

SCHEDULE OF EVENTS

Talks will be held in the Ballroom A
Posters will be displayed in the Ballroom B&C

Wednesday, February 28, 2024

8:00 AM – 10:00 PM	OPTIONAL PRE-CONFERENCE WORKSHOPS	
8:00 AM - 12:00 PM	Maize Crop Germplasm Committee	Room 302C
1:00 PM – 6:00 PM	Corn Breeding Research	Room 302A/B
7:00 PM – 10:00 PM	Genetics of Maize-Microbe Interactions	Room 301A

Thursday, February 29, 2024

8:00 AM – 6:00 PM	OPTIONAL PRE-CONFERENCE WORKSHOPS	
8:00 AM – 5:00 PM	Corn Breeding Research	Rooms 302A/B
8:30 AM - 5:30 PM	Genetics of Maize-Microbe Interactions Workshop	Room 301A
9:00 AM - 4:00 PM	Maize Development and Cell Biology Workshop	Room 301B
3:00 PM - 4:00 PM	Gramene Workshop	Room 304
4:00 PM - 5:30 PM	MaizeGDB: Pan-genome and AI resources	Room 304
3:00 PM – 9:30 PM	REGISTRATION (Registration Lobby)	
3:00 PM – 6:00 PM	POSTER HANGING (Ballrooms B&C)	
5:00 PM – 5:45 PM	MaGNET Awardees and Mentors Introductions	Room 302B
6:00 PM – 7:00 PM	DINNER (Ballrooms B&C)	

Thursday, February 29, 2024 (continued)

7:00 PM – 9:00 PM	SESSION 1 – WELCOME / FOSTERING DIVERSITY IN THE MAIZE COMMUNITY AND KEYNOTE SPEAKER Chair: Rubén Rellán Álvarez
7:00 PM	WELCOME AND ANNOUNCEMENTS (Ballroom A)
7:20 PM	Ricardo Salvador, Union of Concerned Scientists [KS1] <i>Phenomenology for maize experts: what do you see when you contemplate the map of global maize production?</i>
8:10 PM	Peter Balint-Kurti, Agriculture Research Service, USDA [KS2] <i>Selected highlights of maize disease resistance genetics research: These are a few of my favorite things.</i>
9:00 PM – 12:00 AM	INFORMAL POSTER VIEWING & HOSPITALITY (Ballroom B&C)

Friday, March 1, 2024 (continued)

12:30 PM – 1:30 PM **LUNCH** (Ballrooms B&C)
MaGNET/PUI Networking Lunch (301A)
MGC BoD and MGAC Lunch (301B)

1:30 PM – 4:30 PM **POSTER SESSION 1** (Ballrooms B&C)
1:30 PM – 3:00 PM *Presenters should be at odd-numbered posters.*
3:00 PM – 4:30 PM *Presenters should be at even numbered posters.*

Beverages will be available from 2:30 to 4:00 PM in Ballrooms B&C

4:40 PM – 6:00 PM **SESSION 4 – NEW TOOLS AND RESOURCES I**
Chair: Lander Geadelmann Talks 6-8.

4:40 PM **Jonathan Matheka, University of Wisconsin-Madison** [T6]
*Optimized ZmWOX2A-based transformation system enhances somatic embryogenesis, transformation efficiency, and gene editing efficiency in maize (*Zea mays* L.) and sorghum (*Sorghum bicolor* L.)*

5:00 PM **Steve Johnson, Bayer** [T7]
Harnessing AI for Agricultural Innovation

5:20 PM **Micah, Kelleher, Donald Danforth Plant Science Center** [T8]
A practical haplotype graph map of the ZeaSynthetic population enables integration of teosinte alleles into breeding efforts

5:40 PM **Poster Lightning Talks**

6:00 PM – 7:00 PM **DINNER** (Ballrooms B&C)
Bayer Student/Postdoc Dinner (301A)

Friday, March 1, 2024 (continued)

7:00 PM – 9:00 PM	SESSION 5 – NEW TOOLS AND RESOURCES II Chair: Graziana Taramino AWARDS	Talks 9-10.
7:00 PM	Esteban Bortiri, Syngenta <i>Cyto-swapping in maize by haploid induction with a <i>cenH3</i> mutant</i>	[T9]
7:20 PM	Javier Mendoza Revilla, InstaDeep <i>A foundational large language model for edible plant genomes provides accurate predictions of regulatory elements and gene expression in the maize genome</i>	[T10]
7:40 PM	Poster Lightning Talks	
8:00 PM	John Fowler, Oregon State University <i>Presenting: Cooperator and Leadership Awards</i>	
8:20 PM	Andrea Eveland, Donald Danforth Plant Science Center <i>Presenting: M. Rhoades Early-Career, L. Stadler Mid-Career</i>	
8:40 PM	Marna Yandeau-Nelson, Iowa State University <i>Presenting: R. Emerson Lifetime Awards</i>	
9:00 PM – 12:00 AM	INFORMAL POSTER VIEWING & HOSPITALITY (Ballrooms B&C)	

