



XIV

EUCARPA



FRUIT BREEDING AND GENETICS SYMPOSIUM

BOLOGNA

14-18 JUNE, 2015



- 4.00 - 5.30 pm Arrival and Registration
 5.30 - 6.15 am Official Opening by the Organizing Committee and Welcome Address by Institutional Officers

Opening lecture

- 6.15 - 7.00 pm **Lars Ove Dragsted** *The role of fruit consumption in human health*
 Department of Human Nutrition, Faculty of Life Sciences, University of Copenhagen
 7.00 pm *Welcome Cocktail*

- 8.30 - 9.00 am Registration continues with hand-out of Symposium bag to all participants

Session I: Breeding and genetics for resistance to biotic stresses (Chairs: Baldoni L. and Bus V.)

- 9.00 - 9.40 am **Cesare Gessler** *Biotechnology for a pesticide free orchard: a promise or an utopia?*
 Department of Environmental Systems Science, ETH Zurich, Switzerland
- 9.40 - 10.00 am Bus V. et al. Progress in pipfruit resistance breeding and research at Plant & Food Research
 10.00 - 10.20 am Neumüller M. et al. First report on the generation of *Prunus domestica* × *P. armeniaca* interspecific hybrids with hypersensitivity resistance to Plum pox virus
- 10.20 - 10.50 am *Coffee Break*
 10.50 - 11.10 am Harrison R. et al. The genetic architecture of resistance to *Verticillium dahliae* and *Podosphaera aphanis* in the cultivated strawberry
- 11.10 - 11.30 am Gomes S. et al. *Colletotrichum acutatum* interactions with susceptible and tolerant olive fruits and differential responses at transcriptional and histological levels

Session II: Breeding by genetic engineering techniques (Chairs: Testolin R.)

- 11.30 - 11.50 am Kost T.D. et al. Generation of a cisgenic apple line of cultivar 'Gala' with increased fire blight resistance
 11.50 am - 12.10 pm Pessina S. et al. Silencing MLO genes in *Vitis vinifera* and *Malus domestica* to obtain resistance to Powdery Mildew
 12.10 - 12.30 pm Dalla Costa L. et al. Evaluation of different strategies to develop cisgenesis in grapevine
 12.30 - 2.30 pm *Lunch and Posters*

Session III: Germplasm, genetic diversity and breeding - Part I (Chairs: Aranzana M.J. and Laurens F.)

- 2.30 - 2.50 pm Volk G.M. et al. Development of a strategy to conserve worldwide apple genetic resources
 2.50 - 3.10 pm Gasic K. et al. Unlocking genetic potential of the peach collection at the National Clonal Germplasm Repository in Davis, CA
 3.10 - 3.30 pm Teng Y. et al. Microsatellite polymorphic loci reveal genetic diversity and structure of cultivated pears from East Asia
 3.30 - 3.50 pm Yamamoto T. et al. Doubled-haploid plants in apple - attractive applications for breeding and genetics

3.50 - 4.20 pm

Coffee Break

Session III: Germplasm, genetic diversity and breeding - Part II (Chairs: Fernández-Fernández F. and Kellerhals M.)

4.20 - 4.40 pm

lezioni A. et al.

RosBREED2: Progress and future plans to enable DNA-informed breeding in the Rosaceae

4.40 - 5.00 pm

Hardner C.M. et al.

Using a genomic relationship matrix and factor analytic models to understand GxE in fruit crops

5.00 - 5.10 pm

Kazlouskaya Z.A. & Yakimovich V.A.

Breeding of new pear cultivars in Belarus

5.10 - 5.20 pm

Ruiz D. et al.

New Japanese plum (*Prunus salicina* Lindl.) breeding programme in Spain

5.20 - 5.30 pm

Bal J.S. & Kaur P.

Improvement of subtropical plum through hybridization

5.30 - 5.40 pm

Caruso M. et al.

Variability in the sweet orange germplasm: phenotypic evidences and new genotyping data

5.40 - 5.50 pm

Urrestarazu et al.

Diversity and genetic structure of European plum in mountainous areas from Northeastern Spain

5.50 - 6.00 pm

Gharaghani A. et al.

Genetic diversity and correlation of cold hardiness and tree and fruit characteristics in a collection of Iranian pomegranate

6.00 - 7.30 pm

Poster Session

Tuesday June 16

8.30 AM - 8.00 pm

Technical visits

Option I

Option II

Option III

Detailed Programs inside the Symposium Bag

Cherry and Plum Tour (In the Modena Producing Area)

Peach and Apricot Tour (In the Ravenna Producing Area)

Apple, Pear and other Fruit Tree Tour (In the Ferrara Producing Area)

Wednesday June 17

University Complex Belmeloro

8.15 - 9.00 am

Helpdesk for Registrations and Acta Papers Delivery

Session IV: Advances in 'OMICS' and new technologies - Part I (Chairs: Troglio M. and Denoyes-Rothan B.)

9.00 - 9.40 am

Michele Morgante

Lessons learned from the sequencing of fruit tree genomes

Department of Agriculture and Environmental Sciences, Udine University, Italy

9.40 - 10.00 am

Koehorst-van Putten H. et al.

An ultra-dense SNP linkage map for the octoploid, cultivated strawberry and its application in genetic research

10.00 - 10.20 am

Miculan M. et al.

Detection of somatic variants from next generation sequencing data in grapevine bud sports

10.20 - 10.50 am

Coffee Break

Session IV: Advances in 'OMICS' and new technologies - Part II (Chairs: Gentile A. and Martinez-Gomez P.)

