

2023 SOYBEAN BREEDERS WORKSHOP PHYSIOLOGY AND BREEDING INNOVATION

February 13-15, 2023

Sheraton Westport Chalet Hotel, 191 Westport Plaza Dr., St. Louis, MO

Registration

Monday, Feb 13 10:30 a.m. – 5:00 p.m.

Tuesday, Feb 14 7:00 a.m. – 5:00 p.m.

Monday, February 13, 2023 | Room: Versailles 1

1:00 pm Keynote Speech: Dr. Grover Shannon, University of Missouri. “50 years of Soybean Breeding”

SESSION 1: Industry and market needs of soybean | Chair: Bo Zhang, Virginia Tech

1:30 pm Lisa Weaver, Supply Program Manager, United Soybean Board, USB Update

1:40 pm William Singer, AAAS Science and Technology Policy Fellow, USDA- Office of the Chief Scientist. “USDA Plant Breeding: Perspectives from the Office of the Chief Scientist”

2:00 pm Michael Loh, President, Southwest Soya International, Inc. “Essential roles of seed breeders in response to end users’ needs of food grade soybeans in Asian markets”

2:30 pm Katherine Stowe, US Soybean Research Collaborative. “Market needs of soybean - a checkoff perspective”

3:00-3:20 pm Coffee Break-Foyer

SESSION 2: Abiotic Stress - Drought | Chair: Larry Purcell, University of Arkansas

3:20 pm Larry Purcell, Professor, University of Arkansas. “Nitrogen fixation: What is it good for? (1) Yield (2) Protein”

3:50 pm Vara Prasad, Professor, Kansas State University. “TBD”

4:20 pm Walid Sadok, Associate Professor, University of Minnesota. “The physiological basis of soybean adaptation to atmospheric drying: a role for nitrogen fixation”

4:50 pm Lifelong Award presented to Dr. Pengyin Chen by Dr. Grover Shannon

5:00-6:30 pm Career Panel Discussion and Graduate Student Mixer | Versailles 1
Danny Singh (IAS), Michelle Graham (USDA), Scott Jackson (Bayer), Geeta Menon (BASF)

Tuesday, February 14, 2023 | Room: Versailles 1

7:00-8:00 am Continental Breakfast-Versailles Foyer - Hosted by the Commercial Soybean Breeders

SESSION 3: Breeding Innovation | Chair: Katie Rainey, Purdue University

- 8:00 am Ed Anderson, Sr. Director of Research, Iowa Soybean Association. "Vision for a Coordinated National Message for Soybean Research"
- 8:25 am Aaron Lorenz, Associate Professor, Univ. Minnesota. "Developing Resources to Advance Implementation of Genomic Prediction in Soybean"
- 8:50 am Leonardo Gloria, Postdoctoral Researcher, Purdue University. "Application of UAS Biomass Longitudinal Phenotypes to Selection in Soybean Breeding Trials"
- 9:15 am Cesar Filippi, Global Breeding Innovation Lead, GDM Seeds Inc. "Soybean Breeding Innovation at GDM Seeds, Inc."

9:40-10:15 am Coffee Break-Foyer

SESSION 4: Abiotic Stresses other than Drought | Chair: Anna Locke, USDA-ARS

- 10:15 am Jamie O'Rourke, Research Geneticist, USDA-ARS. "Characterizing additional QTL in the soybean iron stress response"
- 10:45 am Heng Ye, Research Scientist, University of Missouri. "Gene-To-Field Characterization of WLT1 in Waterlogging Tolerance and Yield Protection in Soybean"
- 11:15 am Anna Locke, Research Plant Physiologist, USDA-ARS. "Comparing temperature stress responses in the field and identifying regulators"

11:45-1:00 pm Lunch (on your own)

SESSION 5: Technologies in Soybean Physiology | Chair: Danny Singh, Iowa State University