Saturday, March 2, 2024

7:00 AM – 8:00 AM	BREAKFAST (Ballrooms B&C)	
8:00 AM – 12:00 PM	REGISTRATION (Registration Lobby)	
8:00 AM – 10:00 AM	SESSION 6 – THE NITROGEN CONUNDRUM Chair: Frank Hochholdinger	Talks 11-15.
8:00 AM	Jean-Michel Ane, University of Wisconsin-Madison <i>Biological nitrogen fixation on the aerial roots of maize for sustainable agriculture</i>	[T11]
8:20 AM	Janeen Braynen, Cold Spring Harbor Laboratory <i>Decoding nitrogen use efficiency in maize and sorghum: Insights from comparative gene regulatory networks for sustainable agriculture</i>	[T12]
8:40 AM	Sheng-Kai Hsu, Cornell University <i>The nitrogen cycle in the rhizosphere of diverse grass species in Andropogoneae</i>	[T13]
9:00 AM	Stephanie Klein, Iowa State University <i>Genomic structural variation underlies differential root responses to nitrogen stress in maize</i>	[T14]
9:20 AM	Angela Kent, University of Illinois <i>Mining ancient genomes for microbiome associated phenotypes for nutrient retention in agroecosystems</i>	[T15]
9:40 AM	Poster Lightning Talks	
10:00 AM – 10:30 AM	BREAK	Ballroom ABC Lobby
10:30 AM – 12:30 PM	SESSION 7 – KEYNOTE SPEAKERS Chair: Hank Bass	
10:30 AM	Introduction	
10:40 AM	Anna Stepanova, North Carolina State University <i>Leveraging synthetic biology to monitor and control plant hormone activity</i>	[KS4]
11:40 AM	Natalia de Leon, University of Wisconsin-Madison <i>Plant breeding and the infinitesimal model: cause or consequence</i>	[KS5]
12:30 PM – 1:30 PM	LUNCH (Ballrooms B&C) MaGNET Lunch with Keynote Speakers MGMSC Meeting Maize Genetics Mentoring Program Networking Lunch	(301A) (301B) (303)

Saturday, March 2, 2024 (continued)

1:30 PM – 4:30 PM **POSTER SESSION 2** (Ballrooms B&C)

1:30 PM – 3:00 PM *Presenters should be at even numbered posters.*

3:00 PM – 4:30 PM *Presenters should be at odd numbered posters.*

Beverages will be available from 2:30 to 4:00 PM in Ballrooms B&C

4:30 PM – 6:00 PM **COMMUNITY SESSION - Maize Genetics Cooperative**
Marna Yandea Nelson, MGC BoD Chair (Ballroom A)

6:00 PM – 7:00 PM **DINNER** (Ballrooms B&C)
Corteva Student/Postdoc Dinner (301A)
Syngenta Student/Postdoc Dinner (301B)

7:00 PM – 8:20 PM **SESSION 8 – MAIZE EVOLUTION**
Chair: Matthew Hufford Talks 16-19.

7:00 PM **Robert Martienssen, Cold Spring Harbor Laboratory** [T16]
Teosinte pollen drive guides maize diversification and domestication by RNAi

7:20 PM **Ruth Epstein, Cornell University** [T17]
How recombination facilitated the domestication of maize.

7:40 PM **Michael Bushe, University of Wisconsin-Madison** [T18]
Maize development is controlled by an ancient nutrient signaling pathway

8:00 PM **Samantha Snodgrass, Iowa State University** [T19]
Fractionation in the Tripsacinae subtribe

8:20 PM – 8:40 PM **BREAK** Ballroom ABC Lobby

8:40 PM – 9:40 PM **SESSION 9 – ROOTS AND FRIENDS**
Chair: Stephanie Klein Talks 20-21.

8:40 PM **Michelle Cho, Washington University Saint Louis** [T20]
ZmIRA1, a new root system architecture gene identified by phenomics

9:00 PM **Jason Wallace, University of Georgia** [T21]
Genetic and environmental impacts on the maize microbiome across the United States

9:20 PM **Poster Lightning Talks**

9:40 PM – 12:00 AM **INFORMAL POSTER VIEWING & HOSPITALITY** (Ballrooms B&C)
10:00 PM – 12:00 AM **TRIVIA!!** (Ballrooms B&C)

Posters should be taken down by 12 AM!

Sunday, March 3, 2024

7:00 AM – 8:20 AM **BREAKFAST** (Ballroom ABC Lobby)

8:00 AM – 9:40 AM **SESSION 10 – THE REGULATED GENOME**
Chair: Sarah Jensen Talks 22-26.

8:00 AM **Andrea Gallavoti, Rutgers University** [T22]
Exploring the cis-regulatory landscape of the B73 and Mo17 genomes

8:20 AM **Sohyun Bang, University of Georgia** [T23]
Understanding the role of ZmWUS1 and cis-regulatory elements in maize inflorescence development at single-cell resolution

8:40 AM **Sunil Kenchanmane Raju, New York University** [T24]
Integrating single-cell transcriptomes links organ-specific gene expression with function

9:00 AM **Gwonjin Lee, University of Florida** [T25]
Meiotic recombination differs between sexes in maize.

9:20 AM **Oliver Marchus, Ohio State University** [T26]
x1 encodes a putative RNA-binding protein required for paramutations at multiple loci

9:40 AM – 10:00 AM **BREAK** Ballroom ABC Lobby

10:00 AM – 11:40 AM **SESSION 11 – METABOLIC REGULATION**
Chair: Sherry Flint-Garcia Talks 27-30.

10:00 AM **Elsbeth Walker, University of Massachusetts, Amherst** [T27]
Strigolactone control of iron homeostasis in maize.

10:20 AM **Ankita Abnave, University of Toledo** [T28]
Upper level and cross hierarchical regulation of predominantly expressed phenolic genes in maize

10:40 AM **Manwinder Singh Brar, Clemson University** [T29]
Elucidating the metabolomic and single-cell transcriptomic landscape of maize leaf senescence

11:00 AM **Jonathan Gent, University of Georgia** [T30]
Potent pollen gene regulation by DNA glycosylases in maize

11:20 AM **CLOSING REMARKS (Rubén Rellán Álvarez and Sherry Flint-Garcia)**

11:30 AM **ADJOURNMENT**