
# EUCARPIA General Congress

# "Global Challenges for Crop Improvement"

## Leipzig
## August 18-23, 2024

# PROGRAM

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# Program

## August 18, 2024

| | | |
|---|---|---|
| 15:00 - 20:00 | Registration | |
| 17:30 - 18:30 | **EUCARPIA Board Meeting** | |
| 19:00 - 22:00 | **Welcome Dinner Hotel The Westin** | |

## August 19, 2024

| | | |
|---|---|---|
| 08:00 - 18:00 | Registration | |
| 09:00 - 09:20 | Andreas Börner (President of EUCARPIA) | Opening Remarks |

### Session I – Genetic Resources

Chairs: Andreas Börner, Vanessa Prigge

| | | |
|---|---|---|
| 09:20 - 10:00 | Vania Cristina Renno Azevedo (Invited Speaker) | Conserving the genetic diversity of roots and tubers crops: The International Potato Center Genebank |
| 10:00 - 10:15 | Marco Maccaferri | The collaborative Durum Wheat Genomic Resources developed by the durum community |
| 10:15 - 10:30 | Simon Griffiths | Harnessing landrace diversity empowers wheat breeding |
| 10:30 - 10:45 | Maja Boczkowska | History of 120 years of cereal breeding in Poland written in DNA |
| 10:45 - 11:00 | Manuela Nagel | Racing for pollen viability - slowing ageing to support wheat breeding |
| 11:00 - 11:30 | Coffee Break | |

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|---|---|---|
| 11:30 - 12:10 | Michael Benjamin Kantar (Invited Speaker) | Understanding Plant Germplasm collections: Data, Sharing, and breeding for Climate Change |
| 12:10 - 12:25 | Christelle Rabil | Explore crop diversity with Genesys tools |
| 12:25 - 12:40 | Odd Arne Rognli | Estimating phenotypic and genetic changes due to continued seed production outside the area of their adaptation - The case of northern timothy cultivars |
| 12:40 - 13:45 | Lunch | |

## Session I – Genetic Resources (continued)

Chairs: Violeta Andjelkovic, Simon Griffiths

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|---|---|---|
| 13:45 - 14:25 | Alain Charcosset (Invited Speaker) | Using genetic resources to enrich the diversity of breeding programs: theory and application in maize |
| 14:25 - 14:40 | Agustin Oscar Galaretto | Exploring European maize genetic resources for adaptation using high-throughput genotyping, genomic prediction and landscape genomics |
| 14:40 - 14:55 | Pedro Mendes Moreira | Combining local knowledge and data: A collaborative effort to evaluate traditional maize landraces for sustainable farming |
| 14:55 - 15:10 | Sebastian Kussmann | Diversification of grain legume production through transdisciplinary breeding approaches and increased cooperation |
| 15:10 - 15:25 | Jessica Bubolz | Morpho-agronomical characterisation of grass pea (*Lathyrus sativus* L.) accessions for utilization in European cropping systems |
| 15:25 - 15:40 | Christine Boldischar | Initial screening of grass pea (*Lathyrus sativus* L.) accessions for the neurotoxin β-ODAP for utilization in European cropping systems |
| 15:40 - 15:55 | Kerstin Neumann | The European Increase Citizen Science Project for the exploration and conservation of plant genetic resources of common bean |

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|---|---|---|
| 15:55 - 16:10 | Janine König | International collection and characterisation of *Fusarium* spp. causing root rot on asparagus (*Asparagus officinalis* L.) and pea (*Pisum sativum* L.) |
| 16:10 - 16:30 | Coffee Break | |
| 16:30 - 16:45 | Vanda Púčiková | SharpGreens: Biodiversity of health-beneficial compounds derived from glucosinolates and S-methyl-L-cysteine sulfoxide in *Brassica oleracea* |
| 16:45 - 17:00 | Habibur Rahman | Potential of the vegetable *Brassica oleracea* gene pool for use in breeding of oilseed *B. napus* |
| 17:00 - 17:15 | Sookyeong Lee | Genetic diversity and population structure of worldwide sesame (*Sesamum indicum* L.) germplasm |
| 17:15 - 18:15 | **Poster Session** | |
| 19:30 - 22:30 | **Visit Leipzig Zoo including Dinner** | |

# August 20, 2024

08:00 - 18:00 Registration

## Session I – Genetic Resources (continued)

Chairs: Lise Lykke Steffensen, Johan van Huylenbroeck

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|---|---|---|
| 08.30 – 08:45 | Claudia Ciotir | The Canadian apple collection inventory |
| 08:45 - 09:00 | Nikita Trotta | Morphological characterization of apple varieties from Lazio Region. |
| 09:00 - 09:15 | Will Barrett | Improving floral canopy architecture in kiwifruit species |
| 09:15 - 09:30 | Tatjana Kokaj | Conservation of genetic resources of seed fruit in Albanian country |
| 09:30 - 09:45 | Maria Antonetta Palombi | Genetic characterization of grape varieties from Lazio Region using SSR markers |

