Societa italiana di chimica agraria Ph.D. WINTER SCHOOL of the Italian Society of Agricultural Chemistry Novel approaches to unravel the plant-soil-microbial systems in action

Píacenza, 15th -18th February 2016

School aims

The aim of the incoming edition of the Ph.D. winter school of the Italian Society of Agricultural Chemistry is to bring together Ph.D. students and young scientists in order to share experiences, problems and ideas while having invited lectures, working groups and demonstration sessions.

The School targets to provide a comprehensive account of the latest approaches and trends related to the study of those mechanisms underlying the interactions between plant, soil and microorganisms. A balanced mix of national and international scientists will school sessions. Omic support technologies, together with some other approaches in rhizosphere novel

processes and plant science research, will represent a central topic of the School. The school is

organised

sessions

six



includes keynote lectures, invited lectures, practical sessions and a sponsored session.

Application, venue & costs

in

that

scientific

The school will be held at the Università Cattolica del Sacro Cuore, Campus of Piacenza, at the Residenza Gasparini facilities (<u>http://www.unicatt.it</u>). Participation will be free of charge, to support participation of young scientists. Guest rooms will be available at the Residenza Gasparini, within the campus. Accommodation, social dinner and lunches are not included.



Applicants are kindly request to prepare a poster (approx. size: 80 (w) x 100 (h) cm) about their current research activities and <u>must</u> submit an abstract (title of the current research, affiliation, description of the on-going research – 300 words maximum) before **30 January 2016**, by email to <u>luigi.lucini@unicatt.it</u>.

FINAL PROGRAM

Session I

Mon February 15, 2016 – Chairman: Tanja Mimmo, free University of Bolzano

15.00	15.15	Introduction to the school
15.15	15.45	Presentation of the participants
15.45	16.45	keynote speech: Claudia Meisrimler, CEA & University of Hamburg
		Plant proteomics - more than an unspecific approach
16.45	17.15	Coffee break
17.15	17.55	Bhakti Prinsi, University of Milan
		Proteomic and metabolomic responses to drought in two grapevine
		rootstocks with different susceptibility
17.55	18.30	Poster session
19.00		Wellcome buffet with local products

Session II

Tue February 16, 2016 (morning) – Chairman: Vito A. Laudicina, University of Palermo

9.00	10.00	<u>keynote speech</u> : Matthieu Bravin, CIRAD Trace element biogeochemistry in the rhizosphere: Why bother with plant-mediated physical-chemical processes?
10.00	10.40	Youri Pii, Free University of Bolzano Influence of the nutritional status and substrate characteristics on the shoot ionome to predict the synergism and antagonism between nutrients in crops
10.40	11.10	Coffee break
11.10	11.50	Roberto Terzano, University of Bari Chemical fingerprint analysis using X-rays
11.50	12.30	Riccardo Spaccini, University of Naples "Federico II" Analytical approaches for the molecular characterization of natural organic matter

Session III

Tue Febr	uary 16, 201	6 (afternoon) – Chairman: Gianmaria Beone, Università Cattolica del Sacro Cuore
14.30	15.30	Matthieu Bravin, CIRAD
		Practical session on rhyzotest
15.30	16.00	Coffee break
16.00	16.40	Giancarlo Renella, University of Florence
		Whole cell biosensors: a new biotechnology paradigm for soil analysis
16.40	17.10	Gianpiero Vigani, University of Milan
		Subcellular investigation of nutrient homeoastasis and metabolisms in
		plants
17.10	17.50	Antonio Nebbioso, University of Naples "Federico II"
		Humeomics: theory and applications

Session IV

Wed February 17, 2016 (morning) – Chairman: Elga Monaci, University Politecnica delle Marche

9.00	10.00	<u>keynote speech</u> : Davide Bulgarelli, University of Dundee Structure, function and host control of the microbiota thriving at the root-soil interface
10.00	10.40	Fabrizio Araniti, Mediterranean University of Reggio Calabria Omic approaches in Allelopathy
10.40	11.10	Coffee break
11.10	11.50	Francesco Longobardi, University of Bari
		NMR chemical fingerprint analysis
11.50	12.30	Paolo Carletti, University of Padua
		The biostimulant activity of humic substances: a proteomic approach

Session V

Wed February 17, 2016 (afternoon) – Chairman: Luciano Cavani, University of Bologna

14.30	15.10	Invited contribution: Nicola Cimino, Agilent Tecnologies Italia Ion Mobility QTOF System and Mass Profiler Professional in Proteomics and Metabolomics
15.10	16.10	<u>Keynote speech</u> : Riccardo Flamini, CREA-VIT High-resolution mass spectrometry metabolomics: approaches targeted and untargeted to increase the knowledge of grape chemistry
16.10	16.30	Coffee break
16.30	18.00	working groups
20.00		Social dinner