10.50 - 11.10 am	Scaglione D. et al.	Nucleotide and structural variation in <i>Citrus</i> genomes: next generation clonal fingerprinting
11.10 - 11.30 am	Datson P.M. et al.	The application of whole genome selection to kiwifruit breeding
11.30 - 11.50 am	Flaishman M. et al.	Targeted mutagenesis using zinc-finger and CRISPR-Cas9 systems in perennial fruit trees
11.50 am - 12.10 pm	Morimoto T. et al.	Evolutionary dynamics of the specificity determinant genes for the S-RNase-based self-incompatibility in the Rosaceae
12.10 - 12.30 pm	Muñoz-Sanz J.V. et al.	<i>Prunus</i> gametophytic self-incompatibility. A NGS technology approach to identify modifier genes
12.30 - 2.30 pm	<i>Lunch and Posters</i>	
2.30 - 4.00 pm	<i>Poster Session</i>	
4.00 - 4.30 pm	<i>Coffee Break</i>	

Session V: Breeding and genetics for plant and fruit quality traits (Chairs: Iezzoni A. and Nybom H.)

4.30 - 4.50 pm	Allard A. et al.	Genetic determinism of bud break timing in apple, a pedigree based analysis approach
4.50 - 5.10 pm	Dirlwanger E. et al.	Genetic analyses of chilling requirement and flowering date in sweet cherry, two key traits for breeding programs
5.10 - 5.30 pm	Antanaviciute L. et al.	Correlation analysis and QTL mapping of fruit quality and plant architecture traits in cultivated strawberry (<i>Fragaria × ananassa</i>)
5.30 - 5.50 pm	Botta R. et al.	Molecular breeding of hazelnut: genetic linkage map and QTL analysis
5.50 - 6.10 pm	Lopez G. et al.	High-throughput phenotyping of an apple core-collection for the identification of genotypes with high water use efficiency
6.10 - 6.40 pm	<i>Business Meeting</i>	
8.00 pm	<i>Social Dinner - Savoia Hotel Regency</i>	

Thursday **June 18**

University Complex Belmeloro

Session VI: EUCARPIA hosted FruitBreedomics International Conference

8.30 - 9.00 am Helpdesk for Registrations and Acta Papers Delivery

Part a. New technical & scientific outcomes

9.00 - 9.10 am Laurens F. Introduction

New technologies and tools for breeding and genetic research (Chair: Velasco R)

9.10 - 9.30 am	Peil A. et al.	The fast breeding approach. Application and improvement
9.30 - 9.50 am	Bianco L. et al.	High density genotyping tools (20K/487K SNPchips) and apple genome improvement
9.50 - 10.10 am	Di Guardo M. et al.	ASSIST software: an automatic SNP scoring tool
10.10 - 10.30 am	Di Pierro E. et al.	Construction and application of a multi-parental high density SNP linkage map of apple

10.30 - 11.00 am

Coffee Break

New phenotyping methods for new traits (Chair: Quilot B.)

11.00 - 11.15 am

Pacheco I. et al.

Assessing brown rot resistance in peach fruit

11.15 - 11.30 am

Giné J. et al.

Towards new tools for texture phenotyping in peaches

11.30 - 11.45 am

Mes J. et al.

Strategies to select for optimal storable apple varieties

11.45 - 12.00 am

Corelli-Grappadelli L. et al.

Towards fast and reliable phenotyping of leaf functions: a promising tool for water stress tolerance evaluation

Markers - traits associations for Marker Assisted Breeding (Chair: van de Weg E.)

12.00 - 12.20 pm

Letschka T. et al.

Discovery of new markers by using pedigree-based analysis on apple (PBA)

12.20 - 12.40 pm

Hernández J.R. et al.

Discovery of peach QTLs by using pedigree-based analysis

12.40 - 1.00 pm

Muranty H. et al.

Genome Wide Association Study of two phenology traits (flowering time and maturity date) in apple

1.00 - 1.20 pm

Aranzana M.J. et al.

Peach major genes and QTLs identified by GWAS

1.20 - 3.00 pm

Lunch and Posters

Part b. From genes and markers to varieties. Innovation in apple and peach breeding

Innovations in Marker Assisted Breeding in apple and peach (Chair: Patocchi A.)

3.00 - 3.20 pm

Kellerhals et al.

Pilot studies for efficient early phenotypic and molecular selection for disease resistance and fruit quality traits in apple

3.20 - 3.40 pm

Pascal T. et al.

Pilot studies on peach for fruit quality and resistance traits

3.40 - 4.00 pm

Bink M. & Muranty H.

Genome selection in apple: a multiple years pilot study on quantitative and ordinal traits

4.00 - 4.20 pm

Biscarini F. et al.

Modelling genome-wide predictions in peach: first results and perspectives

4.20 - 4.50 pm

Coffee Break

Tools for breeders and germplasm curators (Chair: Peil A.)

4.50 - 5.10 pm

Baumgartner I. & Pascal T.

Developing apple and peach pre-breeding material with new features

5.10 - 5.30 pm

van de Weg E. et al.

PEDIMAP software. Visual presentation of pedigrees for apple breeders to clarify genetic structure in breeding germplasm and inheritance patterns

5.30 - 5.50 pm

Nazzicari N. et al.

FruitBreedomics phenotypes and genotypes Database and Breeding Interface. What for? How to use it?

5.50 - 6.00 pm

Closing Remarks

Our Locations

Agricultural and Veterinary Medicine School Aula Magna - Viale Fanin, 44 - Bologna

University Complex Belmeloro Via Belmeloro, 14 - Bologna

Social Dinner - Savoia Hotel Regency Via del Pilastro, 2 - Bologna

Scientific Committee

Andrea Patocchi	(Agroscope – Switzerland)
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María José Aranzana	(IRTA – Spain)
Felicidad Fernández-Fernández	(EMR – UK)
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