



2nd Summer School on
Environmental Applications of Advanced Oxidation Processes
and Training School on
Advanced Treatment Technologies and Contaminants of Emerging Concern
(NEREUS COST Action ES1403)

Venue: Auditorium of the Almeida Garrett Municipal Library

Biblioteca Municipal Almeida Garrett, Rua de D. Manuel II - Jardins do Palácio de Cristal

4050-239 Porto, Portugal

July 10-14, 2017



The “European PhD School on Advanced Oxidation Processes” (**School**) and NEREUS COST Action ES1403, with the support of Associate Laboratory LSRE-LCM, Department of Chemical Engineering, Faculty of Engineering, University of Porto, organize the 2nd Summer School on “Environmental Applications of Advanced Oxidation Processes” jointly with the NEREUS Training School on “Advanced Treatment Technologies and Contaminants of Emerging Concern” in July 10-14, 2017, at the Auditorium of the Almeida Garrett Municipal Library, Cristal Palace Gardens, considered Porto’s most beautiful gardens overlooking the Douro River.

The **School**, founded in June 2014 by a group of European scientists (Management Committee (MC)) from different Universities and Research Institutes, promotes the higher education of young researchers in the environmental applications of AOPs (please visit our official web-page for further details: www.aops-school.com). Currently, the **School** includes 53 Scientific Committee (SC) members from 14 different European Countries.





The Summer School is among the initiatives organized for **School** PhD candidates but other PhD students, MSc students, post-doctoral researchers and professionals are also welcome. The Summer School program includes: (i) a section specifically devoted to PhD students (“Floor to PhD Students”) where they will have the chance to introduce themselves and their work, through a short oral presentation and/or a poster communication, as well as to meet experts from the **School**; (ii) a special session on “Contaminants of emerging concern and antibiotic resistance control in water by AOPs”; (iii) lectures on complementary skills; (iv) a workshop on advanced treatments delivered by **School** SC members and international experts; and (v) a technical-social visit sponsored by Adventech.

All participants are encouraged to submit a short abstract (please use the attached template). The short abstract must be submitted by email (aops@fe.up.pt) no later than April 30 (or May 30 in the case of granted members from NEREUS COST Action ES1403), in MSWord format. In the particular case of PhD students, please select the preferred form of presentation (ORAL or POSTER) in the red box located at the right side of the abstract title. Other participants can present their abstract in Poster form.

Research presented by all participants at the Summer School will be considered for possible publication in two special issues, *Environmental Science and Pollution Research* (ESPR, Springer, Impact Factor: 2.760) or *Journal of Environmental Chemical Engineering* (JECE, Elsevier, cite score 3.21). Only manuscripts dealing with “Wastewater Reuse and Antibiotic Resistance” will be considered for JECE. The interest must be mentioned in the red box of the short abstract, by replacing “NONE” by “ESPR” or “JECE”. Authors will receive an invitation letter by email. Authors should reply to the email specifying the type of article (critical review or research paper), the preliminary title and the name of the authors.

In the case of ESPR, please don’t forget to select the article type “AOPsPhDSchool” Special Issue during the paper submission process, and attach the respective invitation letter as a “Supplementary Material” file. The deadline for paper submission to the Special Issue on the ESPR journal is 30th September 2017.

In the case of JECE, please don’t forget to select the article type “SI: Wastewater Reuse and Antibiotic Resistance” during the paper submission process. The deadline for paper submission to the Special Issue on the JECE journal is 15th September 2017.

Any update (including the registration form) will be published in the “Summer School 2017” section of **School** official web-page: www.aops-school.com

Organization contact email address: aops@fe.up.pt

Summer School Chairs

Adrián M.T. Silva

Associate Laboratory LSRE-LCM, FEUP, University of Porto

Vítor J.P. Vilar

Associate Laboratory LSRE-LCM, FEUP, University of Porto

Luigi Rizzo

University of Salerno, Italy

Chair of European PhD School on AOPs

Despo Fatta-Kassinou

NIREAS-IWRC, University of Cyprus

Chair of NEREUS COST Action ES1403





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Monday July 10, 2017 (School introduction and “Floor to PhD students”)

Registration

Welcome greetings and Introduction of the Summer School

Publication of research results

FEUP Library Team

Short Oral Communications (PhD students)

How to get your article published: An editor perspective

Gianluca Li Puma, Loughborough University, UK

Editor, Journal of Hazardous Materials (Elsevier)

Poster session

Tuesday July 11, 2017 (Complementary skills and fundamentals of AOPs)

AOPs for environmental applications: an overview

Dionissios Mantzavinos, U. Patras, Greece

Synthesis and characterization of (photo)catalysts for water/wastewater treatment applications

Suresh Pillai, Institute of Technology Sligo, Ireland

Photocatalysis: semiconductor physics

Carlos Tavares, U. Minho, Portugal

Fundamentals of photocatalysis applications for water detoxification, trends and limitations

