SCHEDULE OF EVENTS

Talks will be held in the Grand Ballroom

Posters will be displayed in the Midway

Thursday, March 16, 2023

9:00 AM – 6:00 PM	**OPTIONAL PRE-CONFERENCE WORKSHOPS**	
9:00 AM – 4:00 PM	**Maize Development and Cell Biology Workshop** Space is limited, registration is required	Midway Suites 1-4
1:00 PM - 2:00 PM	**MaizeMine Data Warehouse Tutorial**	Jeffersonian/ Knickerbocker
2:00 PM - 3:00 PM	**Gramene: Maize Pan-genome Resources**	Jeffersonian/ Knickerbocker
2:00 PM - 4:30 PM	**Tour of Donald Danforth Plant Science Center** Space is limited, registration is required Transportation provided, meet at Union Station front desk	
3:15 PM - 3:45 PM	**MaizeGDB: Protein Structure Resources**	Jeffersonian/ Knickerbocker
3:45 PM - 4:45 PM	**MaizeGDB: Pan-genome Resources and Visualization**	Jeffersonian/ Knickerbocker
3:00 PM – 9:30 PM	**REGISTRATION** (Depot Registration Office)	
3:00 PM – 6:00 PM	**POSTER HANGING** (Midway)	
5:00 PM – 5:45 PM	**MaGNET Awardees and Mentors Introductions**	Midway Suites 1-4
6:00 PM – 7:00 PM	**DINNER** (Midway)	

Thursday, March 16, 2023 (continued)

7:00 PM – 9:00 PM	**SESSION 1 – WELCOME / THE GENES THAT MAKE MAIZE** Chair: Matthew Hufford	Talks 1-4.
7:00 PM	**WELCOME AND ANNOUNCEMENTS**	(Grand Ballroom)
7:15 PM	**Hua Yang, University of Missouri** *Identification of a trans-acting factor required for B chromosome nondisjunction-a component of its drive mechanism*	[T1]
7:35 PM	**Hui Liu, University of Florida** *Distinct roles of plastidial and cytosolic arogenate pathways for phenylalanine and tyrosine biosynthesis in kernel and plant development*	[T2]
7:55 PM	**Michaela Matthes, University of Bonn** *Genome-wide association study identifies a link between boron homeostasis and benzoxazinless3 in maize*	[T3]
8:15 PM	**Siddique Aboobucker, Iowa State University** *Parallel spindle genes restore haploid male fertility – removing a bottleneck in doubled haploid technology*	[T4]
8:35 PM	**Poster Lightning Talks**	
9:00 PM – 10:00 PM	**UNDERGRADUATE AND GRADUATE STUDENT MIXER**	(Pegram)
9:00 PM – 1:00 AM	**INFORMAL POSTER VIEWING & HOSPITALITY**	(Midway)

Friday, March 17, 2023

7:00 AM – 8:00 AM **BREAKFAST** (Midway)

7:30 AM – 12:30 PM **REGISTRATION** (Depot Registration Office)

8:00 AM – 10:10 AM **SESSION 2 – CEREALS AND THE ENVIRONMENT**
Chair: Marna Yandeau-Nelson Talks 5-9.

8:00 AM **ANNOUNCEMENTS** (Grand Ballroom)

8:15 AM **Aaron Kusmec, Iowa State University** [T5]
A genetic tradeoff for tolerance to moderate and severe heat stress in US hybrid maize

8:35 AM **August Thies, Donald Danforth Plant Science Center** [T6]
Analyzing the impact of breeding, soil variability and management practices on maize root system architecture using X-ray imaging

8:55 AM **Vladimir Torres, University of Nebraska-Lincoln** [T7]
Measurement of expression from a limited number of genes is sufficient to predict flowering time in maize

9:15 AM **Anuradha Singh, Michigan State University** [T8]
Genetic analysis of leaf functional and eco-physiological traits for optimized photosynthesis in sorghum

9:35 AM **McKena Wilson, Michigan State University** [T9]
Quantitative genetics of stress tolerance and agronomic traits in the climate resilient cereal teff

