.m.** Networking Welcome and Mixer
- 8:00 p.m. - 9:30 p.m.** Executive Committee Meeting

Sunday, March 29th

- 7:00 a.m. - 8:15 a.m.** Breakfast, DISL Cafeteria
- 8:15 a.m.** Welcome (location: Shelby Auditorium)
Ashlee McCaskill, Chair, SS - ASPB

General Session (Shelby Auditorium) 8:30 A.M. – 9:45 A.M.

- 8:30 Deciphering Fatty Acid Fluxes and Metabolic Bottlenecks within the Seed Oil Biosynthetic Network**
Philip Bates University of Southern Mississippi
- 8:45 The Effects of Reduced Gravity on Phototropism in Response to Red or Blue Light**
Joshua Vandenbrink University of Mississippi
- 9:00 Identification and preliminary characterization of a transporter involved in inorganic carbon uptake in *Chlamydomonas reinhardtii***
Marylou Machingura Louisiana State University
- 9:15 Regulatory Mechanisms of Pathogen-Mediated Cellular Stress Signaling in Arabidopsis**
Karolina Mukhtar University of Alabama at Birmingham
- 9:30 Finding the needle with Haystack, an online tool for mining metabolomic data**
Stephen Grace University of Arkansas at Little Rock

Break – 9:45 A.M. – 10:30 A.M. (Shelby Auditorium; posters open for viewing)

10:30 A.M. – 12:00 P.M. Concurrent Session 1A (Shelby Auditorium)

Moderator: Ashlee McCaskill

- 10:30 Next-generation sequencing and forward genetics identifies novel genes required for symbiotic nitrogen fixation in *Medicago truncatula***

Rebecca Dickstein University of North Texas

10:45 Using the corn seed biofactory to produce enzymes for industrial applications
Elizabeth E. Hood Arkansas Biosciences Institute and Arkansas State University

11:00 Getting to the Edge: Network Biology Identifies Essential Hubs in Arabidopsis Interactions Networks
Shahid M. Mukhtar University of Alabama at Birmingham

Graduate Student Oral Competition

11:15 The role of RdDM chromatin proteins in nucleosome occupancy
Linda K. Stroud Florida State University

11:30 Carbonic anhydrase affects growth in *Arabidopsis thaliana*
Robert J. DiMario Louisiana State University

10:30 A.M. – 12:00 P.M. Concurrent Session 1B (Wiese Hall)

Moderator:

10:30 Interpreting data from a space flight experiment.
Karl H. Hasenstein University of Louisiana at Lafayette

10:45 Regulation of plant auxin response by IBR5, a dual specificity phosphatase
Nihal Dharmasiri Texas State University, San Marcos

11:00 Comparative transcriptome analysis for metabolic engineering of oil in biomass crops
Aruna Kilaru East Tennessee State University

Graduate Student Oral Competition

11:15 De novo Assembly and RNA-Seq Transcriptome Analysis of the Resurrection fern, *Polypodium polypodioides*
Susan John University of Louisiana at Lafayette

11:30 RNA-Seq analysis of high light stress in the high pigment-2 tomato mutant
Jordyn Radke University of Arkansas at Little Rock

12:00 P.M. – 1:30 P.M Lunch (DISL Cafeteria)

1:30 P.M. – 2:30 P.M. Undergraduate poster competitors GROUP A Posters P1 – P9.
Each student presenter should be at their poster from 1:30 - 2:30 P.M. for discussion and competition judging

1:30 P.M – 3:00 P.M. Graduate Student Oral Competition Session 2A (Shelby)

Moderator:

- 1:30 Role of Fatty Acid Desaturase (FAD) Genes during *Gossypium hirsutum* and *G. barbadense* Leaf Expansion**
Harold Owiti University of Central Arkansas
- 1:45 Does At5g60620 (AtGPAT9) encodes the elusive first enzyme of oil biosynthesis?**
Anushobha Regmi University of Southern Mississippi
- 2:00 Cytoskeletal Organization of Roots Germinated in Microgravity on the International Space Station**
Andrea A. Edge University of Louisiana at Lafayette
- 2:15 Changes in plant-microbe symbiosis in *Medicago truncatula* induced by clinorotation**
Ariel Dauzart University of Mississippi
- 2:30 SIAMESE/SIAMESE RELATED PROTEINS (SIM/SMRs), a Cyclin Dependent Kinase Inhibitor (CKI) family in plants**
Narender Kumar Louisiana State University

Graduate Student Oral Competition Session 2B (Wiese) 1:30 P.M – 3:00 P.M.

