



02 - 03
APR
2025

WORKSHOP

Advancing Berry Breeding: From Phenotyping to Genomic Innovation



📍 Marche Polytechnic University, Ancona, Italy
Department of Agricultural, Food and Environmental Sciences (D3A),
AULA MAGNA

🎧 Also accessible online

AGENDA

Wednesday, 2nd April 2025

- 13:30 REGISTRATION**
- 14:00 WELCOME AND INTRODUCTION OF THE BREEDINGVALUE PROJECT**
Bruno Mezzetti, UPM
- 14:15 WELCOME**
Agata Gulisano, Plant Breeding and Genetic Resources Policy Officer, EC
- 14:20 BERRY GENETIC RESOURCES: Importance of a large germplasm and breeding material for BV; Results of phenotyping**
Klaus Olbricht, Hansabred
- 14:50 NEW PHENOTYPING METHODS – Application of NIR spectroscopy for the rapid quality assessment of different strawberry cultivars**
Manuela Mancini, UPM
- 15:05 NEW PHENOTYPING METHODS – Strawberry root phenotyping**
Tuuli Haikonen, LUKE
- 15:20 NEW PHENOTYPING METHODS – Use of ground based hyperspectral imaging for high throughput field phenotyping**
Dominic Williams, JHI
- 15:35 How can we translate strawberry flavour into chemical compounds for breeding?**
Sonia Osorio, UMA
- 15:55** ☕ *Coffee break*
- 16:25 SENSORY QUALITY AND CONSUMER ACCEPTANCE OF BERRIES: Towards satisfied berry consumers – an introduction to activities**
Saila Karhu, LUKE
- 16:40 SENSORY QUALITY AND CONSUMER ACCEPTANCE OF BERRIES: Short and Long-Term Future Visions for Enhancing Fruit Quality in Cultivated Berries**
Terhi Latvala, LUKE
- 17:00 SENSORY QUALITY AND CONSUMER ACCEPTANCE OF BERRIES: Panel and consumer contribution to characterize and valorize berry GenRes**
Stefano Predieri, CNR-IBE
- 17:20 RESULTS FROM THE OPEN CALL #4: Toolkits of sensorial quality assessment for berry breeders**
Stefano Predieri, CNR-IBE
- 17:30 Experiences and feedback from Open Call #4 participants:**
- **Lithuanian Research Centre for Agriculture and Forestry**, Neringa Rasiukevičiūtė
 - **Angus Soft Fruits**, Lucy Wilkins
 - **G-Berries**, Alessandro Gasparrini

- 17:45 From Bits to Bytes: Software Development for Genetics, Genetic Resources and Plant Pre-Breeding**
Sebastian Raubach, James Hutton Institute
- 18:00 Integrating and Maintaining BerryData: The Germinate Database and beyond**
Björn Usadel / Elisa Senger, Forschungszentrum Jülich
- 18:30 End of day 1**

Thursday, 3rd April 2025

- 09:00 WORKSHOP ON MARKER-ASSISTED SELECTION, GENOME-WIDE ASSOCIATION STUDIES AND GENOMIC SELECTION IN BERRY BREEDING PROGRAMS – WELCOME AND INTRODUCTION**
- 09:15 Tracing strawberry population structures: The legacy of domestication and intertwined breeding**
Jakob Junkers, NIBIO
- 09:35 Multi-model GWAS reveals key loci for horticultural traits in reconstructed garden strawberry**
Attiq Rehman / Tuuli Haikonen, LUKE
- 09:55 Genome-wide association studies (GWAS) in a diverse strawberry collection from IFAPA unveil loci controlling agronomic and fruit quality traits**
Cristina Castillejo, IFAPA
- 10:15 The BreedingValue low-density array for MAS in strawberry**
Iraida Amaya, IFAPA
- 10:40** ☕ *Coffee break*
- 11:10 RESULTS FROM THE OPEN CALL #1 Marker-Assisted Selection (MAS) in strawberry**
Juliette Bénéjam, INRAE
- 11:30** *Perspectives, practical applications, challenges, and innovations from Open Call participant:*
- **Angus Soft Fruits**, Lucy Wilkins
- 11:40 Marker-assisted selection in raspberry: challenges and opportunities in the -omics era.**
Brezo Mateos, JHI
- 12:00 RESULTS FROM OPEN CALL #3: Marker-Assisted Selection (MAS) and Genome wide association studies (GWAS). GWAS in Raspberries: Developmental and Fruit Traits.**
Philip Greenspoon, JHI (BioSS)
- 12:20** *Experiences and feedback from Open Call #3 participants:*
- **Angus Soft Fruits**, Lucy Wilkins
 - **G-Berries**, Alessandro Gasparrini
- 12:35** 🍴 *Lunch break*
- 14:30 INTRODUCTION TO GENOMIC SELECTION (GS) AND AN EXAMPLE FROM THE BREEDINGVALUE project: Brief introduction on GS. What is it, how is done, what benefits for implementation in breeding programs**
Jahn Davik, NIBIO
- 14:50 The benefits of GS in a cultivated strawberry breeding programme: an example of powdery mildew resistance**
Juliette Bénéjam, INRAE

15:10 RESULTS FROM OPEN CALL#2: Genomic prediction for strawberry. Predicting strawberry powdery mildew susceptibility in strawberry breeding material

Jahn Davik, NIBIO

15:30 Experiences and feedback from Open Call #2 participant. Current and future benefits:

- **Fresh Forward**, Johan Willemsen

15:40 ROUND TABLE ON MAS AND GENOMIC SELECTION OF BERRIES

Moderators: Jahn Davik, Beatrice Denoyes, Iraida Amaya, Bruno Mezzetti.

With the objective of encouraging reflection on how we can apply genomic tools in plant breeding. Focus:

- How MAS and genomic selection are changing berry breeding strategies.
- Success stories or challenges in using these techniques in real-world berry breeding programs.
- Integration of traditional breeding methods with genomic tools.
- The feasibility and challenges of integrating genomic selection in small-scale vs. large-scale berry breeding.
- Future trends in the use of genomics for disease resistance or yield improvement in berries.
- How has marker-assisted selection advanced berry breeding, and what limitations remain?
- What role does GWAS play in uncovering traits of interest in berries, and how can these findings be used in breeding programs?
- What are the biggest hurdles in applying genomic selection in commercial berry breeding?
- How can breeders ensure that genomic techniques are cost-effective and accessible to small-scale farmers?

17:00 Conclusions and Closing Remarks

Bruno Mezzetti

