GERMAN PLANT BREEDING CONFERENCE
"ACCELERATING CROP GENETIC GAIN"

Geisenheim, 19. – 21. March 2024

PROGRAM

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19/03/2024

11:00 – 12:30	Registration, Poster setup
12:30 – 13:00	Welcome

SESSION 1 **"MANAGING AND MINING CROP DIVERSITY USING GENOMIC TOOLS"; CHAIR: MARIA VON KORFF SCHMISING**

13:00 – 13:40 **KEYNOTE: AGNIESZKA GOLICZ, JUSTUS LIEBIG UNIVERSITY GIESSEN, GERMANY – MODERN GENOMIC TECHNOLOGIES TO ACCELERATE CROP GENETIC GAIN**

13:40 – 14:00 **Christina Waesch***, Martin-Luther University Halle-Wittenberg, Germany – Pollen and anther morphological variation was shaped by domestication in rye (*Secale cereale* L.)

14:00 – 14:20 **Anne-Kathrin Pfrieme***, Julius Kühn-Institut, Germany – Unlocking the potential of wheat genetic resources: Fine mapping and validation of unexploited leaf and stripe rust resistances

14:20 – 14:40 **Sarah Schiessl-Weidenweber**, Justus-Liebig Universität Gießen, Germany – Meiosis genes variation in the triangle of U

14:40 – 15:00 **Akanksha Singh**, University of Cologne, Germany – Recent landraces from novel environments can serve as reservoirs of genetic diversity in grain amaranth

15:00 – 15:45 Coffee break

SESSION 2 **"INNOVATIVE MODELLING STRATEGIES FOR FUTURE CROP IMPROVEMENT", CHAIR: TSU-WEI CHEN**

15:45 – 16:25 **KEYNOTE: DANIELA BUSTOS-KORTS, INSTITUTE FOR PLANT PRODUCTION AND PROTECTION, UNIVERSIDAD AUSTRAL DE CHILE, VALDIVIA, CHILE – CHALLENGES AND OPPORTUNITIES ARISING FROM GXE AT DIFFERENT SCALES**

16:25 – 16:45	**Tien-Cheng Wang***, Humboldt University Berlin, Germany – Location determines yield performance consistency in winter wheat (*Triticum aestivum* L.): case study from multi-environment trials and simulation results
16:45 – 17:05	**Lukas Roth***, Institute of agricultural sciences, Switzerland – High-throughput field phenotyping to facilitate the prediction of crop performance for new environments and new genotypes in breeding
17:05 – 17:25	**Marta Malinowska**, Aarhus University, Denmark – Root traits as a key driver in accelerating and streamlining perennial ryegrass improvement
17:30 - 18:15	Founding meeting of „Young GPZ".
18:15 - 19:00	General Assembly of the German Society of Plant Breeding
19:00 – 21:00	Happy Poster Session with Flying Dinner
21:00 – 23:30	Networking in the "Geisenheim Breeders' Lounge"

20/03/2024

08:00 – 08:30	Coffee / Registration

SESSION 3 "ACCELERATING CROP BREEDING FOR IMPROVED CLIMATE RESILIENCE AND SUSTAINABILITY", CHAIRS: LEE HICKEY & ANDREAS STAHL

08:30 – 09:10	KEYNOTE: DORCUS GEMENET, INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER (CIMMYT), KENYA – FOOD AND NUTRITION SECURITY IN THE GLOBAL SOUTH: CROP IMPROVEMENT INTERVENTIONS BY CGIAR AND PARTNERS
09:10 – 09:30	**Thomas Miedaner**, University of Hohenheim, Germany – Dwarfing genes in wheat, triticale and rye hinder genetic gain in *Fusarium* head blight resistance
09:30 – 09:50	**Alan Humphries**, South Australian Research and Development Institute, Australia – Introgressing crop wild diversity to improve alfalfa drought tolerance for Kazakhstan and Kyrgyzstan
09:50 – 10:10	**Lilian A. Okiro***, Egerton University, Kenya – Evaluation of genetic diversity and genome-wide association studies of resistance to bacterial wilt disease in potato
10:10 – 10:40	Coffee break
10:40 – 11:00	**Miguel Sanchez-Garcia**, International Centre for Agricultural Research in the Dry Areas (ICARDA), Morocco – New strategies of the Global Barley Breeding Program of the CGIAR to accelerate genetic gains under Climate Change
11:00 – 11:20	**Dennis E. Tippe***, Tanzania Agricultural Research Institute (TARI), Tanzania, – Biodiversity for Opportunities, Livelihoods and Development (BOLD): Harnessing crop diversity to mitigate the effects of changing climate - Finger Millet component
11:20 – 11:40	**Annika Schildberg***, Institut für Pflanzenzüchtung, Universität Kiel, Germany, – Unraveling the function of the cyst nematode resistance gene Hs4 in different genomic backgrounds
11:40 – 12:00	**Hannah Robinson**, University of Queensland, Australia, – Breeding for stable disease resistance: a commercial wheat breeding case study using genomic prediction
12:00 – 14:00	Happy Poster Session with Flying Lunch

