



Workshop on Technologies for Monitoring and Treatment of Contaminants of Emerging Concern

November 23th-24th, 2017
Universidad Rey Juan Carlos

Organized by



Funding Organizations

REMTAVARES Network



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MOTREM Project



GOBIERNO DE ESPAÑA

MINISTERIO DE ECONOMIA Y COMPETITIVIDAD



Bundesministerium für Bildung und Forschung



MINISTERO DELL'ISTRUZIONE, DELL'UNIVERSITÀ E DELLA RICERCA



PROGRAM: Thursday 23th Nov

08:30 - 08:45 Registration

08:45 - 09:00 Welcome – Javier Marugán (Coordinator of MOTREM Project)
& Fernando Martínez (Coordinator of REMTAVARES Network)

Session I – Chair: Fernando Martínez

09:00 - 09:30 *Innovation ecosystem: central driver of sustainable water management*, Victor Monsalvo (FCC Aqualia)

09:30 - 09:45 *Observations during the development of a method for the analysis of emerging contaminants*, Jukka Pellinen (University of Helsinki)

09:45 - 10:00 *Advanced Oxidation Processes for Raw Hospital Wastewater Treatment: Pharmaceuticals Fate*, Isabel Pariente (Universidad Rey Juan Carlos)

10:00 - 10:15 *Highly efficient depletion of persistent pharmaceutical compounds by well-defined carbide derived carbons*, Silvia Álvarez (Universidad Complutense de Madrid)

10:15 - 10:30 *Application of graphite to fotoassisted CWPO process for ibuprofen degradation*, Alicia Loreto García (Universidad Autónoma de Madrid)

10:30 - 10:45 *Evaluation of wet air oxidation, Fenton and photo-Fenton systems for the treatment removal of real hospital wastewater*, Fernando Martinez (Universidad Rey Juan Carlos)

10:50 - 11:25 Coffee Break

Session 2 – Chair: Ángel Encinas

11:30 - 12:00 *Assessment of the transformation of micropollutants in surface water and wastewater*, Debora Fabbri (University of Torino)

12:00 - 12:15 *Efficient removal of bisphenol A by adsorption onto carbonaceous adsorbents*, Ana Belén Hernández (Universidad Complutense de Madrid)

12:15 - 12:30 *Testing toxicity of endocrine disrupters on development and reproduction of freshwater Ostracoda*, Álvaro Vázquez (IMDEA Agua)

12:30 - 12:45 *Catalytic hydrodechlorination of diclofenac*, Julia Nieto-Sandoval (Universidad Autónoma de Madrid)

12:45 - 13:00 *Photocatalytic degradation of atrazine in aqueous systems*, María José López (Universidad Rey Juan Carlos).

13:15 - 14:45 Lunch

PROGRAM: Thursday 23th Nov

Session 3 – Chair: Javier Marugán

- 15:00 - 15:30** *Emerging Contaminants: Risk and Challenges for Water Quality in Iberian River Basins and Plant Uptake. Solutions with Advanced Treatment Technologies*, Damià Barcelo (Catalan Institute for Water Research)
- 15:30 - 15:45** *Abatement of recalcitrant pollutants in water with a hybrid system ZnO-based materials and enzymes*, Marco Sarro (University of Torino)
- 15:45 - 16:00** *Active membranes for retaining non-polar water pollutants with intrinsic resistance to microbial colonization*, Amariei Georgiana (Universidad de Alcalá)
- 16:00 - 16:15** *Development of photoassisted processes with ilmenite for treating hospital wastewaters*, Gema Pliego (Universidad Autónoma de Madrid)
- 16:15 - 16:30** *HR- and SR-AOPs for micropollutants removal and disinfection of urban wastewater*, Jorge Rodríguez-Chueca (Universidad Rey Juan Carlos)
- 16:35 – 17:10** Coffee Break

Session 4 – Chair: María José López

- 17:15 - 17:45** *Monitoring strategies for micropollutants in a municipal wastewater treatment plant*, Bertram Kuch (University of Stuttgart)
- 17:45 - 18:00** *Removal of Antibiotics and Antibiotic Resistance Genes by Full-Scale Sulfate Radical Based Advanced Oxidation Processes*, Javier Marugán (Universidad Rey Juan Carlos)
- 18:00 - 18:15** *Microbial Electrogenic Technologies for the removal of emerging pollutants from wastewater*, Álvaro Pun (Universidad de Alcalá)
- 18:15 - 18:30** *Boosting the activity of magnetite for the CWPO of pharmaceuticals in environmentally-relevant water matrices*, Macarena Muñoz (Universidad Autónoma de Madrid)
- 18:30 - 18:45** *Perovskite materials for catalytic wet peroxide oxidation of carbamazepine in hospital wastewater matrix*, Ana Cruz (Universidad Rey Juan Carlos)

