SCHEDULE OF EVENTS

Talks will be held in Keauhou II.
Posters will be displayed in Keauhou I / III / IV.

Thursday, March 12

3:00 PM – 9:30 PM	**REGISTRATION** (Kaleiopapa Convention Center Foyer)
3:00 PM – 6:00 PM	**POSTER HANGING** (Keauhou I/III/IV)
5:00 PM – 5:45 PM	**MaGNET Awardees and Mentors Introductions** (Hualalai Room)
6:00 PM – 7:00 PM	**DINNER** (Hawaii Lawn)

7:00 PM – 9:00 PM	**SESSION 1 – WELCOME / EXPRESSING THE GENOME** Chair: Clint Whipple / Erin Sparks Talks 1-5.
7:00 PM	**WELCOME AND ANNOUNCEMENTS** (Keauhou II)
7:15 PM	**James Satterlee, Cornell University** [T1] *Single-cell transcriptomic analysis of maize shoot apical meristem organization and cell differentiation.*
7:35 PM	**Natalie Clark, Iowa State University** [T2] *Generating multi-scale predictive networks of Northern Corn Leaf Blight resistance.*
7:55 PM	**Peter Crisp, University of Queensland** [T3] *DNA methylomes as a tool for functional annotation of genes and their regulatory regions.*
8:15 PM	**Wei Guo, Purdue University** [T4] *Rapid, heat-induced transgenerational reactivation of a silenced transposable element in maize.*
8:35 PM	**Thomas Hartwig, Max Planck Institute** [T5] *FIND-CIS: an antibody-free, genome-wide method for high-resolution, in vivo mapping of functional cis-elements.*
9:00 PM – 1:00 AM	**INFORMAL POSTER VIEWING, SOCIALIZING AND NETWORKING** (Keauhou I/III/IV and Kaleiopapa Convention Center Foyer)

Friday, March 13

7:00 AM – 8:00 AM	**BREAKFAST** (Hawaii Lawn)
7:30 AM – 12:30 PM	**REGISTRATION** (Kaleiopapa Convention Center Foyer)

8:00 AM – 10:10 AM — SESSION 2 – EMERGING TOOLS AND CHALLENGES
Chair: Todd Jones — Talks 6-10.

8:00 AM — **ANNOUNCEMENTS** (Keauhou II)

8:15 AM — **Na Wang, University of Georgia** [T6]
Haploid induction by a maize cenh3 null mutant

8:35 AM — **Lei Liu, Cold Spring Harbor Laboratory** [T7]
Enhancing maize grain yield by CRISPR/Cas9 genomic editing of CLE (CLAVATA3/Embryo-surrounding region) genes for maize breeding

8:55 AM — **Bliss Beernink, Iowa State University** [T8]
Protein expression and gene editing in maize using foxtail mosaic virus vectors

9:15 AM — **Ian Braun, Iowa State University** [T9]
Natural language processing of phenotype descriptions enables automated inference of biological relationships

9:35 AM — **Matheus Baseggio, Cornell University** [T10]
Key steps towards the biofortification of sweet corn: Identifying genes important for improving vitamin and mineral levels in fresh kernels

10:10 AM – 10:30 AM — **BREAK**

10:30 AM – 11:25 AM — SESSION 3 – INTERACTIONS WITH THE ENVIRONMENT I
Chair: Marna Yandeau-Nelson — Talks 11-12.

10:30 AM — **Bethan Manley, University of Cambridge** [T11]
Independent of Arbuscular Mycorrhizal Symbiosis: Positional cloning and characterisation of a novel arbuscular mycorrhizal mutant in Zea mays.

10:50 AM — **Yi-Hsuan Chu, Michigan State University** [T12]
Elucidating the genome-wide gene regulatory features of transcription factors (TFs) involved in the control of maize phenylpropanoid biosynthesis

11:10 AM — **Natalia de Leon, Maize Genetics Cooperation**
An update on the incorporation of the Maize Genetics Cooperation as a not-for-profit organization.

11:25 AM – 12:25 PM — SESSION 4 – INVITED SPEAKER
Chair: Marna Yandeau-Nelson

11:25 AM — **Introduction**

11:35 AM — **Sarah Hake, USDA-ARS** [IS1]
Organogenesis in maize – lessons from mutants.