SESSION 4 "DESIGNING FUTURE CROPS USING MODERN BREEDING TECHNOLOGIES", CHAIRS: MORGANE ROTH & DANIELA HOLTGRÄWE

14:00 – 14:40	KEYNOTE: HANS DAETWYLER, BAYER CROP SCIENCE, VEGETABLES BY BAYER R&D, SWITZERLAND – TRANSFORMING VEGETABLE BREEDING
14:40 – 15:00	**Tianyu Lan***, Heinrich-Heine University Düsseldorf, Germany – Adapting to the heat: stress response and reproductive success in barley
15:00 – 15:20	**Michaela Jung***, Agroscope, Switzerland – Genomic prediction of apple traits integrating environmental covariables and non-additive effects
15:20 – 15:40	**Etienne R. Patin***, INRAE EGFV, France – Genetic variability of drought responses and root traits in wild *Vitis* species with an interest to be used as grapevine rootstocks
15:40 – 16:00	**Gesa Helmsorig***, Heinrich-Heine-University Düsseldorf, Germany – Early maturity 7 (eam7) is a modulator of photoperiod sensitivity in barley
16:00 – 16:30	Coffee break
16:30 – 17:10	KEYNOTE: HOLGER PUCHTA, JOSEPH GOTTLIEB KÖLREUTER INSTITUTE FOR PLANT SCIENCES, KARLSRUHE, GERMANY – USING CRISPR/CAS FOR PLANT BREEDING: FROM GENE EDITING TO CHROMOSOME ENGINEERING
17:10 – 17:30	**Nina Trubanová***, University College Dublin , Republic of Ireland – Genome specific association study (GSAS) for exploration of intravarietal variability in hemp (*Cannabis sativa*)
17:30 – 17:50	**Shanice Van Haeften***, The University of Queensland, Australia – Unravelling the Genetics of Mungbean Canopy Dynamics Using UAV-Derived Prediction Models
17:50 – 18:10	**Max Schmidt***, Hochschule Geisenheim University, Geisenheim – Exploring the (epi)genetic diversity in grapevine
from 19:30	Conference Dinner at "Mein Bahnhof", Am Rottland 1, 65385 Rüdesheim am Rhein

21/03/2024

08:00 – 08:30	Coffee / Registration

SESSION 5 "PREDICTING A PATH FOR FUTURE CROP IMPROVEMENT", CHAIRS: ROD SNOWDON & KAI VOSS-FELS

08:30 – 09:10	KEYNOTE: MARK COOPER, UNIVERSITY OF QUEENSLAND, AUSTRALIA – RETHINKING THE "BREEDER'S EQUATION": EMERGING OPEN QUESTIONS
09:10 – 09:30	**Hanna Marie Schilbert***, Bielefeld University, Germany – From Bitter to Better: Optimizing the Taste of Rapeseed Protein for Human Consumption by applied Genome Research
09:30 – 09:50	**Johanna Åstrand***, Lantmännen, Sweden – Genetic gain in spring barley and genomic prediction strategies for efficient breeding of yield in different row types
09:50 – 10:10	**Po-Ya Wu***, Julius Kühn-Institute, Germany – Optimal implementation of genomic selection in clone breeding programs—Exemplified in potato: I. Effect of selection strategy, implementation stage, and selection intensity on short-term genetic gain
10:10 – 10:30	**Azadeh Hassanpour***, University of Göttingen, Germany – Dynamic Optimization for Resource Allocation in Breeding Programs Using Evolutionary Algorithms (MoBPSopti)

10:30 – 11:15	Coffee break
11:15 – 11:35	**Ravindra Reddy Gundala***, IPK-Gatersleben, Germany – Big Data driven Genomic Predictions for Elevating Genetic Gain in Wheat
11:35 – 11:55	**Carina Meyenberg***, University of Hohenheim, Germany – Feature Engineering and Parameter Tuning - Improving Phenomic Prediction Ability in Multi-Environmental Durum Wheat Breeding Trials
11:55 – 12:15	**Bright Enogieru Osatohanmwen***, University of Goettingen, Germany – Machine Learning Combined with Locus-Specific Degree of Dominance Transformation for Genomic Prediction in Maize
12:15 – 12:35	**Mila Tost***, University of Goettingen, Germany – Identification of polygenic selection for drought stress in European beech populations
12:35 – 13:00	Announcements, Awards and Farewell
13:00 –	Farewell (incl. packed lunch)

*Early Career Researcher

ADDRESS OF THE CONFERENCE VENUE:

Hochschule Geisenheim University

Von-Lade-Str. 1

D - 65366 Geisenheim, Germany

The full Abstract Book including all poster abstracts can be downloadede here.

http://epaper.hs-gm.de/Abstract_Book_GPZ_2024_Geisenheim.pdf

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