Moderator:

- 1:30 Decorated Peptides: A proposed glycosylase in the Autoregulation of Nodulation pathway**
Stephen Nowak Clemson University
- 1:45 A comparative analysis of *Medicago truncatula* transcript expression as it relates to triterpene saponin induction by insect pests**
Audra Harris University of Arkansas
- 2:00 The Multifaceted Role of *Arabidopsis thaliana* GCN2 (AtGCN2) Kinase in Plant Hormone Signaling and Immune Responses**
Xiaoyu Liu University of Alabama at Birmingham
- 2:15 Floral Meristem Transformation of *Setaria viridis*: A Potential C4 Monocot Model System**
Dasya Petranova University of North Texas
- 2:30 Characterization of Resistance Mechanisms in Multiple Herbicide Resistant *Echinochloa colona* in Mississippi**
Alice A Wright Mississippi State University

2:30 P.M. – 3:30 P.M. Undergraduate poster competitors GROUP B Posters P10 – P19.
Each student presenter should be at their poster from 2:30 - 3:30 P.M. for discussion and competition judging

3:00 P.M. – 3:30 P.M. Break (posters are open)

3:30 P.M. – 4:30 P.M. Undergraduate poster competitors GROUP C Posters P20 – P28.
Each student presenter should be at their poster from 3:30 - 4:30 P.M. for discussion and competition judging

3:30 P.M – 5:00 P.M. Graduate Student Oral Competition Session 3A (Shelby)

Moderator:

2:45 Landscape genetics of the Gulf Coast salt marsh: a multispecies approach
Hayley Tumas University of Georgia

3:30 Formation of nodule-like structures and the underlying transcriptomic responses in rice in response to auxin
Ryan Hiltenbrand University of Central Arkansas

3:45 The SUNN Symbiotic Kinase participates in multiple protein:protein interactions
Ashley D. Crook Clemson University

4:00 Impacts of environmental factors on nitrogen allocation strategies in native *Carex stricta* and invasive *Phalaris arundinacea*
Elizabeth F. Waring Texas Tech University

3:30 P.M – 5:00 P.M. Graduate Student Oral Competition Session 3B (Wiese)

Moderator:

2:45 Oxidative stress regulation of cytokinin processes through the key regulator CRF6
Paul J Zwack Auburn University

3:30 Identification of cotton varieties with enhanced resistance to *Aspergillus flavus* infection
Jocelyn Moore University of Louisiana at Lafayette

3:45 Constitutively over-expressing a tomato fructokinase gene (LeFRK1) in cotton, *Gossypium hirsutum* L., (c.v. Coker 312) positively affects plant vegetative growth, boll number, and seed cotton yield
Thiya Mukherjee Texas Tech University

4:00 Bio-Boom: Fungal Endophytes aid Tomato Fruit Quality
Blake Cleckler University of West Alabama

Undergraduate students – posters

(* - undergraduate poster competition entry)

Undergraduate student presenters should be at their poster at the assigned times for their group, and also from 4:30 – 6:30 p.m. for general discussion.

GROUP A Posters P1 – P9. Each student presenter should be at their poster from 1:30 - 2:30 P.M. for discussion and undergraduate competition judging

P1*. Molecular Characterization of Two *Chlamydomonas reinhardtii* Light Sensitive-Photosynthetic Mutants

Katherine Smith and Tai Truong University of West Georgia

P2*. Characterization of B73 Maize Hydroxyproline-Rich Glycoprotein Promoter Expression

Rebecca Ring Arkansas Biosciences Institute and Arkansas State University

P3*. Unraveling and Isolating Fungal Endophytes from Alabama's Plants

Quincy Barnhill University of West Alabama

P4*. Roles of Invertase Inhibitors during Early Seed Development in Arabidopsis

Bongeka Zuma Spelman College

P5*. Comparison of Fruit Ripening Genes Within the Solanaceae Family

Ellen Tomlin University of North Georgia

P6*. Is there TOO MUCH LOVE in *Medicago truncatula* nodule regulation?