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|---|---|---|
| 09:45 - 10:00 | Sandra Goritschnig | EVA - European Evaluation Network, harnessing genetic diversity present in European genebanks |
| 10:00 - 10:30 | Coffee Break | |
| 10:30 - 10:45 | Monika Agacka-Moldoch | Longevity of tobacco seeds - intraspecific variation and molecular mapping |
| 10:45 - 11:00 | Peng Wah Chee | Cotton fiber quality improvement via interspecific gene introgression |

## Session II – Yield and Quality Improvement

Chairs: Jaime Prohens, Yuling Bai

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|---|---|---|
| 11:00 - 11:40 | Hans Braun (Invited Speaker) | Wheat – a cornerstone for global food security |
| 11:40 - 11:55 | Khaoula El Hassouni | Breeding led to increased yield, reduced susceptibility to disease, improved quality, and could potentially enhance the nutrients in wheat. |
| 11:55 - 12:10 | Matias Schierenbeck | The downside of green revolution *Rht* genes: Impaired wheat floral traits related to cross-pollination efficiency |
| 12:10 - 12:25 | Raziel Antonio Ordonez | Era study of commercial maize hybrids confirms the role of post-R2 crop growth on gains in grain yield and nitrogen uptake at maturity |
| 12:25 – 12:40 | Natasa Ljubicic | Utilizing proximal phenotyping in evaluating maize grain yield (*Zea mays* L.) |
| 12:40 - 14:00 | Lunch | |

## Session II – Yield and Quality Improvement (continued)

Chairs: Beat Boller, Vania Cristina Renno Azevedo

| | | |
|---|---|---|
| 14:00 - 14:40 | Christian Zörb (Invited Speaker) | Quality and yield, aspects for bread and wine |
| 14:40 - 14:55 | Jan Šafář | Shedding light on transcriptional regulation and function of *VERNALIZATION1* in barley |
| 14:55 - 15:10 | Marvellous Zhou | Heterosis for sugarcane yield: a case study using South African breeding populations |
| 15:10 - 15:25 | Jiashuai Zhu | Genotype-by-environment interaction analysis of dry matter yield of perennial ryegrass cultivars across South-Eastern Australia using factor analytic models |
| 15:25 - 15:40 | Agnieszka Konkolewska | At field real-time assessment of forage quality with harvester mounted NIRS |
| 15:40 - 15:55 | Kwame Wilson Shamuyarira | Pre-breeding and breeding capacity of sorghum within South Africa |
| 15:55 - 16:10 | Muhammad Farhan Yousaf | Examining the genetic diversity and the impact of the double reduction phenomenon on yield, quality, and disease-related trait in tetraploid potato (*Solanum tuberosum* L.) |
| 16:10 - 16:30 | Coffee Break | |
| 16:30 - 16:45 | Mariateresa Lazzaro | White lupin breeding: integrating phenotypic selection under organic conditions with marker assisted selection |
| 16:45 – 17:00 | Johannes Wolff | High throughput morphological 3D Xray phenotyping for seeds and to optimize seed quality and to screen for stress tolerance and early traits of field performance |
| 17:00 - 18:00 | **Poster Session** | |
| 18:00 - 19:00 | **EUCARPIA General Assembly** | |

# August 21, 2024

## Session III – Biotic and Abiotic Stress Response

Chairs: David Kopecký, Manuela Nagel

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|---|---|---|
| 08.30 - 09:10 | Maria Ercolano (Invited Speaker) | Evolutionary strategies of plant innate immunity system |
| 09:10 - 09:25 | Rita Armoniene | Insight into freezing tolerance under fluctuating temperatures in winter wheat |
| 09:25 - 09:40 | Mian Abdur Rehman Arif | Drought stress enhances the seed vigor in the subsequent generation in wheat |
| 09:40 - 09:55 | Muhammad Awais Farooq | Unveiling the genetic architecture of the root growth angle QTLome, an important component of drought stress resilience in tetraploid wheat germplasm |
| 09:55 - 10:10 | Jonas Anderegg | Improving the measurement and mechanistic understanding of quantitative disease resistance through repeated ground-based RGB imagery |
| 10:10 - 10:30 | Coffee Break | |

