ANSWER Training Event - E and 1st Workshop Programme

Consorzio Osservatorio Appennino Meridionale

University of Salerno

Fisciano (SA), Italy, September 4-6, 2017

The Università degli Studi di Salerno (UNISA) and the Istituto Superiore di Sanitá (ISS) organize a Training Event (TE-E) on "**Wastewater treatment by advanced technologies and risk assessment framework**" and the 1st workshop on "**Risk prognosis of environmental and public health aspects of antibiotics and antibiotic-resistant bacteria and antibiotic resistance genes (A&ARB&ARGs)**" in the framework of **ANSWER/H2020-MSCA-ITN-2015/675530** project, which will be held in Fisciano (SA), Italy on 4 - 6 of September, 2017. This event will be hosted by Prof. Luigi Rizzo from Department of Civil Engineering, at "Consorzio Osservatorio Appennino Meridionale", UNISA Fisciano campus. Ten (10) Early-Stage Researchers (ESRs) will participate in this event.

The aim of the combined TE-E and 1st ANSWER workshop is to provide ANSWER ESRs with professional and personal development opportunities beyond what they are generally exposed to in the course of their Ph.D. training. The TE-E will provide to ESRs a multidisciplinary overview on new technologies/processes for tertiary/advanced treatment of urban wastewater and microcontaminants removal. New treatment technologies/processes used for purification and disinfection of urban wastewater, including adsorption, oxidation/disinfection, homogeneous and heterogeneous photocatalytic processes will be presented. In addition, new materials (e.g. catalysts, adsorbents, etc.), specifically designed to improve the efficiency of advanced treatment technologies/processes and their possible applications will be introduced. The 1st ANSWER workshop will address direct/indirect human health risk associated to the presence of microcontaminants (including antibiotics and antibiotic resistant bacteria and genes) in wastewater. Water reuse related issues including EU approach on water reuse and "under discussion" EU minimum quality standards on water reuse, will be addressed too.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 675530

Monday September 4, 2017

Specialized course on "Wastewater treatment by advanced technologies and risk assessment framework"

08.30-09.30	Registration
09.30-10.00	Welcome greetings and Introduction of the Event
10.00-10.30	Tertiary treatment of urban wastewater: state of art and perspectives ***Luigi Rizzo, Department of Civil Engineering, University of Salerno***
10.30-11.00	Benign-by-design: Development and applications of new Fenton-like catalysts ***Raffaele Cucciniello, Department of Chemistry and Biology, University of Salerno***
11.00-11.30	Coffee break
11.30-12.00	Use of fluorescence EEM to monitor macro-, micro- and nano-contaminants in conventional and advanced wastewater treatment processes ***Paolo Roccaro, University of Catania***
12.00-12.30	Antibiotics removal from wastewater by advanced oxidation processes ***Giusy Lofrano, Department of Chemistry and Biology, University of Salerno***
12.30-13.00	Wastewater treatment by nanoporous-crystalline fibers ***Christophe Daniel, Department of Chemistry and Biology, University of Salerno***
13.00-14.30	Lunch break
14.30-15.30	The current approach to human risk assessment ***Emma Di Consiglio, Istituto Superiore di Sanitá***
15.30-16.00	Coffee break
16.00-16.30	Removal of pollutants and pathogens by an advanced treatment scheme for municipal wastewater reuse in agriculture ***Claudio Di Iaconi, CNR-IRSA Bari***
16.30-17.00	Synthesis and characterization of innovative photocatalysts for wastewater treatment ***Vincenzo Vaiano, Department of Industrial Engineering, University of Salerno***

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Tuesday September 5, 2017

"Risk prognosis of environmental and public health aspects of A&ARB&ARG (antibiotics, antibiotic-resistant bacteria and antibiotic resistance genes)" – 1st day

08.30-09.30	Registration
09.30-10.00	Welcome greetings and introduction to ANSWER project and to the workshop
10.00-10.30	Environmental Quality Standards of the Water Framework Directive and the EU approach on water reuse ***Mario Carere, Istituto Superiore di Sanitá***
10.30-11.00	Target and non-target organics screening in wastewater for addressing the fate of antibiotics and other emerging organic pollutants: analytical issues and challenges ***Giuseppe Mascolo, CNR-IRSA Bari***
11.00-11.30	Coffee-break
11.30-12.30	Where are we going with risk assessment? The challenges for the future! ***Manuela Testai, Istituto Superiore di Sanitá***
12.30-13.00	Molecular methods for detection of antibiotic resistance in environmental matrices: limits, prospects and challenges ***Angela Cicatelli, Department of Chemistry and Biology, University of Salerno***
13.00-14.30	Lunch break
14.30-15.30	Antibiotic resistance transfer into the environment ***Christophe Merlin, CNRS, University of Lorraine***
15.30-16.00	Coffee break
16.00-16.30	Emerging and re-emerging microbial pathogens in surface water ***Stefania Marcheggiani, Istituto Superiore di Sanitá***
16.30-17.00	Applications of Next Generation Sequencing in Metagenomics Studies ***Francesca Rizzo, Department of Medicine and Surgery, University of Salerno***

Wednesday September 6, 2017

"Risk prognosis of environmental and public health aspects of A&ARB&ARG (antibiotics, antibiotic-resistant bacteria and antibiotic resistance genes)" – 2nd day

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09.00-10.00 (Eco-)toxicity of contaminants of emerging concern: a focus on antibiotics
Giovanni Libralato, University of Naples Federico II

10.00-10.30 *In vitro* assays on cell lines to investigate toxicity of environmental contaminants
Ivana Caputo, Department of Chemistry and Biology, University of Salerno

10.30-11.00 Antibiotic pharmacodynamics: relation to antimicrobial resistance
Valeria Conti, Department of Medicine and Surgery, University of Salerno

11.00-11.30 Coffee-break

11.30-12.30 Introduction to Life Cycle Assessment and application to urban wastewater treatment plants
Giovanni De Feo, Department of Industrial Engineering, University of Salerno

12.30-13.00 Effect of disinfection processes on antibiotic resistance in urban wastewater
Antonino Fiorentino, CNR-IRSA Verbania

13.00-14.00 Lunch break

14.00-17.00 Technical visit at University of Salerno laboratories

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