Friday, March 13 (continued)

12:30 PM – 1:30 PM **LUNCH** (Hawaii Lawn)

1:30 PM – 4:30 PM **POSTER SESSION 1** (Keauhou I/III/IV)

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 3:30 PM in the Kaleiopapa Convention Center Foyer

4:40 PM – 6:00PM **SESSION 5 – THE GENES THAT MAKE MAIZE I**
Chair: Michael Muszynski Talks 13-16.

4:40 PM **Adam Bray, Donald Danforth Plant Science Center** [T13]
The classic maize mutant Rootless1 is a bHLH transcription factor that modulates crown root number in the field

5:00 PM **Zongliang Chen, Rutgers University** [T14]
A tandem duplication of the maize wushel1 gene promotes major architectural rearrangements in inflorescense meristem

5:20 PM **Yanfang Du, Huazhong Agricultural University** [T15]
Gene duplications at the Fascicled ear1 (Fas1) locus affect adaxial–abaxial cell fate in maize inflorescence meristems

5:40 PM **Harry Klein, University of Massachusetts** [T16]
A dormancy regulatory module is recruited to suppress maize carpels.

6:00 PM – 7:00 PM **DINNER** (Hawaii Lawn)

7:00 PM –9:00 PM **SESSION 6 – AWARDS & MCCLINTOCK PRIZE PRESENTATION**
Chair: Natalia de Leon

7:00 PM **Ruth Wagner, MGC Incoming Chair**
M. Rhoades Early-Career and L. Stadler Mid-Career Awards

7:25 PM **David Jackson, MGC Communication Coordinator**
R. Emerson Lifetime Award and 2021 McClintock Prize

7:55 PM **David Braun, University of Missouri**
McClintock Prize Presentation

8:10 PM **Jim Birchler, University of Missouri**
The Gene Balance Hypothesis: How regulatory gene stoichiometries affect expression, the phenotype and evolutionary processes

9:00 PM – 1:00 AM **INFORMAL POSTER VIEWING, SOCIALIZING AND NETWORKING**
(Keauhou I/III/IV and Kaleiopapa Convention Center Foyer)

Saturday, March 14

7:00 AM – 8:00 AM	**BREAKFAST** (Hawaii Lawn)
8:00 AM – 12:00 PM	**REGISTRATION** (Kaleiopapa Convention Center Foyer)

8:00 AM – 10:00 AM	**SESSION 7 – GENOME BIOLOGY AND EVOLUTION** Chair: Hilde Nelissen	Talks 17-22.
8:00 AM	**Jaclyn Noshay, University of Minnesota** *The genetic and epigenetic contribution of TEs in shaping the maize genome.*	[T17]
8:20 AM	**Candice Hirsch, University of Minnesota** *Characterizing the maize pan-genome and effects on phenotypic variation.*	[T18]
8:40 AM	**Minghui Wang, Cornell University** *Dissecting recombination landscape in maize using machine learning.*	[T19]
9:00 AM	**Devon Birdseye, UC San Diego** *Maize hybrids show increased expression of plastid protein complexes and decreased expression of ethylene biosynthesis*	[T20]
9:20 AM	**Jinliang Yang, University of Nebraska-Lincoln** *Adaptive evolution of DNA methylation reshaped gene regulation in maize*	[T21]
9:40 AM	**Stephanie Klein, Pennsylvania State University** *Fitness and environmental patterns in maize landraces identify beneficial alleles at single gene resolution.*	[T22]
10:00 AM – 10:30 AM	**BREAK**	
10:30 AM – 11:30 AM	**SESSION 8 – FROM GENOTYPE TO PHENOTYPE** Chair: Clinton Whipple	Talks 23-25.
10:30 AM	**Norman Best, University of Missouri** *The lateral suppressor1 gene encodes a GRAS transcription factor required for axillary meristem development in maize.*	[T23]
10:50 AM	**Vivek Shrestha, University of Missouri** *Uncovering the genetic architecture of protein bound amino acids in maize kernels using GWAS combined with gene co-expression network analysis.*	[T24]
11:10 AM	**Sarah Anderson, Iowa State University** *Uncovering imprinting of PAV genes and transposable elements using whole genome assemblies.*	[T25]
11:30 AM – 12:30 PM	**SESSION 9 – INVITED SPEAKERS** Chair: Clinton Whipple	
11:30 AM	Introduction	
11:40 AM	**Kirsten Bomblies, ETH Zurich** *How to tango with four - the evolution of meiotic stability in autotetraploid Arabidopsis arenosa.*	[IS2]