## Session III – Biotic and Abiotic Stress Response (continued)

Chairs: Guillaume Ramstein, Roland Peter

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|---|---|---|
| 10:30 – 11:10 | Yuling Bai (Invited Speaker) | Plant susceptibility (S) genes in responses to biotic and abiotic stresses |
| 11:10 - 11:25 | Rongli Shi | Dissection of mechanisms of maize resilience to combined drought and high temperature using high-throughput phenotyping platforms |
| 11:25 - 11:40 | Domagoj Šimić | Chlorophyll fluorescence and hyperspectral responses to water withholding in a diversity panel of elite maize inbred lines |
| 11:40 - 11:55 | Reah Gonzales | Differential responses of perennial ryegrass (*Lolium perenne* L.) and tall fescue (*Festuca arundinacea* Schreb.) to drought |

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| 11:55 - 12:10 | Syariful Mubarok | Potential use of parthenocarpic tomato mutants, iaa9-3 and iaa9-5, as a new tomato breeding materials for high temperature regions |
| 12:45 | **Lunch box** | |
| 13:00 | **Excursions** | |

# August 22, 2024

## Session III – Biotic and Abiotic Stress Response (continued)

Chairs: Kerstin Neumann, Pedro Mendes Moreira

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|---|---|---|
| 08.30 - 08:45 | Johan van Huylenbroeck | Phenotyping our future crops: integrating above and belowground traits in high-throughput field facility |
| 08:45 - 09:00 | Mirjana Vukosavljev | An accurate capture of the basil response to a specific environment of soil salinity |
| 09:00 - 09:15 | Heiko Ziebell | The importance of resistance breeding to control viral diseases in legumes |
| 09:15 - 09:30 | Eliyeh Ganji | Field and greenhouse screening of pea genetic resources for the aphid-transmitted pea necrotic yellow dwarf virus |
| 09:30 - 09:45 | Maria Victoria Garcia Hernandez | Evaluation of the resistance to black rot (*Guignardia bidwellii*) in wild *Vitis* species |
| 09:45 - 10:00 | **Group Photo** | |
| 10:00 - 10:20 | Coffee Break | |

## Session IV – Bioinformatics and Genomics

Chairs: Ahmed Jahoor, Andreas Hund

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|---|---|---|
| 10:20 - 11:00 | Stephen Yates (Invited Speaker) | Genomic selection in wheat: Optimizing Swiss wheat breeding through data integration and machine learning |

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| 11:00 - 11:15 | Lucia Gutierrez | Predicting GxExM in cereals: from genotype by environment by management interactions to resource optimization in plant breeding |
| 11:15 - 11:30 | Adnan Iqbal | Are *TaNAC* transcription factors involved in promoting wheat yield by cis-regulation of *TaCKX* gene family? |
| 11:30 - 11:45_ | Yanjie Song | The expanded family of flowering locus *T* genes in *Triticum aestivum* are involved in a wide coordination of development |
| 11:45 - 12:00 | Matteo Bozzoli | INNOVAR project outcomes point out how genomics can be used for characterizing and increasing the breeding value of durum varieties |
| 12:00 - 12:15 | Anjali Walpola Mudalige Dona | Steps towards the isolation of alleles influencing resource allocation in barley |
| 12:15 - 12:30 | Raz Avni | PanOat – the hexaploid oat pangenome |
| 12:30 - 14:00 | Lunch | |

## Session IV – Bioinformatics and Genomics (continued)

Chairs: Richard Visser, Alain Charcosset

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|---|---|---|
| 14:00 - 14:15 | Jenny Kiesbauer | Decoding genetic resistance to stem rust in Italian ryegrass using a nested association mapping approach |
| 14:15 - 14:30 | Bruno Studer | Multiple, haplotype-resolved genome assemblies of forage grass species – insights for research and breeding |
| 14:30 - 14:45 | Andrzej Kilian | OneDArT: A platform for integration of genomic data production with diverse agroecological applications |
| 14:45 - 15:00 | Eun Su Lee | Development of molecular markers related to powdery mildew resistance and marker-assisted backcross for speed breeding of elite rootstocks in pumpkin (*Cucurbita moschata*) |
| 15:00 - 15:15 | Aurora Díaz | Transcriptomic changes in anthocyanin-related genes in lettuce and a wild relative (*Lactuca* spp.) exposed to drought stress |

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| 15:15 - 15:30 | Michaela Jung | Extending genomic selection beyond experimental populations in apple |
| 15:30 - 15:45 | Carles Quesada-Traver | Advancing multi-environment genomic prediction with explainable deep learning in apple |
| 15:45 - 16:15 | Coffee Break | |

## Session V – New Breeding Objectives and Technologies

Chairs: Steven Yates, Viktor Korzun

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|---|---|---|
| 16.15 - 16:55 | David Kopecký (Invited Speaker) | Unveiling potential and pitfalls of polyploidization and wide hybridization in plant breeding |
| 16:55 - 17:10 | Hannah Senior | An overlooked technology for increasing the efficiency of hybridisation in plant breeding |
| 17:15 - 18:15 | Poster Session | |
| 18:45 | Departure Conference Dinner (walk) | |
| 19:00 | **Conference Dinner Moritzbastei** | |