Kaylee Kotwis Clemson University

P7*. The effect of light on quantifying oilseed engineering results

Vicente G. Ferrer University of Southern Mississippi

P8*. Targeted insertion of the transposable element, mPing

Ashley Strother University of South Carolina Aiken

P9*. The determination of herbivory on *Croton capitatus* at C. Bickham Dickson Park Shreveport, Louisiana

Shannon Harris Louisiana State University Shreveport

GROUP B Posters P10 – P19. Each student presenter should be at their poster from 2:30 - 3:30 P.M. for discussion and undergraduate competition judging

P10*. Localization of carbonic anhydrase isoforms in *Arabidopsis thaliana*

Jennifer Quebedeaux Louisiana State University

P11*. Characterization of salt marsh habitat surrounding LUMCON's DeFelice Marine Center in Cocodrie, Louisiana

Stacia Greene Louisiana State University Shreveport

- P12*. Detection of Differentially Translated mRNAs in Arabidopsis thaliana Exposed to Kanamycin using Translating Ribosome Immunoprecipitation**
Ashley Clark Spelman College
- P13*. The effects of red-light pretreatment on blue-light phototropism**
Alison Neel University of Mississippi
- P14*. High light induced phenylpropanoid variation in wild and domestic tomato varieties**
Dane Hudson and Aaron O'Neal University of Arkansas at Little Rock
- P15*. Identifying sequences responsible for the high transposition rate of a Tourist MITE**
Daymond Parrilla University of South Carolina Aiken
- P16*. The Effects of Imidacloprid on Fungal Growth Rate**
Caroline Matarrese University of North Georgia
- P17*. Formation of nodule-like structures and the underlying transcriptomic responses in rice in response to auxin**
Jacklyn Thomas University of Central Arkansas
- P18*. Examination of Cytokinin Response Factor 7 during development, hormone, and stress response**
Tucker Hallmark Auburn University
- P19*. Detection of the Interaction of AtWBC19 with eIF3f using Bimolecular Fluorescent Complementation (BiFC)**
Ayana Hart Spelman College

GROUP C Posters P20 – P28. Each student presenter should be at their poster from 3:30 - 4:30 P.M. for discussion and undergraduate competition judging

- P20*. Effects of Fungal Endophytes on Crop Production**
DeMarco Spears University of West Alabama
- P21*. Precise repair of mPing excision sites is facilitated by target site duplication derived microhomology**
David Gilbert University of South Carolina Aiken
- P22*. Promoter Deletion Analysis of an Invertase Inhibitor During Arabidopsis Seed Development**
Asha Cotterell Spelman College
- P23*. *In vivo* analysis of the gene products responsible for polyunsaturated fatty acid flux into seed oils**
Nischal Karki University of Southern Mississippi
- P24*. The influence of co-activators on abiotic stress responses.**
Shannon Conroy North Carolina State University

- P25*. A Forward Genetic Approach to Unraveling a Genetic Pathway: Mapping Suppressor Screen Mutants**
Ashley Castelloe Clemson University
- P26*. Root phenotype analysis in stress-tolerant peanut genotypes**
Whitney DeBord Texas Tech University
- P27*. FIS2-dependent down-regulation of invertase inhibitors during Arabidopsis seed development**
Mason Dana Spelman College
- P28*. Evaluating mPing Transposition in *Mimulus lewisii***
Autumn Busbee University of South Carolina Aiken

4:30 P.M. – 6:30 P.M. Poster Session ALL Presenters should be at their posters

General Session Posters

P29.

P30.

****Will list the remainder (~30) of titles and presenters of posters****

7:00 P.M. – 9:00 P.M. Banquet and Awards Ceremony, DISL Estuarium

Monday, March 30th

7:00 A.M. - 8:15 A.M. Breakfast, DISL Cafeteria

8:30 Welcome, Ashlee McCaskill (Shelby Auditorium)

**Narender Kumar, SS-ASPB Student Ambassador
2016 Meeting Plans**

Welcome and Introductions, Rick Turley

2015 Kriton Hatzios Symposium

9:00 **How bioinformatics is helping to restore the American Chestnut: next generation sequencing, data mining and online resources**
Meg Staton University of Tennessee

9:45 Genome Evolution of Allotetraploid Cotton

Joshua Udall

Brigham Young University

Break 10:30 A.M. – 11:00 A.M. (posters are open)

11:00 Genome Assembly & Analysis - From “Gold-Standard” Assemblies to “Base Metals”

William S. Sanders

Mississippi State University

12:00 P.M. General Business Meeting

12:00 P.M. Sack lunches available at cafeteria

12:30 P.M. Meeting Adjourns