Saturday, March 14 (continued)

12:30 PM – 1:30 PM **LUNCH** (Hawaii Lawn)

1:30 PM – 5:00 PM **POSTER SESSION 2** (Keauhou I/III/IV)

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 3:30 PM in Kaleiopapa Convention Center Foyer

5:00 PM – 6:00 PM **COMMUNITY SESSION - Maize Genetics Cooperation**
MGC Chair: Natalia de Leon (Keauhou II)

6:00 PM – 7:00 PM **DINNER** (Hawaii Lawn)

7:00 PM – 9:00 PM **SESSION 10 – THE GENES THAT MAKE MAIZE II**
Chair: Andrea Gallavotti Talks 26-31.

7:00 PM **Thomas Hughes, University of Oxford** [T26]
SCR and NKD genes regulate leaf patterning during maize development

7:20 PM **Nick Lauter, USDA-ARS** [T27]
Cloning and transcriptomic characterization of macrohairless1, a regulator of specialized cell fate commitment in the maize epidermis

7:40 PM **George Chuck, UC Berkeley** [T28]
Necrotic upper tips1 is a florally induced NAC transcription factor that promotes water movement by fortifying protoxylem cell walls

8:00 PM **Jiani Yang, Donald Danforth Plant Science Center** [T29]
Growth hormones BR and GA modulate spikelet meristem identity in Setaria viridis through interface with the ortholog of maize determinacy factor, RAMOSA 1

8:20 PM **Xiaosa Xu, Cold Spring Harbor Laboratory** [T30]
New insights into maize development using single-cell RNA sequencing (scRNA-seq)

8:40 PM **Chong Teng, Donald Danforth Plant Science Center** [T31]
Dicer-like 5 deficiency confers temperature-sensitive male sterility in maize

9:15 PM – 11:00 PM **INFORMAL POSTER VIEWING & HOSPITALITY** (Keauhou I/III/IV and Kaleiopapa Convention Center Foyer)

11:00 PM – 2:00 AM **SOCIALIZING, NETWORKING & DANCE** (Keauhou II)

Sunday, March 15

7:00 AM – 8:20 AM **CASH & CARRY BREAKFAST** (Kaleiopapa Convention Center Foyer)

Posters should be taken down by 9 AM!

8:20 AM – 10:00 AM **SESSION 11 – INTERACTIONS WITH THE ENVIRONMENT II**
Chair: Jeff Ross-Ibarra Talks 32-36.

8:20 AM **Shawn Christensen, USDA-ARS** [T32]
Combinatorial stress causes extensive metabolic remodeling and divergent responses in maize defense chemistry

8:40 AM **Katherine Murphy, UC Davis** [T33]
Bioactive diterpenoids impact the composition of the root-associated microbiome in maize

9:00 AM **Jeff Bennetzen, University of Georgia** [T34]
Teaching plant genetics with discovery microbiomics

9:20 AM **Monika Frey, Technical University of Munich** [T35]
More than just the genes: Limitations for biosynthesis of the maize defense compound DIBOA in Arabidopsis

9:40 AM **Yezhang Ding, UC San Diego** [T36]
Convergent evolution on terpenoid metabolic pathways contributes to the protection of diverse crop genera

10:00 AM – 10:30 AM **BREAK**

10:30 AM – 11:40 AM **SESSION 12 – COMMUNICATING WITHIN AND BETWEEN CELLS AND PLANTS**
Chair: Erin Sparks Talks 37-39.

10:30 AM **Thomas Dresselhaus, University of Regensburg** [T37]
Signaling along the pollen tube journey.

10:50 AM **Britney Moss, Whitman College** [T38]
Maize auxin response circuits recapitulated in yeast

11:10 AM **Michaela Matthes, University of Missouri** [T39]
Imaging Boron: Illuminating hidden aspects of root architecture in maize

11:30 AM **CLOSING REMARKS**

11:40 AM **ADJOURNMENT**