# August 23, 2024

## Session V – New Breeding Objectives and Technologies (continued)

Chairs: Steven Yates, Viktor Korzun

| | | |
|---|---|---|
| 08:30 - 09:10 | Guillaume Ramstein (Invited Speaker) | Computational techniques for detecting target variants in next-generation breeding: Proof of concept in natural and experimental populations |
| 09:10 - 09:25 | Nick Vangheluwe | The potential of genome editing in plant breeding in the EU: insights from the GeneBEcon project |

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| 09:25 - 09:40 | Janusz Zimny | Identification of an elite rye genotype with high androgenesis efficiency |
| 09:40 - 09:55 | Clay Sneller | Evaluating the accuracy and efficiency of sparse-testing designs for early-stage evaluations of wheat traits |
| 09:55 - 10:10 | Tiancheng Yang | Estimating whaet plant density at early stages using leaf tipdensity derived from ground-base RGB imagery |
| 10:10 - 10:25 | Inna Lermontova | High temperature increases centromere-mediated genome elimination frequency and enhances haploid induction in *Arabidopsis* |
| 10:25 - 11:00 | Coffee Break | |

## Session V – New Breeding Objectives and Technologies (continued)

Chairs: Janusz Zimny, Johann Vollmann

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|---|---|---|
| 11:00 - 11:15 | Andreas Hund | Time-resolved and high-resolution field phenotyping: Concepts to dissect yield into its components reducing the need of multi-environment testing |
| 11:15 - 11:30 | Alexis Comar | Digitizing the breeding industry with high throughput phenotyping: A decade of progress and future perspectives |
| 11:30 - 11:45 | Beat Keller | Screening for photosynthetically efficient pea lines using a field robot |
| 11:45 - 12:00 | Flavian Tschurr | Mixing things up! Identifying early diversity benefits and facilitating the development of crop variety mixtures with high throughput field phenotyping |
| 12:00 - 12:15 | Julia Jacobi | Establishment and comparison of different test methods for resistance assessment against *Fusarium oxysporum* (Schlecht.) in asparagus |
| 12:15 - 12:30 | Gilbert Nchongboh Chofong | Investigating the interference of potato virus M infection with endogenous pararetroviruses and viroids in *Petunia hybrida* using small RNA sequencing |

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| 12:30 - 12:45 | Sanskriti Vats | Bioengineering the local wild plant *Chenopodium album* as a future nutritious crop |
| 12:45 - 13:00 | Richard Visser | Challenges and opportunities in breeding future proof and sustainable crops |
| 13:00 - 13:30 | Andreas Börner, Maria Ercolano | Closing Remarks |

# Poster

## SESSION I - Genetic Resources

| | | |
|---|---|---|
| P 01 | A Arrones, O Antar, G Mangino, L Pereira-Dias, J Luna, A Solana, V Baraja, M J Díez, P Gramazio, M Plazas, S Vilanova, J Prohens | New tomato and eggplant MAGIC populations as tools for research and breeding |
| P 02 | K Sarikyan, G Kirakosyan, V Vardanyan, G Shaboyan | Evaluation for European Evaluation (EVA) Network *Capsicum chinense* accessions in the Armenia |
| P 03 | G Kirakosyan | Common bean (*Phaseolus vulgaris*) gene resources studies and introduction of vegetable samples in the Republic of Armenia |
| P 04 | G Shaboyan, K Sarikyan, G Martirosyan, L Ghalachyan | Gross β-radioactivity of lentils grown in hydroponic and soil conditions in Ararat Valley of Armenia |
| P 05 | E Barcanu, O Agapie, I Gherase, B Kivu, G Dobre | *Allium cepa* – current status in Romania |
| P 06 | E Türkösi, É Szakács, L Ivanizs, A Farkas, E Gaál, M Said, É Darkó, M Cséplő, P Mikó, J Doležel, M Molnár-Láng, I Molnár, K Kruppa | Using A. glael (*Thinopyrum intermedium* x *Th. ponticum* hybrid) in introgression breeding to enhance bread wheat tillering and yield potential |
| P 07 | A Gailite, D Rungis | Crop wild relative conservation in Latvia |
| P 08 | M I Cordea, D Clapa, M Cornea-Cipcigan, M Harta | Phenotypic variation of morphological characteristics in Streptocarpus $F_1$ hybrid progeny and their association with start codon targeted polymorphism markers |
| P 09 | Y-P Lin, G Aprea, L Barchi, P Ferrante, D Alonso, A Eybishitz, J Prohens, G Giuliano, R Schafleitner | Enhancing genetic diversity: A long-term contribution of tropical tomato breeding efforts |
| P 10 | O Agapie, E Barcanu, I Gherase, B Kivu, G Dobre | Growing garlic in Romania: challenges and opportunities |
| P 11 | A Betto, F Palumbo, F Scariolo, S Farinati, G Barcaccia | Use of ddRADseq in genotyping and breeding for low fertilization tolerance in *Petunia* breeding clonal lines |
| P 12 | K Sarikyan, G Kirakosyan, V Vardanyan, M Grigoryan, G Martirosyan, G Shaboyan | Investigation of the collection of eggplant mutants created by gamma irradiation in Armenia |