Session VI

Thu February 18, 2016 (morning) - Chairman: Nicola Tomasi, University of Udine

9.00	10.00	<u>keynote speech</u> : Luigi Cattivelli, CREA-GPG Genomics approaches to study root structure architecture and the impact of roots on plant growth
10.00	10.40	Anita Zamboni, University of Verona
		Genome-wide transcriptional analyses to dissect plant responses to macro and micronutrient availability
10.40	11.10	Coffee break
11.10	11.40	Piergiorgio Stevanato, University of Padua
		<i>Genomic approaches to understand root adaptability to biotic and abiotic stresses</i>
11.40	12.00	discussion
12.00	12.45	Poster awards ceremony and conclusions

Lunch and departure

keynote speakers

- Matthieu Bravin (*CIRAD*, *FR*) Research topics: understanding of the major biogeochemical drivers of trace element dynamic at the soil-roots interface.
- Davide Bulgarelli (University of Dundee, UK)
 Research topics: understanding the structure, function and host control of the microbiota thriving at the root-soil interface.
- Luigi Cattivelli (CREA-GPG, IT) Research topics: molecular biology of cereals, from plant breeding to gene cloning, QTL analysis and sequencing.
- Riccardo Flamini (CREA-VIT, IT) Research topics: high-resolution mass spectrometric approaches to profile metabolites in *Vitis vinifera*.
- Claudia Nicole Meisrimler (*University of Hamburg, DE, and CEA, FR*)

Research topics: Plant proteomics, posttranslational modifications, purification techniques & protein biochemistry.

Poster awards

The scientific committee will select the best poster presented at the school. The awardee author will be request to present his/her work (5 minutes talk) during the poster awards ceremony, to be held on the 18th of February 2016.

Organising committee

- Roberto Pinton, Università di Udine SICA president
- Claudio Ciavatta, Università di Bologna SICA past-president
- Luigi Lucini, Università Cattolica del Sacro Cuore
- Tanja Mimmo, Libera Università di Bolzano
- Roberto Terzano, Università di Bari
- Nicola Tomasi, Università di Udine
- Luciano Cavani, Università di Bologna



Scientific committee

Luciano Cavani	Università degli studi di Bologna
Roberto Terzano	Università A. Moro di Bari
Anita Zamboni	Università degli studi di Verona
Tanja Mimmo	Libera università di Bolzano
Youri Pii	Libera università di Bolzano
Elga Monaci	Università politecnica
	delle Marche
Giancarlo Renella	Università degli studi di Firenze
Vito A. Laudicina	Università degli studi di Palermo
Nicola Tomasi	Università degli studi di Udine
Paolo Carletti	Università degli studi di Padova
Riccardo Spaccini	Università degli Studi di Napoli
	Federico II
Fabrizio Araniti	Università Mediterranea di Reggio
	Calabria
Bhakti Prinsi	Università degli Studi di Milano
Gianpiero Vigani	Università degli Studi di Milano
Luigi Lucini	Università Cattolica del Sacro Cuore
Gianmaria Beone	Università Cattolica del Sacro Cuore

Sponsorship

Besides the patronage of the Italian society for Agricultural Chemistry, the School receives the sponsorship from Agilent Technologies.



Agilent Technologies

Travel information - How to reach the Campus of Piacenza

by car

Motorway A1 (Milan-Bologna) or Motorway A21 (Turin-Brescia): Exit "**Piacenza Sud**".

Follow for Piacenza centre. Turn left at round-about, after the overpass go straight ahead for 500 meters, the University is on the right.

by train

http://www.ferroviedellostato.it/ The railway station Piacenza is easily reachable by the two train railway lines:

• Milan - Bologna

• Turin - Piacenza

Then, from the railway station (Piazza Marconi, opposite side of the street, from the exit):

• Bus No. **2** direction "S.Lazzaro Università", with stop in via Emilia Parmense

• Bus n. **3** or **7** direction "Capitolo", with stop in via E. Parmense

by airplane

from Milan: Airports "Linate" or "Malpensa" (www.sea-aeroportimilano.it)
from Bergamo: Airport "Orio al Serio" (www.sacbo.it) Shuttle bus connecting the airport to the train station in Milan are available at the terminals.

Further airports, for which less connections are available, are:

• from Parma: Airport "Giuseppe Verdi" (www.aeroportoparma.it)

• from Bologna: Airport "Guglielmo Marconi" (www.bologna-airport.it)

 from Brescia: Airport "Gabriele D'Annunzio" in Montichiari (www.aeroportobrescia.it)

• from Verona: Airport "Valerio Catullo" in Villafranca (www.aeroportoverona.it)

Accommodation

Those applicant that wish to book a room at the "Residenza Gasparini", 1 min walk from the school venue, are request to complete their reservation at this link: https://docs.google.com/spreadsheet/viewfor m?fromEmail=true&formkey=dG9mM2hLS2 5pcktvMUg2b01UMjJBN0E6MQ

The price for a single-bed room (with private bathroom) is 45 €/night, including breakfast.

very alternative, An close to the University the is hotel City (www.hotelcitypc.it; +39 0523 579752); during the reservation specify that you are going to the University to have a The prices, including special deal. breakfast, are 67 €/night (single room), 77 €/night (1 person in double room), 86,50 €/night (double room) or 110 €/night (triple room). The hotel provides free Wi-Fi and is 5 minutes walking from the school venue.

Info

http://www.chimicagraria.it/didattica.php email: luigi.lucini@unicatt.it