9:55 AM **Poster Lightning Talks**

10:10 AM – 10:40 AM **BREAK** **Foyer A**

10:40 AM – 12:30 PM **SESSION 3 – INVITED SPEAKERS**
Chair: Petra Wolters

10:40 AM Introduction

10:50 AM **Ralph Bock, Max Planck Gesellschaft** [IS1]
Genetic engineering of chloroplast and mitochondrial genomes

11:40 AM **Candice Hirsch, University of Minnesota** [IS2]
From genome to phenome: Understanding the diversity of maize

Friday, March 17, 2023 (continued)

12:30 PM – 1:30 PM **LUNCH** (Midway)
MaGNET/PUI Networking Lunch (Midway Suites 1&2)
MGC BoD and MGAC Lunch (Midway Suites 3&4)

1:30 PM – 4:30 PM **POSTER SESSION 1** (Midway)

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 Midway

4:40 PM – 6:00 PM **SESSION 4 – PREDICTING MAIZE PERFORMANCE**
Chair: Aimee Schulz Talks 10-12.

4:40 PM **Zhikai Yang, University of Nebraska-Lincoln** [T10]
Microbiome-enabled genomic selection improves prediction accuracy for nitrogen-related traits in maize

5:00 PM **Daniel Kick, USDA-ARS, University of Missouri** [T11]
Maize yield prediction accuracy increased by inclusion of genetics, environment, and management interactions with deep learning

5:20 PM **Alencar Xavier, Corteva, Purdue University** [T12]
Maize yield prediction: Results from the 2022 G2F prediction competition

5:40 PM **Poster Lightning Talks**

6:00 PM – 7:00 PM **DINNER** (Midway)
Bayer Student/Postdoc Dinner (Midway 1&2)

7:00 PM –9:00 PM **SESSION 5 – AWARDS & McCLINTOCK PRIZE PRESENTATION**

7:00 PM **Paula McSteen, University of Missouri and Hank Bass, Florida State University**
Presenting: Cooperator and Leadership Awards

7:20 PM **Andrea Eveland, Donald Danforth Plant Science Center**
Presenting: M. Rhoades Early-Career, L. Stadler Mid-Career

7:40 PM **Jay Hollick, The Ohio State University**
Presenting: R. Emerson Lifetime Awards

8:00 PM **Mark Lubkowitz, Saint Michael's College**
McClintock Prize Presentation Introduction

8:10 PM **McClintock Prize Presentation: Virginia Walbot**
Development of maize anthers: it's a long road from lobe inception to functional pollen

9:00 PM – 1:00 AM **INFORMAL POSTER VIEWING & HOSPITALITY** (Midway)

Saturday, March 18, 2023

7:00 AM – 8:00 AM **BREAKFAST** (Midway)

8:00 AM – 12:00 PM **REGISTRATION** (Depot Registration Office)

8:00 AM – 10:00 AM **SESSION 6 – CELLULAR PROCESSES**
Chair: Madelaine Bartlett Talks 13-18.

8:00 AM **Hao Wu, Cornell University** [T13]
Spatial transcriptomic analysis of the maize embryo

8:20 AM **Hardy Rolletschek, Leibniz Institute, IPK** [T14]
The peripheral (maternal) void network inside the maize kernel supports grain fill

8:40 AM **Jazmin Abraham-Juarez, Langebio Cinvestav** [T15]
Liguleless narrow and narrow odd dwarf regulate maize development and stress response in overlapping pathways

9:00 AM **Ruthie Angelovici, University of Missouri** [T16]
Uncovering the genetic and metabolic bases of seed amino acid composition using a multi-omics integration approach

9:20 AM **Mateusz Zelkowski, Cornell University** [T17]
The meiotic crossover landscape in maize

9:40 AM **Jeff Chen, The University of Texas at Austin** [T18]
Circadian Regulation of Metabolomes and Proteomes in Maize Heterosis

10:00 AM – 10:40 AM **BREAK, POSTDOC MIXER** **Foyer A**

10:40 AM – 12:30 PM **SESSION 7 – INVITED SPEAKERS**
Chair: Matthew Hufford

10:40 AM Introduction

10:50 AM **Seung Yon (Sue) Rhee, Carnegie Institution for Science** [IS3]
Understanding mechanisms of thermoadaptation of desert extremophiles

11:40 AM **Damon Lisch, Purdue University** [IS4]
Local and global perspectives on the causes and consequences of epigenetic silencing of transposable elements