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| P 13 | W-Y Chen, M-H Hsieh, N-J Lin, R Schafleitner | Refinement and demonstration of phytosanitary methods for surveillance during germplasm management and phytosanitation of contaminated unique material |
| P 14 | Y Kishima, D Kuniyoshi, I Masuda, Y Kishi-Shimazaki, K Kitajima, Y Minouchi, Q A Zahidah, T Yamamoto | How to produce fertile interspecific hybrid plants between Asian and African rice species |
| P 15 | X Yao, M Pachner, L Rittler, V Hahn, W Leiser, C Riedel, R Rezi, C-A Bétrix, J Nawracała, I Temchenko, V Djordjevic, L-J Qiu, E M Molin, J Vollmann | Genetic and adaptational diversity in Chinese and European elite soybeans |
| P 16 | G-A Lee, E Yoo, S Lee, J Lee, J Sung | Asessment of non-dehiscent capsule trait of Korea *Perilla* crop (*Perilla frutescens* L.) |
| P 17 | M Nowak, T Ociepa, A Sitarski, J Leśniowska-Nowak, K Kozak-Fiałkowska, K Kowalczyk | Genetic variation analysis of the BvBTC1 gene determining bolting tendency in sugar beet (*Beta vulgaris* ssp. *vulgaris*) plants |
| P 18 | G Shigita, K Shimomura, D P Tran, N P Haque, T T Duong, O N Imoh, Y Monden, H Nishida, K Tanaka, M Sugiyama, Y Kawazu, N Tomooka, K Kato | Development of core collections for melon and cucumber in the NARO Genebank, Japan |
| P 19 | N Grčić, A Nikolić, J Srdić, S Božinović, Z Čamdžija, J Pavlov, M Mladenović | Genetic structure and diversity of a panel composed of historical and contemporary maize inbred lines estimated by snp markers |
| P 20 | B Musat, C Vinatoru, M Popescu, G Negoșanu, C Bratu, F Burlan | Evaluation of genetic diversity of *Solanum lycopersicum* germplasm genebanked at BRGV Buzau, Romania |
| P 21 | G Negosanu, C Vinatoru, B Musat, C Bratu, M Popescu, A Peticila | Research on the evaluation and conservation of the endemic genotype of *Iris graminea* from the Crang forest, Buzau, Romania |
| P 22 | C Vînătoru, B Musat, C Bratu, G Negosanu, M Popescu, F Irimia | Research on the origin and evolution of Buzau Onion landrace from Romania |
| P 23 | C Bratu, C Vînătoru, B Musat, G Negoșanu, M Popescu, C Somoiag | Consolidation, assessment and preservation of the germplasm core collection of the Capsicum Genus - Hot Pepper |
| P 24 | D Dziubińska | Biodiversity in oat collection materials at the National Centre for Plant Genetic Resources |
| P 25 | G Butnaru, A Ciulca | Assessment of genetic diversity and landraces structure of *Allium sativum* L. based on morphological traits |

