

GPZ Meeting, Working Group 4 (Genome Analysis)

Digital and Genomics-Assisted Breeding for a Plant-Based Bioeconomy

March 13-14, 2023, Halle/Saale, Theodor-Lieser-Straße 9, HS E.02

Gold-Sponsored by:

- KWS SAAT SE & Co. KGaA, Einbeck
- DiP: Modellregion Mitteldeutschland – Digitalisierung pflanzlicher Wertschöpfungsketten

First Day, March 13, 12:30-18:15

12:30 Registration & Poster Setup

13:30 Opening Klaus Pillen

Chair: Christian Jung

Session 1: Digital Mining of Genes and Alleles: from Single Genomes to Pan-Genomes

13:45 - 14:30 Keynote:

Nils Stein, IPK Gatersleben:

"The barley pan-genome – access to genome diversity at species' resolution"

14:30 - 15:30 → 3 session talks à 20 min.

Patrick König, IPK Gatersleben: *"DivBrowse - A visual analytics tool to improve the access to genomic diversity of crops for scientists and breeders"*

Murukarthick Jayakodi, IPK Gatersleben: *"An improved genome and genotyping establish a foundation for pan-genomics in faba bean"*

Sven Weber, University of Giessen: *"Failed SNP calls: Useful for genomic prediction in plant breeding?"*

15:30 – 16:30 → Coffee Break and Poster Presentation

Chair: Klaus Pillen

Session 2: Digital Securing of Biotic and Abiotic Stress Resilience

16:30 – 17:15 Keynote:

Kerstin Neumann, IPK Gatersleben:

"Application of high-throughput phenotyping techniques to improve crop adaptation to global warming"

17:15 - 18:15 → 3 session talks à 20 min.

Srijan Jhingan, University of Kiel: *"Direct access to millions of mutations by Whole Genome Sequencing of an oilseed rape mutant population"*

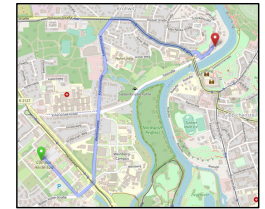
Amar Singh Dhiman, University of Kiel: *"A Beta mini core collection for mapping Cercospora leaf spot resistance"*

Madita Lauterberg, IPK Gatersleben: *"Searching for donor genotypes in chickpea:*

Utilizing precision phenotyping to scrutinize vegetative drought tolerance through-out plant genetic resources"

19:00 → Get Together and Dinner Event

CLICK: [Kruq zum Grünen Kranze, Talstraße 37, 06120 Halle](#)



Chair: Kerstin Neumann

Second Day, March 14, 08:30-14:00

Session 3: Breeding of New Products from Old Plants for the Bioeconomy

08:30 - 09:15 Keynote:

Stefan Paulus, IfZ Göttingen:

"Objective plant imaging and AI interpretation for plant breeding"

09:15 - 10:15 → 3 session talks à 20 min.

Hanna Marie Schilbert, University of Bielefeld: *"Mapping-by-sequencing reveals genomic regions associated with seed quality parameters in Brassica napus"*

Albert Schulthess, IPK Gatersleben: *"Genomics-informed pre-breeding unlocks the diversity in genebanks for wheat improvement"*

Andreas Maurer, University of Halle: *"Evaluating the genotype impact on the performance of inter-varietal two-component mixtures in spring barley"*

10:15 – 11:05 → Coffee Break and Poster Presentation

11:05 - 11:45 → cont. Session 3: 2 talks à 20 min.

Chair: Nils Stein

Yongyu Huang, IPK Gatersleben: *"Natural variations of phytomer initiation and elongation in barley are controlled by additive genetic and molecular pathways"*

Steven Dreißig, University of Halle: *"Recombination landscape divergence between populations is marked by larger low-recombining regions in domesticated rye"*

Session 4: Breeding of New Products from New Plants for the Bioeconomy

11:45 – 12:30 Keynote:

Christian Jung, University of Kiel:

"Introducing new crops for the German bioeconomy - quinoa as a case study"

12:30 - 12:50 → 1 session talk à 20 min.

Sandra T. Krause, University of Halle: *"Elucidating the biosynthesis of thymol, carvacrol, and thymohydroquinone in thyme and oregano by transcriptomics analysis, metabolic profiling, and biochemistry"*

13:00 – 14:00: End of Meeting and Lunch

→ Weinberg-Mensa,

CLICK: [Wolfgang-Langenbeck-Straße 3, 06120 Halle/Saale](#)