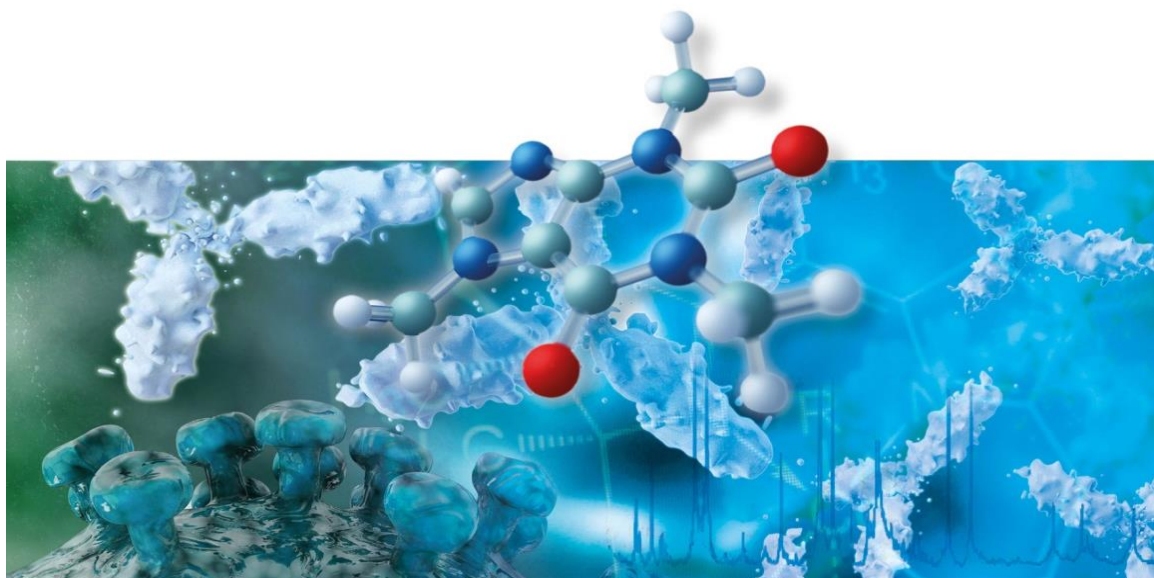
PROGRAM: Friday 24th Nov

Session 5 – Chair: Roberto Rosal

- 09:00 - 09:30** *Microbial Electrochemical Technologies (MET) and the energy-water nexus*, Abraham Esteve (Universidad de Alcalá)
- 09:30 - 09:45** *Photo-anaerobic membrane bioreactor for the treatment of synthetic wastewater contaminated with emerging pollutants by phototrophic bacteria*, Daniel Puyol (Universidad Rey Juan Carlos)
- 09:45 - 10:00** *Removal of pharmaceuticals from hospital wastewater using an activated sludge process*, Francisco Ojembarrena (Universidad Complutense de Madrid)
- 10:00 - 10:15** *Ecotoxicological effects of hospital treated wastewaters and pharmaceutical metabolites on *Daphnia magna* and *Chlorella vulgaris*: an integrated experimental approach*, Andrea Castano (IMDEA Water)
- 10:15 - 10:30** *Evaluation of emerging fungal, purple photobacteria and microalgae cultures for removal of pharmaceutically active compounds in hospital wastewater*, Raúl Molina (Universidad Rey Juan Carlos)
- 10:30 - 10:45** *Treatment of micropollutants by biologically-based technologies and other experiences*, Ángel Encinas (FCC Aqualia)
- 10:50 - 11:25** Coffee Break

Session 6 – Chair: Pedro Cano

- 11:30 - 13:30** *Training module on analysis of contaminants of emerging concern*, BRUKER (details in next page).
- 13:30 - 15:00** Lunch



TRAINING MODULE:

MASS SPECTROMETRY ANALYSIS OF CONTAMINANTS OF EMERGING CONCERN

Inside the Workshop on TECHNOLOGIES FOR MONITORING AND TREATMENT OF CONTAMINANTS OF EMERGING CONCERN, on **Friday 24th Nov**, there will be short training or introduction to the chromatographic and Mass Spectrometry techniques applied to emerging pollutants analysis.

In the facility the Mass Spectrometry URJC-Bruker Development Laboratory we will conduct a technical and practical session to introduce the techniques and services available for the environmental research network.

Based on the number of attendants, we will configure two parallel sessions covering the following topics:

Technical session:

- Brief Introduction to mass spectrometry in Environmental
- HPLC-MS, Techniques for polar contaminants
- GC-MS, a new future with innovative sample prep u-DROP.
- Services available from the URJC

Practical Session:

- Visit to the URJC-Bruker Mass Spectrometry Lab.
- Method: uDROP extraction technique
- Method: LC-MS Screening & Quantitation

Both will be done in parallel with split groups, from **11:30 to 13:30** in the CAT building in the URJC Campus.

Rooms and details will be posted later on.

For any additional information you can contact us in the mail: javier.marugan@urjc.es o pedro.cano@bruker.com