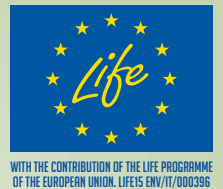


JULY 10TH
11TH
12TH
13TH
2018

LIFE
BIOREST



INTERNATIONAL SUMMER SCHOOL

Contaminated soil: management and remediation



DEPARTMENT OF LIFE SCIENCES AND SYSTEMS BIOLOGY - UNIVERSITY OF TORINO, ITALY

Sponsored by LIFE BIOREST project | Organized by University of Turin, Consorzio Italbiotec, Consejo Superior de Investigaciones Científicas, Welience - SATT Grand-Est

www.lifebiorest.com/international-summer-school

INTRODUCTION

The summer school will investigate conventional and innovative remediation approaches that can be effectively used to manage contaminated soils. Traditional techniques to treat contaminated land and groundwater are technically limited, inefficient and poorly environmentally sustainable, considering the management timescales and environmental impacts involved. This leads to uncertainty in decision-making (e.g. remediation technology selection and management strategies) and inefficient use of resources. Bioremediation offers an intriguing alternative to traditional approaches. Fungi, bacteria and plants may evolve adaptation skills that help them to populate contaminated ecological niche. Processes based on microorganisms and plants have been already investigated, showing how they could act against pollutants. Their transformation into less hazardous molecules would help to improve the soil quality and ultimately restore its ecological services.

The objectives are to:

- Explore current technical limitations affecting the bioremediation of soils
- Introduce new thinking, state-of-the-art analytical tools, practical assessment methods and novel applications, which are at the "frontier" of the field.

VENUE

Botanic Garden, University of Turin, Viale Pier Andrea Mattioli 25, Turin, Italy | www.ortobotanico.unito.it

WHO CAN ATTEND THE SCHOOL?

The school is designed for PhD students and post-doctoral researchers, working in universities, public and private research centers or private companies. Applications are welcome from all countries. The participation is free of charge. In order to attend the summer school, **CV, motivation letter** and **Application Module** (editable version is available at www.lifebiorest.com/international-summer-school) should be sent to: verdepertutti@gmail.com. Up to 20 Participants will be selected.

Please note the following key dates: Deadline for submission of application – 15th April 2018 | Successful applicants informed – 30th April 2018

FURTHER INFORMATION

Further information can also be obtained by contacting verdepertutti@gmail.com

ORGANIZING COMMITTEE

Prof. Cristina Varese, University of Turin
Federica Spina, University of Turin
Iolanda Perugini, University of Turin
Ilaria Re, Consorzio Italbiotec
Prof. Jose Julio Ortega Calvo, Consejo Superior de Investigaciones Científicas
Anne-Laure Blioux - Abdelwahad Echairi, Satt Grand Est

SCIENTIFIC COMMITTEE

Prof. Cristina Varese, University of Turin
Federica Spina, University of Turin
Prof. Jose Julio Ortega Calvo, Consejo Superior de Investigaciones Científicas
Anne-Laure Blioux, Satt Grand Est



PROGRAM

DAY 1

BOTANIC GARDEN, TURIN

TUESDAY 10TH JULY 2018

- 13.00 Opening address and Welcoming the participants
Prof. Cristina Varese, Mycotheca Universitatis Taurinensis
Ilaria Re, Consorzio Italtiotec, Project coordinator of LIFE BIOREST
Prof. Cristina Giacomini (Head of DBIOS)

SESSION I: LEGISLATION AND MANAGEMENT

- 13.15 State of art of polluted sites in Italy and EU
Ilaria Re, Consorzio Italtiotec
- 13.45 State of regulation controlling soil pollution
Marco Falconi, ISPRA

SESSION II: CHARACTERIZATION OF CONTAMINATED SOILS

- 14.45 Environmental impact and ecotoxicological assessment
Marco Vincenzi, Arpa Piemonte
- 15.30 Coffee break
- 16.00 Analytical techniques to determine soil pollutants
Prof. Paola Calza, University of Turin
- 16.30 In situ and ex-situ techniques: soil treatment techniques
Valentina Cerigo, Province of Asti
- 17.15 Investigation techniques of contaminated site
Prof. Domenico Antonio De Luca, University of Turin
- 18.00 Speed sparring

THURSDAY 12TH JULY 2018

DAY 3

BOTANIC GARDEN, TURIN

- 9.00 Studies presentation
- ## SESSION IV: BIOREMEDIATION
- 10.00 Fungi in Soil Bioremediation
Prof. Cristina Varese, Mycotheca Universitatis Taurinensis
- 10.30 Bacteria in Soil Bioremediation
Prof. Edoardo Puglisi, Università Cattolica del Sacro Cuore
- 11.00 Coffee break
- 11.30 Molecular tool to follow microbial community in soil
Prof. Mariangela Girlanda, University of Turin
- 12.30 Phytoremediation (GISFI)
- 13.00 Trees: sentinels of the environment and tools for phytomanagement
Michel Chalot, Université de Franche-Comté-Besançon
- 13.30 Lunch break
- 14.30 Case Study
Roberto Ricci, Biosearch Ambiente

SESSION V: REMEDIATION ENHANCEMENT

- 15.00 From bioavailability science to soil remediation: Sustainable stimulation of biological networks for enhanced pollutant carbon turnover
Prof. Jose Julio Ortega Calvo, Consejo Superior de Investigaciones Científicas
- 15.30 Implementing desorption extraction methods into bioavailability-oriented bioremediation
Rosa Posada, Consejo Superior de Investigaciones Científicas
- 16.00 Coffee break
- ## SESSION VI: FROM LAB TO INDUSTRIAL SCALE
- 16.30 LCA of soil remediation: A tool for scientist, technicians and society
Giuliana D'Imporzano, Consorzio Italtiotec
- 17.00 Up-scaling the process
Fabrizio Beltrametti, Actygea Srl
- 17.30 Studies presentation

DAY 2

FIDENZA, PIACENZA

WEDNESDAY 11TH JULY 2018

EXCURSION TO CONTAMINATED SITES IN ASTI AND FIDENZA

- 9.00 Departure from Turin

VISIT TO CONTAMINATED SITE

- 13.30 LIFE BIOREST site description and project activities
- 14.00 Phytoremediation and revegetation
Chiara Romé, Università Cattolica del Sacro Cuore
- 14.45 Visit to SIN of Fidenza
- 15.00 Evaluation of bioremediation monitoring activities
Fabrizio Bandini, ARPAE
- Revegetation trials visit
Chiara Romé, Università Cattolica del Sacro Cuore
- 17.00 Departure for Turin

FRIDAY 13TH JULY 2018

DAY 4

BOTANIC GARDEN, TURIN

NETWORKING SESSION LIFE-BIOREST WORKSHOP: SUCCESSFUL EU PROJECTS PRESENTATIONS

- 11.00 PhytoSUDOE,
Petra Kidd, Spanish National Research Council | CSIC Instituto de Investigaciones Agrobiológicas de Galicia
- 11.30 S.O.S. 4 LIFE – Save Our Soil for LIFE
Stefano Bazzocchi, Forlì Municipality
- 12.00 BioresNova
Simona Di Gregorio, University of Pisa
Alessandro Gentini, Teseco Bonifiche
- 12.30 Kill Spill
Fabrizio Beltrametti, Actygea Srl
- 13.00 Panel section and Conclusive Remarks
- 13.20 Lunch break
- 14.00 Conclusions