



# **SOYBEAN BREEDERS WORKSHOP**

**Pathology and Breeding Innovation-Feb 14-16,  
2022**



# MONDAY, FEBRUARY 14, 2022

- **9:00-9:10 CT Zone** - Greeting and acknowledgement. Bo Zhang, Virginia Tech

## SESSION 1: PLANT BREEDING AND BREEDING INNOVATION

### SESSION CHAIR: BO ZHANG, VIRGINIA TECH

- **9:10 am** - Joseph Jedlicka: Innovations in an industry pathology program supporting breeding and commercial pipelines. Bayer
- **9:30 am** - Zenglu Li: Breeding by design to improve the rate of genetic gain in soybean. University of Georgia
- **9:50 am** - Nonoy Bandillo: Prospects for increasing the rate of genetic gain in pulse crops. North Dakota State University
- **10:10 am** - Betsabe Mantilla: New technologies enabling design-centered products. Bayer
- **10:30 am** - Charles An: Development and deployment of an integrative and data-driven

technology for soybean improvement. USDA-ARS

- **10:50 am** - Kelvin Wilson: USB remarks. USB
- **11:10 am** - Khalid Meksem: Soybean tilling: Applications in breeding for soybean seed traits. Southern Illinois University
- **11:40 am** - Edward Bruggemann: Efficient genotyping with an optimized minimal SNP set. NRGene Ltd.
- **12:00 pm** - Q and A
- **12:20 pm** - *Lunch*

## **SESSION 2: ENHANCING SOYBEAN VALUE IN THE PLANT-BASED PROTEIN MARKET**

### **SESSION CHAIR: ANDREW SCABOO, UNIVERSITY OF MISSOURI**

- **1:00 pm** - Phil Kerr: Opportunities for enhanced soy utilization and the role that integrated breeding and biotechnologies may play in addressing unmet needs of global consumers of soy-based products. Prairie AquaTech
- **1:20 pm** - Bala Pudota: Developing high performance ultra-high protein varieties. Benson Hill

- **1:40 pm** - Katherine Rainey: Soy for plant-based protein: A summarized national discussion from the Coordinated Soybean Centers. Purdue University
- **2:00 pm** - Q and A
- **2:15 pm** - *Poster Session*





**TUESDAY, FEBRUARY  
15, 2022**

**SESSION 3: INTERNATIONAL  
SOYBEAN RESEARCH**

**SESSION CHAIR: BO ZHANG,  
VIRGINIA TECH**

- **9:00 am** - Jinsong Zhang: Transcriptional regulation of oil accumulation in soybean. Chinese Academy of

Sciences

- **9:20 am** - Peter GoldSmith: Breaking the varietal release bottleneck in Africa: the Pan-African trial platform. University of Illinois
- **9:40 am** - Hyun Jo: Breeding strategy for improvement of omega-3 fatty acid in soybean. Kyungpook National University
- **10:00 am** - Q and A

## **SESSION 4: STEM AND ROOT DISEASES SESSION**

**CHAIR: LEONOR LEANDRO, IOWA STATE UNIVERSITY**

- **10:15 am** - Jianxin Ma: A giant NLR gene conferring broad spectrum resistance to *Phytophthora sojae*. Purdue University
- **10:35 am** - Febina Mathew: Isolate-genotype interaction for resistance to *Diaporthe* species. South Dakota State University
- **10:55 am** - Mitchell Roth: Gene silencing in the phenylpropanoid pathway improves resistance to sclerotinia stem rot. The Ohio State University
- **11:15 am** - Zachary Noel: Making every seed count: Oomycete communities associated with soybeans

and improving chemical and biological control.

Auburn University

- **11:35 am** - Chris Little: Management strategies for charcoal rot control in soybean. Kansas State University
- **11:55 am** - Q and A
- **12:15 pm** - *Lunch*

## **SESSION 5: SEED COMPOSITIONS**

### **SESSION CHAIR: LEAH MCHALE, OHIO STATE UNIVERSITY**

- **1:00 pm** - Kristin Bilyeu: Seed composition targets for a new commodity soybean. USDA-ARS
- **1:20 pm** - Renan Souza: Genomics enabled soybean seed composition improvement. University of Georgia
- **1:40 pm** - Cintia Arias: Expression of AtWRI1 and AtDGAT1 during soybean embryo development influences oil and carbohydrate metabolism. University of North Texas
- **2:00 pm** - Bingyu Zhao: Develop new KTI1 and KTI3 mutant alleles via CRISPR/Cas9-mediated targeted mutagenesis to reduce trypsin inhibitor content and activity in soybean seeds. Virginia Tech



- **2:20 pm** - Brian Diers and Matthew Hudson: Fine mapping and cloning of the major seed protein QTL on soybean chromosome 20. University of Illinois
- **2:40 pm** - Q and A
- **3:00 pm** - *Career Development Panel Discussion.*  
Mehul Bhakta. Bayer



**WEDNESDAY,  
FEBRUARY 16, 2022**

**SESSION 6: SEED, SEEDLING AND  
FOLIAR DISEASES**

**SESSION CHAIR: FEBINA MATHEW,  
SOUTH DAKOTA STATE UNIVERSITY**

- **9:00 am** - Marty Chilvers: An update on seedling and root rot diseases of soybean. Michigan State University
- **9:20 am** - Leah McHale: Characterization of a major quantitative disease resistance locus from PI 427105B for resistance to *Phytophthora sojae*. The Ohio State University
- **9:40 am** - Jenna Moore: Field & Greenhouse Disease Screenings at GDM: Past, Present & Future. GDM Seeds
- **10:00 am** - Burt Bluhm: Surprising levels of genetic diversity and expanded host range among *Cercospora* pathogens of soybean: Implications for future disease resistance breeding. University of Arkansas
- **10:20 am** - Shyam Solanki: Towards the identification of resistance loci associated with *Fusarium graminearum* resistance in soybean germplasm. South Dakota State University
- **10:40 am** - Alencar Xavier: Modeling white mold with more than genomics. Corteva
- **11:00 am** - Carl Bradley: Update on fungicide resistance in *Cercospora sojina*, causal agent of frogeye leaf spot of soybean. University of Kentucky
- **11:20 am** - Q and A

## **SESSION 7 REPORTS AND ANNOUNCEMENT**



## SESSION CHAIR: BO ZHANG, VIRGINIA TECH

- **12:00 pm** - Hema Damecharla: Announcement of poster winners
- **12:10 pm** - From the floor: Recognitions, retirement, and announcements
- **12:20 pm** - *Adjourn*

## ACKNOWLEDGEMENT

*Special thanks to our sponsors Bayer, GDM and Corteva*



**Credits:**

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