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| P 26 | P Bednarek, A Niedziela, M Wojciechowska, J Bojarczuk, M Hanek, B Wojkiewicz | Differentiating genetic pool of Polish rye |
| P 27 | M Nagel, A Sanchez Mejia, A Börner | 40 years of rye seed storage and the importance of atmosphere, seed moisture and temperature |
| P 28 | K Udovychenko, J Skytte af Sätra, T Bengtsson, O Korniienko, T Kondratenko, L Garkava-Gustavsson | Molecular characterisation of Swedish and Ukrainian apple cultivars for agronomic traits |
| P 29 | B Boller, D Kopecký | Inflorescence morphology of a new form of *Festulolium*, *Festuca apennina* × *Lolium* |
| P 30 | P Moradi, K Olbricht, D Ebelrle, H Mahfoud, O Neye, D Ulrich, J Kreidl, U Lohwasser, H Heuberger, F Marthe | Exploring Diversity and Genetic Resources: A Comprehensive Evaluation of *Mentha* Germplasm |
| P 31 | M Nagel, J C D'Auria, K R Richert-Pöggeler | Characterisation of genetic resources of garlic suitable for organic farming in Germany |
| P 32 | S M Mahmoud, R M Jazeri, A Elfarash, A Amro, A Börner, A Sallam | Genetic diversity of Egyptian faba bean and major-effect SNPs for seed traits revealed by GWAS |
| P 33 | M A Rehman Arif, U Lohwasser, M Nagel, M Agacka-Mołdoch, I Afzal, A Börner | Role of Federal *ex-situ* genebank, Gatersleben in promoting collaborating research activities in the last 15 years on seed longevity |
| P 34 | E Paczos-Grzeda, S Sowa | Evaluation of Turkish Avena sterilis genotypes resistance to crown rust, stem rust and powdery mildew |
| P 35 | N Vangheluwe, P Jorasch, A Nanda, J Jacobi | How to facilitate research uptake by the seed and plant breeding sector for bioeconomy development? |
| P 36 | S Ben-Sadoun, A O Galaretto, A Roux, B Gouesnard, A Charcosset, L Moreau, D Madur, S Nicolas | Genomic predictions and Genome-wide association studies on DNA pools to characterize traditional maize landraces and identify genomic regions associated with agronomic traits and environmental adaptation |
| P 37 | R Neves, A Pereira, J Rebimbas, I Dinis, D Santos, P Mendes Moreira | CERTRA: Conserving the Genetic Diversity of Portugal's Traditional Cereals |
| P 38 | A Pereira, A Peninchеiro, A Matos, R Guilherme, A Burruezo, P Mendes Moreira | Comparative Evaluation of Pepper Landrace Performance and Stakeholder Perception in Organic and Agroforestry Systems |
| P 39 | S T Yerzhanova | Species and Ecotypic Diversity of Wild Alfalfa in Kazakhstan and the Activities of the BOLD WP04 Project |

## SESSION II - Yield and Quality Improvement

| | | |
|---|---|---|
| P 40 | L-G Otto, D Murphy-Bokern, Consortium Legume Genetation | Introducing Legume Generation: Boosting innovation in breeding for the next generation of legume crops for Europe |
| P 41 | M-J Lim, H-Y Song, S-Y Lee, S-Y Park | Temporary Immersion System for Efficient Mass Production of Virus-Free *Gerbera jamesonii* plant |
| P 42 | N Ljubicic, V Popovic, T Barosevic, A Ivezić, M Budjen, N Stevanovic, N Stankovic, M Vukosavljev | Multivariate interaction analysis of maize (*Zea mays* L.) genotypes grown under different environmental conditions |
| P 43 | S Gasparis, M M Miłoszewski, A Nadolska-Orczyk | Identification and functional analysis of candidate genes related to grain size in barley |
| P 44 | G Cienkusz, J Bocian, M Przyborowski, S Gasparis, W Orczyk, A Nadolska-Orczyk | Somatic embryogenesis and in vitro plant regeneration in different cultivars of wheat, and preliminary research on CRISPR/Cas-mediated gene editing |
| P 45 | O Yareshchenko, K Udovychenko, Y Tereshchenko | Possibilities of combining yield related traits in Ukrainian blackcurrant genotypes |
| P 46 | K Kruppa, É Szakács, M Cséplő, L Ivanizs, A Farkas, E Gaál, P Kovács, K Szőke-Pázsi, I Molnár, E Türkösi | Identification and detailed characterization of a wheat-*Thinopyrum* progeny line containing a Robertsonian chromosome translocation |
| P 47 | A M I Mourad, S M Esmail, A Börner | Multi-locus and single-locus-GWAS identified novel-stable genomic regions enhance leaf rust adult plant resistance |
| P 48 | B Sarić, M Buđen, M Simić, D Milovanović, V Nikolić, S Žilić | The effect of sulfur fertilizers on the free asparagine content in wheat grains, its chemical composition and agronomic properties |
| P 49 | D Trkulja, M Schierenbeck, S Mikić, M Mirosavljević, V Zelić, A Kondić Špika, A Börner | Genome-wide analysis of yield-related traits in winter wheat under Serbian multi-environmental conditions |
| P 50 | S T Yerzhanova, G T Meiirman, S S Abayev, S T Toktarbekova, N B Kaskabayev, Z R Baizhanov | Preparation of haylage – an effective way of using allfalfa biomass |
| P 51 | M Wojciechowski, M Przyborowski, J Groszyk | Identification of grain weight linked genes in early rye grain development |