12:30 PM – 1:30 PM **LUNCH** (Midway)
MaGNET Lunch with Invited Speakers (Midway Suites 1&2)
MGMSC Meeting (Midway Suites 3&4)
Maize Genetics Mentoring Program (Midway 11)
Networking Lunch

Saturday, March 18, 2023 (continued)

1:30 PM – 4:30 PM **POSTER SESSION 2** (Midway)

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 Midway

4:30 PM – 6:00 PM **COMMUNITY SESSION - Maize Genetics Cooperative**
Jay Hollick, MGC BoD Chair (Grand Ballroom)

6:00 PM – 7:00 PM **DINNER** (Midway)
Corteva Student/Postdoc Dinner (Midway 1&2)
Syngenta Student/Postdoc Dinner (Midway 3&4)

7:00 PM – 8:20 PM **SESSION 8 – EVOLUTION OF THE MAIZE GENOME**
Chair: Rubén Rellán Álvarez Talks 19-22.

7:00 PM **Jeffrey Ross-Ibarra, University of California, Davis** [T19]
Two teosintes made modern maize

7:20 PM **Manisha Munasinghe, University of Minnesota** [T20]
Combined analysis of transposable elements and structural variation in maize genomes reveals genome contraction outpaces expansion

7:40 PM **John Pablo Mendieta, University of Georgia** [T21]
Deciphering the evolutionary history of cell-type-specific accessible chromatin regions by comparative genomic approaches

8:00 PM **Michelle Stitzer, Cornell University** [T22]
Elevated transposable element content is subtly associated with reduced fitness in maize

8:20 PM – 8:40 PM **BREAK** **Foyer A**

8:40 PM – 9:30 PM **SESSION 9 – FOSTERING DIVERSITY IN THE MAIZE COMMUNITY**
Chair: Maria Angelica Sanclemente

8:40 PM **MariaElena Zavala, California State University, Northridge** [IS5]
Sowing the seeds of equity to reap a harvest of diverse scientists

9:30 PM – 2:00 AM **INFORMAL POSTER VIEWING, & HOSPITALITY** (Midway)

10:00 PM – 11:00 PM **TRIVIA!!** (Pegram)

Sunday, March 19, 2023

7:00 AM – 8:20 AM **BREAKFAST** (Midway)

Posters should be taken down by 9 AM!

8:20 AM – 10:00 AM **SESSION 10 – EMERGING TOOLS AND APPLIED RESEARCH**
Chair: Sarah Jensen Talks 23-27.

8:20 AM **Aimee Schulz, Cornell University** [T23]
reelGene: Fishing for good gene models with evolution and machine learning

8:40 AM **Marco Peixoto, University of Florida** [T24]
An R-package for cross prediction and optimization using genomic selection

9:00 AM **Samik Bhattacharya, Resolve Biosciences** [T25]
Single-cell transcript mapping in crop species using Molecular Cartography™

9:20 AM **Xianran Li, USDA-ARS, Washington State University** [T26]
Streamline unsupervised machine learning to survey and graph indel-based haplotypes from pan-genomes

9:40 AM **Preston Hurst, University of Nebraska-Lincoln** [T27]
Editing the 19kDa alpha-zein gene family generates non-opaque2 based quality protein maize

10:00 AM – 10:30 AM **BREAK** **Foyer A**

10:30 AM – 11:40 AM **SESSION 11 – REGULATING GENES AND GENOMES**
Chair: Erin Sparks Talks 28-30.

10:30 AM **Emily Wear, North Carolina State University** [T28]
Metabolic labeling of nascent RNA: a look into active transcription and stable vs. unstable transcripts in maize root tips

10:50 AM **Julien Rozière, Université Paris-Saclay, CNRS, INRAE** [T29]
Detection of preferentially located DNA motifs reveals distinct cis-regulatory sequences in gene-proximal regions of Arabidopsis thaliana and maize

11:10 AM **Nicholas Gladman, USDA-ARS, Cold Spring Harbor** [T30]
Direct and predicted motif analysis of GRAS family transcription factors in sorghum and other important crop species

11:30 AM **CLOSING REMARKS (Matthew Hufford and Rubén Rellán Álvarez)**

11:40 AM **ADJOURNMENT**