

CONFERENCE PROGRAM

25th June Thursday

9:00 – 14:00 Data management working group meeting prior official IPAP program (organized at PSI, Photon Systems Instruments, spol. s .r.o.).

15:00 – 18:00 **Registration.**
Poster and Exhibition setup.

18:00 - 18:20 Opening ceremony.
Martin Trtílek (Photon Systems Instruments, Czech Republic): Welcome Address.

18:00 - 18:40 **Tony Bačič** (La Trobe Institute for Sustainable Agriculture & Food, Australia).
TBA

18:40 – 22:00 Welcome Reception with pre-conference networking and poster session.
Beer, Wine and Snacks.

26th June Friday

9:00 – 12:50 SESSION 1

Integrated Functional Phenotyping for Plant Performance and Stress Resilience

9:00 – 9:35 **Thomass Altmann** (Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Germany)
Plants – Dynamic Genetic Systems in Dynamic Environments: Assessment of (growth) performance through automated non-invasive Phenotyping.

9:35 – 10:00 **Carl-Otto Ottosen** (Department of Food Science, Aarhus University, Denmark)
Plant responses to co-occurring heat and water deficit stress – are the modern wheat genotypes more resilient?

10:00 – 10:25 **Marek Živčák** (Slovak University of Agriculture, Institute of Plant and Environmental Sciences, Slovakia)
A High-Throughput Phenotyping Approach to Screen for Genotypic Variation in Wheat Tolerance to Nocturnal Warming

10:25 – 10:40 **Muhammad Ahmad** (Federal Research Centre for Forests, Austria)
From pixels to pathways in trees: multi-scale phenotyping of drought response in seedlings of a widespread Oak.

10:40 – 10:55 **Éva Darko** (Agricultural Institute, Centre for Agricultural Research, Hungarian Academy of Sciences, Hungary)
Utilisation of high-throughput phenotyping platform in Martonvásár.

10:55 – 11:20 Coffee Break

11:20 – 11:55 **Jim Whelan** (ARC Centre of Excellence in Plant Energy Biology, La Trobe University, Australia)
Plant Phenomics for Discovery.

11:55 – 12:20 **Jana Kholová** (Czech Advanced Technology and Research Institute (CATRIN), Palacký University Olomouc)
Genetic determination of physiological responses to drought stress in barley (*Hordeum vulgare* L.) landraces.

Please note that the program is subject to last-minute changes.

26th June Friday

- 12:20 – 12:35 **Mikuláš Kňazovický** (Aarhus University, Denmark)
Water-carbon trade-offs in contrasting *Lupinus angustifolius* cultivars under combined deficit irrigation, heat stress, and elevated CO₂.
- 12:35 – 12:50 **Huma Majeed** (Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Germany)
STRESS-STOPP: Increasing drought stress adaptation in oilseed rape - yield stability and stress tolerance as selection targets for optimization via physiological phenotyping.
- 12:50 – 14:00 Lunch

14:00 – 15:50 SESSION 2

Innovative Phenotyping Technologies for Climate-Resilient

- 14:00 – 14:35 **Astrid Junker** (AJ Consulting, Halle, Germany)
From Sensors to Decisions: Translating Plant Phenotyping Innovation into Breeding and Agronomic Value.
- 14:35 – 15:00 **Kerstin Neumann** (Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Germany)
High-Throughput Phenotyping Reveals Genetic Diversity for Climate Adaptation in Chickpea.
- 15:00 – 15:20 **Tim van Daalen** (Wageningen University & Research, Netherlands)
Describing High-Throughput Plant Phenotyping experiments.
- 15:20 – 15:35 **Marie Bloome** (Ghent University, Belgium)
Hyperspectral imaging as a non-destructive phenomics tool to guide the discovery of novel metabolites during tomato-Serendipita interactions.
- 15:35 – 15:50 **Iñigo Saiz-Fernández** (Czech Advanced Technology and Research Institute (CATRIN), Palacký University Olomouc)
LOCOPOTS: a LOW-COST high-throughput screening platform for in vitro POTatoes under abiotic Stress.
- 15:50 – 16:15 Coffee Break
- 16:15 – 16:50 **Matthew Lewsey** (La Trobe Institute of Sustainable Agriculture and Food, La Trobe University, Australia)
Phenotyping on Earth and in Space.
- 16:50 – 17:10 **Peter Pietrzyk** (Fraunhofer Institute for Integrated Circuits IIS, Germany)
Opportunities and Challenges of 3D Root and Shoot Phenotyping in Controlled Environments.
- 17:10 – 17:30 **Alexey Shapiguzov** (Department of Organismal and Evolutionary Biology, University of Helsinki, Finland)
Exploring flash-induced chlorophyll fluorometry: from mitochondrial mutants to tomato production.
- 17:30 – 17:50 **Phanchita Vejchasarn** (Ministry of Agriculture, Thailand)
Toward Climate-Resilient Rice: Integrative Genomic Approaches for Candidate Gene Discovery Under Drought-prone Environments.
- 17:50 – 19:30 Poster session