## SESSION III - Biotic and Abiotic Stress Response

| | | |
|---|---|---|
| P 52 | K Panzarova, L Abdelhakim, M Teige | Image-based phenotyping protocol revealed the dynamic responses under combined abiotic stresses in potato plants |
| P 53 | M Kempa, A Kuczyńska, K Mikołajczak, P Ogrodowicz, M Bodzak, M Mokrzycka | Unveiling Barley Genetic Sequences through CAPS Technique: Implications for Breeding and Cultivation |
| P 54 | V Andjelkovic, V Babic, D Ristic, J Srdić, S Mladenovic Drinic, N Kravić | The role of primary metabolites towards improved maize productivity under long-term drought |
| P 55 | S Bühlmann-Schütz, M Hodel, A Patocchi | Development of an efficient marker assisted selection pipeline for multiple disease resistant genes in the apple breeding program of Agroscope |
| P 56 | R C Meyer, K Weigelt, H Tschiersch, G Topali, L Altschmied, M C Heuermann, D Knoch, M Kuhlmann, Y Zhao, T Altmann | Dynamic growth QTL action in diverse light environments - characterization of light regime-specific and stable QTL in *Arabidopsis* |
| P 57 | P Bolc, M Puchta-Jasińska, M Boczkowska | Profiling miRNA expression in resting buds of *Malus* x *domestica* apple trees |
| P 58 | M Puchta-Jasińska, P Bolc, M Boczkowska | Profiling of RNA expression in barley seeds maintained in long-term storage |
| P 59 | P Słowacki, U Piechota, M Radecka-Janusik, D Piaskowska, P Czembor | Assessing stripe rust (*Puccinia striiformis* f. sp. *tritici*) population structure in Poland in 2023 |
| P 60 | A-M Stache, K Fitza, F Marthe | Growing Anise (*Pimpinella anisum*) in Germany – Chances and Problems |
| P 61 | M Vukosavljev, N Stevanovic, M Budjen, N Stankovic, T Barosevic, A Ivezić, N Ljubicic | Preselection of salt-tolerant maize (*Zea mays* L.) genotypes using seed priming techniques |
| P 62 | A Niedziela, K Rybka, G Żurek, R Marcinkowski, P Matysik | Genome-wide association study of root-related and agronomical traits in wheat collection grown under field conditions. |
| P 63 | S Okoń, A Matwijczuk, K Rząd, A Nucia, D Karcz, L Ślusarczyk, K Kowalczyk | Possibility of using 1,3,4-thiadiazole derivatives as active substances to inhibit the growth and development of biotrophic pathogens in cereals. |

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| P 64 | C Liu, M A Farooq, F De Sario, J B Novi, E E Mazucotelli, P Viola, C Invernizzi, C Forestan, M Bozzoli, B Randazzo, A M Mastrangelo, D Marone, P Roncallo, D Meriggi, O Idrissi, A Baidani, H Ozkan, I I Bashour, M E Sharif Ragab, A Gadaleta, R El Amil, K Nazari, F Bassi, L Cattivelli, R Tuberosa, M Maccaferri | Dissecting Yellow Rust Resistance in *Durum* Wheat: Genome-Wide Association Study Identifies Novel QTLs |
| P 65 | D Piaskowska, U Piechota, M Radecka-Janusik, P Słowacki, P Czembor | Virulence analysis of Polish isolates of the fungus *Zymoseptoria tritici* causing *Septoria tritici* blotch |
| P 66 | A Pietrusińska, A Bilska-Kos | Molecular characterization and role of calose in the defense response of spelt wheat (*Triticum spelta* L.) against the pathogen *Blumeria graminis* f.sp. *tritici* |
| P 67 | P Słowacki, U Piechota, M Radecka-Janusik, D Piaskowska, P Czembor | MutChromSeq approach to identyfing resistance genes in barley |
| P 68 | D von Maydell, K Gorzolka, J König, T Meiners, C Böttcher, R Thieme, R Gaebelein | Colorado potato beetle (CPB) resistance in interspecific potato hybrids |
| P 69 | M Khodaeiaminjan, V Bernád, J Walsh, N Al-Tamimi, G Gillespie, P Langan, T Dempsey, J Henchy, M Harty, L Ramsay, K Houston, J Russell, K P McDonnel, R Waugh, S Negrão | "Unlocking Barley's Waterlogging Stress Response: Insights from UAV-Based Phenotyping and Molecular Analysis" |
| P 70 | E Ganji, L Förter, S Warnemünde, A Matros, T-W Chen, M Mohamed Mabrouk Ahmed, E Villar Alegria, A L Moritz, B Wittkop, E Herzog, R J Snowdon, A Stahl | Exploring water and nitrogen use efficiency in winter wheat genotypes under drought stress: insights from UAV assessments |
| P 71 | C Castaldo, M Pane, M Molisso, G Aprile, M Iorizzo, A Di Matteo | Systemic transcriptomic profiling of drought-responsive genes and their targeting for enhancing tomato drought tolerance |
| P 72 | G Mazzinelli, F Solimei, M De Biasi, C Gagliardi, H Hartings, C Lanzanova, C Balconi, A Torri, A Tassinari, S Salvi, E Frascaroli | Genetic variation and inheritance of root system architecture (RSA) in Italian maize inbred lines |

