



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

## **Biological indicators of soil biodiversity for healthy soils and ecosystem services in response to climate change**

**16 – 18 JUNE 2021**

Council for Agricultural Research and Economics,  
Research Centre for Agriculture and Environment, Florence, Italy

### **SECOND ANNOUNCEMENT**

#### **SCHOOL TOPIC AND AIMS**

Soil biota is key in soil functioning and ecosystem services. Nevertheless, additional knowledge is needed, especially on the functional role of soil biodiversity and on how belowground and functional biodiversity can be stimulated to enhance soil functioning or provide resilience to climate change and adverse conditions, such as drought or soil borne diseases. In fact, despite the huge number of available soil ecology studies, major gaps and/or geographic and taxonomic biases still exist in our understanding of soil biodiversity. Nowadays, the current status of soil biodiversity in Europe still waits to be assessed (FAO-GSP-ITPS 2020). Therefore, both scientific research and policy instruments are needed. In particular, in the light of EU Biodiversity Strategy, advances are expected concerning the development of functional indicators and target values for healthy soils and the expected soil functions and ecosystem services, in relation to soil types, land uses and climate zones to cover all relevant (soil) conditions.

The school will thus provide specific insights on the relationships between soil biodiversity, soil management and climate change, with a focus on the role of functional soil biodiversity in maintaining sustainable and resilient agricultural systems as well as key ecosystem services. Moreover, the selection and application of biological indicators for monitoring biodiversity across different scales will be presented and discussed by means of practical activities, aiming at understanding the role played by soil biodiversity in ensuring fertility and ecosystem services under climate change.

# FULL PROGRAM

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## Wednesday, 16<sup>th</sup> June

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14:15-14:30	Welcome	<i>Sara Marinari</i> SISS President	Welcome and introduction to the school
14.30-14.45	Introduction	Participants	Brief introduction of the participants and Mentimeter survey
14:45-15:30	Opening lecture	<i>Alberto Orgiazzi</i> JRC (Joint Research Centre, European Commission)	Toward large scale assessment and monitoring of soil biodiversity in Europe
15:30-16:00	Lecture	<i>Stefano Mocali</i> CREA, Research Centre for Agriculture and Environment	Exploiting soil native biodiversity for developing sustainable agricultural practices under climate changes
16:00-17:30	Interaction time	Organizing Committee and participants	Presentation of research activities by school participants

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## Thursday, 17<sup>th</sup> June

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14:30-15:00	Keynote lecture	<i>Carmen Trasar Cepeda</i> IAG-CSIC (Institute of Agrobiological Research of Galicia)	Some considerations on the use of enzyme activities as indicators of soil quality and changes in soil quality caused by anthropogenic activities
15:00-15.30	Lecture	<i>Carlo Jacomini</i> ISPRA (Italian Institute for Environmental Protection and Research)	Assessment of soil quality and monitoring soil fauna indicators in Italy
15.30-16.00	Lecture	<i>Lorenzo D'Avino</i> CREA, Research Centre for Agriculture and Environment	Practical overview on QBS-ar index
16.00-17:30	Interactive session	Organizing Committee and participants	Group activity

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## Friday, 18<sup>th</sup> June

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Morning	Elaboration time	Participants	Analyses of their own (or assigned) data
14:30-16:30	Interactive session	Organizing committee and school participants	Restitution of students own elaborations
16.30-17.15	Keynote lecture	<i>Carlos A. Guerra</i> German Centre for Integrative Biodiversity Research, (iDiv) Halle-Jena-Leipzig	Tracking, targeting, and conserving soil biodiversity
17.15-17.30	Conclusion	Organizing committee	Conclusions and final Mentimeter survey

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## **REQUIREMENTS**

The course is a training opportunity for graduating, post-graduated and Ph.D. students, researchers and any professional interested to develop skills on soil biodiversity and bioindicators issues. 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 school secretariat (email [gaia.bigioti@crea.gov.it](mailto:gaia.bigioti@crea.gov.it)) and in cc to: [segretario@scienzadelsuolo.org](mailto:segretario@scienzadelsuolo.org) at any time and not later than June 8<sup>th</sup> 2021, 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, Italian candidates will be accepted on the basis of the first arrived first served rule, while non-Italian candidates will be accepted with priority 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 May 30<sup>th</sup> 2021. Alternatively, it will cost 50 EURO per person, to be paid by each participant on being informed of their acceptance.

## **LOCATION**

The school will be held in remote by using Microsoft Teams

## **SCHOOL SECRETARIAT**

Gaia Bigiotti ([gaia.bigioti@crea.gov.it](mailto:gaia.bigioti@crea.gov.it)), Tommaso Chiti ([segretario@scienzadelsuolo.org](mailto:segretario@scienzadelsuolo.org))

## **LOCAL ORGANIZING COMMITTEE**

Stefano Mocali (chair), Lorenzo D'Avino (co-chair), Gaia Bigiotti, Alexandra Cucu

## **SCIENTIFIC COMMITTEE**

Sara Marinari, Stefano Mocali, Lorenzo D'Avino, Loredana Canfora, Chiara Ferronato, Erika Di Iorio, Carlo Jacomini