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27th June **Saturday**

9:00 – 10:30 **SESSION 3**

Algae biotechnology and phenotyping

- 9:00 – 9:35 **Yagut Allahverdiyeva-Rinne** (Department of Life Technologies, University of Turku, Finland)
Connecting photosynthetic mechanisms to phenotypes across systems: from algae to plants.
- 9:35 – 10:00 **Ondřej Prášil** (Centre ALGATECH, Institute of Microbiology, The Czech Academy of Science, Czech Republic)
AlgaScreen – phenotyping platform for microalgal biotechnology.
- 10:00 – 10:20 **Jan Červený** (CzechGlobe, Global Change Research Institute, The Czech Academy of Science, Czech Republic)
AI-enabled digital platform for distributed microalgal phenotyping and real-time cultivation optimization.
- 10:20 – 10:35 **Bernard Lepetit** (Molecular Stress Physiology, University of Rostock, Germany)
The contribution of various Lhcx proteins to Non-Photochemical Quenching.
- 10:35 – 10:50 **Tomáš Zavřel** (CzechGlobe, Global Change Research Institute, The Czech Academy of Science, Czech Republic)
Phenotyping Ethylene-Producing Cyanobacteria: Deciphering the Interplay Between Culture Density, Light Availability, Size of Metabolic Sinks and Ethylene Productivity.
- 10:50 – 11:15 Coffee Break

11:15 – 15:30 **SESSION 4**

AI-Driven Imaging and Sensor Technologies in Plant Phenotyping

- 11:15 – 11:50 **Sónia Negrão** (School of Biology and Environmental Science, University College Dublin, Ireland)
The Road to Precision: Spectral Imaging for Abiotic Stress Responses—Are We There Yet?
- 11:50 – 12:10 **Anshu Rastogi** (Department of Bioclimatology, Poznan University of Life Sciences, Poznan, Poland)
Integration of Hyperspectral Reflectance and Sun-Induced Fluorescence for Stable Estimates of Gross Primary Productivity in Peatlands.
- 12:10 – 12:30 **Krystyna Rybka** (Plant Breeding and Acclimatization Institute - -National Research Institute, Poland)
Monitoring yield-related spectral responses of spring cereals under contrasting hydrothermal.
- 12:30 – 12:45 **Lamis Abdelhakim** (Photon Systems Instruments, Czech Republic)
Root-to-Shoot Stress Response Dynamics: A Case Study of Barley Drought Resilience.
- 12:45 – 14:00 Lunch
- 14:00 – 14:30 **Nuria de Diego Sanchez** (Czech Advanced Technology and Research Institute (CATRIN), Palacký University Olomouc)
AI-Powered Digital Biomarkers for Stress Resilience and Genotype Classification.
- 14:30 – 14:50 **Katarzyna Retzer** (Institute of Forest Ecology, BOKU University, Austria)
Affordable Infrared DIY Microscopy for Non-Invasive Root Phenotyping.

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27th June Saturday

- 14:50 – 15:05 **Zhibo Cai** (Horticulture and Product Physiology Group, Wageningen University & Research, Netherlands)
SP3D: A benchmark for systematic comparison of image-based 3D reconstruction methods of cucumber plants.
- 15:05 – 15:20 **Rijad Sarić** (ARC Research Hub for Protected Cropping, La Trobe University, Australia)
Linking Rosettes to Leaves: An AI-Driven RGB Imaging Pipeline for Arabidopsis thaliana Phenotyping.
- 15:20 – 15:35 **Sebastian Seitner** (Plant Sciences Facility, Vienna BioCenter Core Facilities GmbH (VBCF), Austria)
Enabling Reproducible Phenotyping: An Open-Source Python PlantScreen and Fyotron APIs.
- 15:35 – 16:00 Coffee Break

16:00 – 18:00 PARALLEL WORKSHOP SESSION

WORKSHOP 1

Data Management Working Group round table

WORKSHOP 2

Controlled Environment Plant Phenotyping (CePPG) workshop

- 19:00 – ON Conference dinner

28th June Sunday

- 9:00 – 12:00 Excursion PSI Research Center (for signed attendees)

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