J.M. Doña Rodriguez, U. las Palmas Gran Canaria, Spain

Photophysical mechanistic aspects of AOPs

Antonio Arques, U. Politècnica de València, Spain

Simulation and design of photoreactors

Javier Marugan, U. Rey Juan Carlos, Spain

Catalytic wet peroxide oxidation (CWPO): potential applications and challenges

Juan José Rodriguez, U. Autonoma de Madrid, Spain

Catalytic wet air oxidation (CWAO): process and catalyst developments

Helder T. Gomes, IPB, Bragança, Portugal

Applications of raceway pond reactors for solar photo-Fenton: principles and uses

J.A. Sánchez Pérez, U. Almería, Spain

Electrochemical advanced oxidation processes

Manuel A. Rodrigo Rodrigo, U. Castilla la Mancha, Spain





Assessment of ElectroFenton technology for water and soil restoration

M. Pazos Currás and A. Sanroman, U. Vigo, Spain

Chromatography-mass spectrometry analysis of polar chemicals in water and transformation products elucidation

José Benito Quintana, U. Santiago Compostela, Spain

General discussion about AOPs

Montserrat Pérez-Moya, U. Politècnica de Catalunya, Spain

Wednesday July 12, 2017 (Contaminants of emerging concern and antibiotic resistance control in water/wastewater)

New and emerging challenges and opportunities in wastewater reuse: NEREUS COST Action ES1403

Despo Fatta-Kassinou, NIREAS-IWRC, University of Cyprus

MSCA individual fellowships proposal preparation & writing “Hints & Tips” - The Evaluator's “Point of View”

Despo Fatta-Kassinou, NIREAS-IWRC, University of Cyprus

Treatment of CECs by solar driven AOPs

Sixto Malato, Plataforma Solar de Almería, Spain

Effects of AOPs on toxicity of CECs oxidation intermediates

Idil Arslan Alaton, Istanbul Technical U., Turkey

Antibiotic resistant bacteria as contaminants of emerging concern

Celia Manaia, U. Católica, Portugal

Microbial inactivation by the solar-assisted Fenton process at near-neutral pH

Stefanos Giannakis, Lausanne, Switzerland

Advances in photocatalytic urban wastewater treatment for controlling antibiotic resistance spread

Luigi Rizzo, U. Salerno, Italy

Endocrine disrupting chemicals and emerging contaminants: new challenges and perspectives

Miguel Santos, CIIMAR, Portugal

Removal of CECs from urban wastewater by membrane bioreactors (MBRs)

Pawel Krzeminski, Systems Engineering and Technology Norwegian Institute for Water Research (NIVA)

Improvement photocatalytic oxidation efficiency of water contaminants: use of ozone and visible light photocatalysts

Fernando Beltran, U. Extremadura, Spain

Disinfection of WWTP secondary effluents by solar photo-Fenton process

Ana Belén Esteban García, Plataforma Solar de Almería - CIESOL, Spain





Ionizing radiations as efficient AO(R)P method for remediation of waters and wastewaters

Andrea Capodaglio, U. degli Studi di Pavia, Italy

Application of ultrasound for the degradation of organic pollutants in waters

Ricardo A. Torres-Palma, U. Antioquia, Colombia

Thursday July 13, 2017 (Workshop on Advanced Treatment)

Photocatalytic removal of organic pollutants and the subsequent synergic reduction of Cr⁶⁺ in aqueous solution, using sodium decatungstate photocatalysts

Mohamed Sarakha, U. Clermont Auvergne, France

On photocatalytic membrane reactors in water and wastewater treatment: recent experiences and perspectives

Sylwia Mozia, U. of West Pomeranian, Poland

Intensification of photocatalytic processes: phenomenological computational modelling

Cíntia Soares, Federal U. Santa Catarina, Brazil

Wastewater treatment by heterogeneous Fenton-like processes in continuous reactors

L. Miguel Madeira, FEUP, U. Porto, Portugal

Catalytic ozonation: from powder to structured catalysts

M. Fernando R. Pereira, FEUP, U. Porto, Portugal

Wastewater treatment by ozonation

Santiago Esplugas, U. Barcelona, Spain

Novel photoreactors for photocatalytic processes: towards process Intensification

Vítor J.P. Vilar, FEUP, U. Porto, Portugal

Molecular photocatalysis: Principles and applications in AOPs

Joaquim L. Faria, FEUP, U. Porto, Portugal

Treatment by AOPs and reuse of Oil&Gas wastewater

Sandra Contreras, U. Rovira i Virgili, Spain

The Arvia Process: combining adsorption and advanced oxidation

Mikael A. Khan, Arvia, UK

From bench- to full-scale AOPs application

Sergio C. Silva, Adventech, Portugal

Friday July 14, 2017 (Technical-Social Event, Sponsored by Adventech)