- 1:00 pm Felix Fritschi, Professor, University of Missouri. "Soybean under tension: Following the path of water"
- 1:25 pm Alvaro Sanz, Assistant Professor, Auburn University. "Semi and high-throughput phenotyping technologies to measure different photosynthetic parameters in the field"
- 1:50 pm Fernando Miguez. Professor, Iowa State University. "What is the optimum leaf area index for soybean? Modeling and observations"
- 2:15 pm Thomas Clemente, Professor, University of Nebraska-Lincoln. "Adding novel genetic variation into soybean: A build-test-learn approach"

2:40-3:15 pm Coffee Break-Foyer

Tuesday, February 14, 2023 | Room: Versailles 1 (continued)

Session 6: Breeding and Genetics of Composition | Chair: Aaron Lorenz, University of Minnesota

- 3:15 pm** Phil Kerr, Chief Technology Officer, Prairie AquaTech. "Planetary Boundaries: Implications for Global Agriculture and the US Soybean Breeding Community"
- 3:40 pm** Montse Salmeron, Assistant Professor, University of Kentucky. "Simulation of soybean seed composition with crop eco-physiological models"
- 4:05 pm** Doug Allen, USDA-ARS Research Computational Biologist, Donald Danforth Plant Science Center. "Altering carbon partitioning in developing soybeans through spatial and temporal considerations"
- 4:30 pm** Zhibo Wang, Postdoctoral Research Associate, Virginia Tech University. "Long-read whole genome sequencing reveals novel structural variation markers for important agronomic and quality traits of soybean"

5:00-6:30 pm Social Hour & Poster Session | Foyer & Versailles 2

Wednesday, February 15, 2023 | Room: Versailles 1

7:00-8:00 am Continental Breakfast-Versailles Foyer - Hosted by the Commercial Soybean Breeders

SESSION 7: Reports and announcement | Chair: Bo Zhang, Virginia Tech

- 8:00 am** Keith Rincker, BASF, Announcement of poster winners
- 8:10 am** Michelle Graham, Soybean Genomics Executive Committee Report
- 8:25 am** Elroy Cober, USDA-ARS, Soybean Genetics Committee report and SoyBase.org update
- 8:40 am** Anna Locke, USDA-ARS, Soybean Germplasm Committee report
- 8:55 am** From the floor: Recognitions, retirements, and announcements.

SESSION 8: Highlights from Seed Industry | Chair: Brittney Jones, Bayer Crop Sci.

- 9:00 am** Jon Massman, Corteva Agriscience, Technical Lead for Varietal Crops. "Leveraging advances in phenotyping & phenomics to accelerate gains in plant breeding programs"
- 9:25 am** Janie Hoormann, Bayer Crop Science, Data Science Technical Lead. "Harnessing the Power of Data Science for Pipeline Advancement"
- 9:50 am** Jon Fischer, Regional Strategic Marketing Manager, Soybean Seeds, BASF. "BASF Soybean Trait Pipeline Review"
- 10:15 am** Benson Hill. TBD.

9:40-10:15 am Adjourn

Special Meetings

Monday, February 13th

Date & Time	Meeting	Contact person	Room
8:30 am - 10:00 am	Soybean Germplasm Committee Meeting	Anna Locke	Alpine I
9:00 am-10:30 am	Soybase Workshop Meeting	Rex Nelson	Alpine II
10:00 am -12:00 pm	Soybean Genomics Executive Committee Meeting	Michelle Graham	Alpine I
1:00 pm -5:00 pm	Technicians Workshop	Troy Cary	St. Moritz
7:00 pm - 8:00 pm	Soybean Genetics Committee	Elroy Cober	Alpine II

Tuesday, February 14th

Date & Time	Meeting	Contact person	Room
8:00 am - 12:00 pm	Technicians Workshop	Troy Cary	St. Moritz
7:00 pm - 7:30 pm	Uniform Regional Testing North	Adam Brock	Alpine II
7:00 pm – 8:00 pm	Uniform Regional Testing South	Anne Gillen	Alpine I
7:30 pm - 8:00 pm	SCN Regional Testing	Troy / Adam	Alpine II

Wednesday, February 15th

Date & Time	Meeting	Contact person	Room
1:00 pm - 4:00 pm	Missouri Soybean Merchandising Council	Bryan Stobaugh & Amber Meyer	St. Moritz