



Società di Ortoflorofruitticoltura Italiana

CON IL PATROCINIO E LA COLLABORAZIONE



Libera Università di Bolzano



Alma Mater Studiorum Università di Bologna



Università Politecnica delle Marche



Scuola Superiore Sant'Anna - Pisa



Università degli Studi della Basilicata

Registration fees 70 €. Reduced fees for students and SOI members 50€ .

Registration fees includes :

- Transport from Rome Ciampino airport, Rome Ciampino train station and recommended hotel to CRA-FRU
- Coffee break and lunch

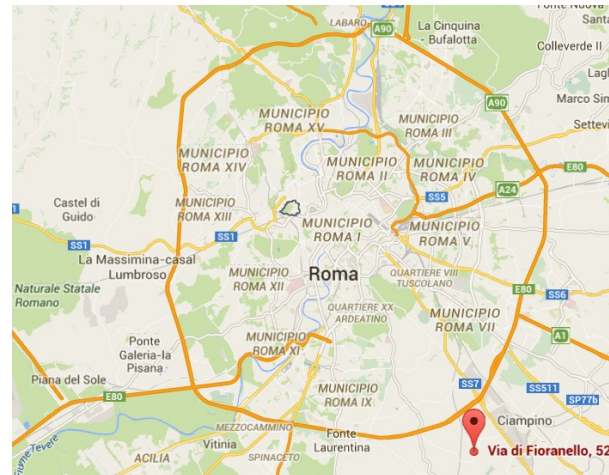
The participation fees can be paid upon registration by Bank Transfer or on site by cash.

Società di Ortoflorofruitticoltura Italiana  
IBAN: I T 64 A 06160 38103 000011476C00  
BIC Swift: CRFIIT3FXXX  
Cassa di Risparmio di Firenze

How to reach the CRA-FRU

(N 41°45'47" E 12°33'9")

From the highway  
GRA exit 23, direction Ciampino airport  
At Ciampino airport exit via di Fioranello, 52



Recommended accommodation:

**Within 10 min by car from the venue**  
Hotel villa giulia a Ciampino in via dalmazia 9 tel +39 0679321874

Rooms are also available at the CRA-FRU guest house (20€ per night)

Workshop

Sustainable Orchard

Management:

the Focus on Roots



ROMA 5<sup>th</sup> March 2015

Centro di ricerca per la frutticoltura (CRA-FRU)

Via Fioranello 52. 00134-ROMA

Intensification of agricultural practices has led to widespread decline of soil fertility. Monoculture agroecosystems typically show low resilience to perturbations. The profound causes of soil decline are the carbon loss, the disruption of the humification process and the phytotoxic effects of mono-specific residues, which rapidly modify root exploration and absorption capability (soil sickness). Larger inputs of energy are then increasingly needed, in the form of fertilizers, pesticides, herbicides and irrigation.

The sustainability of an agricultural system can be greatly improved by better control over the flux of soil organic matter, so as to mimic the natural process of humification. As the primary interface with the soil, roots play an essential role in plant interaction with their ecosystem. More knowledge is therefore necessary about root morphology and physiology in order to improve water and nutrient use efficiency, and to promote root resistance to biotic and abiotic stresses and a net soil C accumulation. Such a knowledge will contribute to the enhancement of sustainable management techniques both in orchards and in nurseries.



#### Scientific Committee

**BARTOLOMEO DICHIO** UNIBAS, **DAVIDE NERI** UNIVPM, **LUCA SEBASTIANI** SCUOLA SUPERIORE SANT'ANNA PISA, **MASSIMO TAGLIAVINI** UNIBZ, **MORENO TOSELLI** UNIBO.

## PROGRAMME

### ROME, 5<sup>th</sup> MARCH

8.00—8.45 REGISTRATION

8.45—9.00 WELCOME TO PARTICIPANTS

#### 9.00—10.30 SESSION 1 chair: L. Sebastiani

9.00 – 9.30 The root perception of biodiversity in the orchard.

Davide Neri (*Centro di ricerca per la frutticoltura*)

9.30 – 10.00 Carbon and nutrients fluxes: the role of roots.

Massimo Tagliavini (*Libera Università di Bolzano*)

10.00 – 10.30 Effect of organic amendment on root growth.

Moreno Toselli (*Università di Bologna*)

10.30-11.00 Coffee break

#### 11.00—12.30 SESSION 2 chair: M. Tagliavini

11.00 - 11.30 Anatomical and molecular changes in woody plant roots under abiotic stress.

Luca Sebastiani (*Scuola Superiore Sant'Anna*)

11.30 - 12.00 The function of xylem and phloem in roots.

Bartolomeo Dichio (*Università degli Studi della Basilicata*)

12.00 - 12.30 Root development in fruit orchards with different soil management.

Serena Polverigiani (*Università Politecnica delle Marche*)

12.30 - 14.00 Lunch with local produce

#### 14.00—15.30 SESSION 3 chair: B. Dichio

14.00 – 14.30 Nutrient foraging in tree crops .

David M. Eissenstat (*Penn State University*)

14.30 – 15.00 The role of deep roots in tree crops .

Michela Centinari (*Penn State University*)

15.00 – 15.30 Overview of techniques for studying roots of woody plants.

Taryn Bauerle (*Cornell University*)

#### 15.30—16.30 DISCUSSION chair: M.Toselli

16.30 Conclusion

Please use the following website to find out more information: <http://fruitroot.entecra.it>

#### Organizing Committee

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