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| P 73 | E Z E Yanez, E Roebers, B B Lavrijssen, J J M van der Wolf, R R G F Visser, J J H Vossen | Quantitative Trait Loci from *Solanum chacoense* for potato tuber resistance against *Dickeya solani* |

**SESSION IV - Bioinformatics and Genomics**

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| P 74 | W Cho, T-J Yang | Exploring genetic diversity and accelerating breeding in *Panax ginseng* through innovative SNP Chip development |
| P 75 | L Horáková, R Čegan, D A Abramov, V Bačovský, V Hudzieczek, V Tokan, J Patzak, R Hobza, J Šafář | Comparative Study of Short-Stature and Traditional Hop Varieties: Unraveling the Impact of NAC Transcription Factor on Plant Development |
| P 76 | A L Kok, V Rosenthal, J Engelhorn, B Huettel, B Usadel, T Hartwig, B Stich | Cistrome analysis of barley using short-read-based composite genomes |
| P 77 | A Konkolewska, S Urbas, D Milbourne, P Conaghan, S Barth, R Keirse, A Lawlor, S Byrne | Approaches to H matrix calculation from NIR spectra for phenomic selection in perennial ryegrass |
| P 78 | M Ishimori | MEGASHAPE: the modern GUI software for dissecting various crop shapes |
| P 79 | J Srdić, S Mladenović Drinić, N Grčić, M Božić, V Anđelković, N Kravić, A Nikolić | Assessment of genetic diversity and population structure of specialty corn revealed by snp markers |
| P 80 | M A Farooq, W Me, G Aixa | Genetic Mavericks: Unraveling the Role of Transposons in *Brassica's* Fate |
| P 81 | M P Szklarczyk, W Wesolowski, B Domnicz, E Ciepłak | The use of GBS-transcriptomics for mapping fertility restorers in onions |

**SESSION V - New Breeding Objektives and Technologies**

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| P 82 | C T Nzikoué, J König, S Hartje, R Zgadzaj | Potato breeding to investigate and establish an increased resistance to pectinolytic bacteria |
| P 83 | S Božinović, J Pavlov, Z Čamdžija, N Grčić, O Đorđević Melnik, A Nikolić, J Vančetović | Optimizing the Doubled Haploid Method in Temperate Hybrid Maize Breeding: Assessing the Impact of Donor Germplasm on Efficiency |
| P 84 | J Vollmann, M Pachner, V Đorđević, P Rischbeck, X Yao, A M Manschadi | Hyperspectral reflectance for high-throughput characterization of soybean physiological diversity |

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| P 85 | A Hund, J Anderegg, A Carlier, S Chapman, Z Chen, A Comar, M-P D'Argaignon, S Dandrifosse, E David, B De Solan, B Dumont, J Gillet, E Gladilin, L Greche, W Guo, M J Hawkesford, K Irfan, M Khalaj, N Kirchgessner, S Liu, R Lopez-Lozano, A Marzougui, M Reynolds, B Mercatoris, I Mücke, K Najafian, K Neumann, S Ouahid, I Stavness, C Robles Zazueta, N Virlet, A Visioni, S Nasuda, Z Wang, H Wang, M Weiss, R Zenkl | Global wheat full semantic segmentation of complex canopies |
| P 86 | F Leyvraz, A Marzougui, O Zumsteg, F Tschurr, N Kirchgessner, J Anderegg, D Fossati, F Foiada, L Roth, A Walter, A Hund | High throughput field phenotyping as breeding tool to assess early vigor and winter survival in elite wheat breeding panels |
| P 87 | M A Raffo, P M Sarup, J Jensen, X Guo, J D Jensen, J Orabi, A Jahoor, O F Christensen | Exploiting near-infrared spectra (NIR), metabolomics, and genomics for multi-omics prediction in barley |
| P 88 | V Danytė, A Gorash | Evaluation of oat genotypes for forage quality |
| P 89 | S Will, N Vangheluwe, D Krause, A R H Fischer, P Jorasch, C Kohl, A Nair, A Nanda, R Wilhelm | Improving communication about new plant breeding techniques and innovations based on the assessment of European stakeholders, communication sources, channels and content |
| P 90 | K Michalski, O Shcherbyna, J Potwardowska, S Sowa | gRNA evaluation in rye suspension-derived cells |
| P 91 | M Przyborowski, J Chojak-Kożniewska, S Gasparis, A Nadolska-Orczyk | Effect of light quality on growth rate of barley (*Hordeum vulgare* L.) - genetic, physiological and morphometric analyses. |
| P 92 | I Nagy, M Malinowska, T Asp | Semi-automated image analysis of and genome-wide association studies of root architecture and early root development in faba bean and white clover |
| P 93 | D Kumar, A W Schulthess, J Schneider, J C Reif, T Schnurbusch | A vision for hybrid wheat: Unveiling Visual Anther Extrusion's (VAEX) potential |