



UNIVERSITÀ  
CATTOLICA  
del Sacro Cuore



Italian Society of Soil Science  
School of Soil Biodiversity and Bioindication  
XII cycle

## SOIL MANAGEMENT AND QUALITY IN THE ERA OF SUSTAINABLE AGRICULTURE INTENSIFICATION

16 – 18 JUNE 2020

Faculty of Food, Agriculture and Environmental Sciences  
Università Cattolica del Sacro Cuore, Piacenza, Italy



### FIRST ANNOUNCEMENT

#### SCHOOL TOPIC AND AIMS

In spite of the emergency created by the Covid-19 outbreak, we believe that moments of study, elaboration and exchanges between experts, researchers, PhD students and other relevant stakeholders should not stop. For this reason, the 2020 edition of the annual School of **Soil Biodiversity and Bioindication** will be organized in remote by the Italian Society of Soil Science.

The school will focus on the relationships between soil management and quality, with a focus on the role of soil biodiversity in maintaining a Sustainable Agriculture Intensification (SAI). The concept of SAI is very challenging, since it aims to achieve more food from the same land, reducing environmental impacts and providing positive social, economic and environmental benefits, which are the three main pillars of sustainability. Soils play a pivotal role in the SAI challenge, since only through an enduring maximization of soil fertility it is possible to increase future agriculture production without facing a depletion of resources in the short and long term. Key aspects of soil fertility are diversity and activity of microorganisms and quality of the soil organic matter (SOM), which are strongly affected by agriculture practices such as tillage, fertilization, pest management and irrigation.

The school will address this complex issue by providing a series of lectures, videos and training activities aimed at understanding the role played by soil biodiversity in sustaining fertility, the potential advantages of reduced or no tillage, the exploitation of novel biostimulants to reduce the agriculture dependence on chemical fertilizers and pesticides, the assessment of the impact of pesticides on soil biodiversity and quality, the agronomical practices that can be implemented to maintain and increase SOM.

The school aim will be to make all participants familiar to the key concepts of soil biodiversity, fertility and to the possible solutions to achieve the strategic goal of SAI.

## FULL PROGRAM

### Tuesday, 16<sup>th</sup> June (afternoon)

14:15-14:30		Organizing Committee	Welcome and introduction to the school
14:30-15:30	Opening lecture	Christoph C. Tebbe <i>Thünen Institute, Braunschweig, Germany</i>	Finding the right scale for soil microbial community analyses – from aggregates to continents
15:30-17:00	Interaction time	Organizing Committee and participants	Presentation of research activities by school participants

### Wednesday, 17<sup>th</sup> June (full day)

9:00-10:00	Keynote lecture	Stefano Mocali <i>CREA, Rome, Italy</i>	Exploring the native soil biodiversity to promote crop productivity and sustainability
10:00-11:00	Lecture	Giancarlo Renella <i>Università degli studi di Padova, Italy</i> Claudio Marzadori <i>Università degli studi di Bologna, Italy</i>	Soil organic matter management and dynamics in the era of agriculture sustainable intensification
10:30-11:30	break		
11:30-11:50	Virtual visit to the no-till experimental fields	Andrea Fiorini Vincenzo Tabaglio <i>Università Cattolica del Sacro Cuore, Italy</i>	Educational video on the fields of the experimental farm Cerzoo, where a gradient of no-tillage conversions were established in the last 10 years
11:50-12:50	Lecture	Vincenzo Tabaglio <i>Università Cattolica del Sacro Cuore, Italy</i> Cristina Menta <i>Università degli Studi di Parma, Italy</i>	Effects of no-till on agroecosystem services: yield, carbon sequestration, water retention, GHG emissions, soil biodiversity
12:30-14:30	break		
14:30-15:30	Lecture	Edoardo Puglisi Luigi Lucini <i>Università Cattolica del Sacro Cuore, Italy</i>	The Central Dogma at the roots of soil fertility: omics technologies to assess plants, soil and microbes interactions at the rhizosphere level
15:30-16:30	Students assignment	Organizing Committee and school participants	Assignment of elaborations on case studies from literature or participants own data

### Thursday, 18<sup>th</sup> June (full day)

Morning	Elaboration time	Participants	Analyses of own or assigned data
14:30-16:30		Organizing committee and school participants	Restitution of students own elaborations

## **REQUIREMENTS**

The course is a training opportunity for graduating, post-graduated and PhD students, researchers and any professional interested to develop skills on soil biodiversity and bioindicators issues for sustainable agriculture intensification. Basic knowledge on soil science, biology and ecology is required.

## **APPLICATION**

Candidate participants have to communicate their intention to take part at the course sending an email to Eren Taskin ([eren.taskin@unicatt.it](mailto:eren.taskin@unicatt.it)) and in cc to [segretario@scienzadelsuolo.org](mailto:segretario@scienzadelsuolo.org) at any time and not later than 5 June 2020, taking care to attach their registration form, provided in the next page. Maximum number of accepted participants is 20. Upon the ascertainment of the requirements, candidates will be accepted on the basis of coherence of research interests with the school topics; non-Italian candidates will be accepted with priority at up to 10 candidatures.

## **FEES**

Participation in the school is free of charge for members of the Italian Society of Soil Science ([www.scienzadelsuolo.org](http://www.scienzadelsuolo.org)) or candidates who become members of the Italian Society of Soil Science within 5 June 2020. Alternatively, it will cost 50 EURO per person, to be paid by each participant on being informed of their acceptance.

## **LOCATION AND MATERIALS**

The school will be held in remote by using specific tools (e.g. Teams) that will be communicated to the participants days in advance: Lectures abstracts and presentation will be made available some days before the school.

## **SCHOOL SECRETARIAT**

Eren Taskin ([eren.taskin@unicatt.it](mailto:eren.taskin@unicatt.it))

## **LOCAL ORGANIZING COMMITTEE**

Edoardo Puglisi (chair), Cristina Menta (co-chair), Giancarlo Renella (co-chair), Vincenzo Tabaglio, Luigi Lucini, Andrea Fiorini, Eren Taskin

## **SCIENTIFIC COMMITTEE**

Paola Adamo, Edoardo Puglisi, Stefano Mocali, Cristina Menta, Giancarlo Renella, Claudio Marzadori, Vincenzo Tabaglio, Luigi Lucini