

**Nowelties’ Final Conference**

*New Materials and Inventive Waste Water Treatment Technologies.*

*Harnessing resources effectively through innovation*

**11-12 May 2022, Inter-University Centre Dubrovnik, CROATIA**





  

**CONFERENCE PROGRAMME**

**Wednesday, 11th May 2022**

 9:00 – 10:00 Registration

10:00 – 10:15 Welcome
10:15 – 11:00 **Christa McArdell,** EAWAG, Duebendorf, Switzerland

 *Advanced wastewater treatment: experience in Switzerland*

**SESSION 1. Advances in biological treatment of wastewater**

11:00 – 11:30 **Alette Langenhoff**, Wageningen University, the Netherlands

 *Biological treatment technologies for the removal of micropollutants*

11:30 – 12:00 Poster session / Coffee break

12:00 – 12:30 **Silvana Quiton-Tapia**, University of Santiago de Compostela, Spain

 Supervisors: Francisco Omil, Andreas Schaeffer, Sonia Suarez

*Evaluating antibiotic biotransformation during denitrification by heterotrophic and nitrite-driven anaerobic methane oxidation bacteria*

12:30 – 13:00 **Ana Paulina López**, RWTH Aachen University, Germany

 Supervisors: Andreas Schaeffer and Juan Lema

 *Thresholds for microbial degradation of wastewater contaminants: relationship between bioavailability and the onset of biodegradation*

13:00 – 13:30 **Edwin Antonio Chingate**, Technical University of Munich, Germany

 Supervisors: Jörg E. Drewes, Uwe Hübner, Maria Jose Farre

 *Transformation of sulfamethoxazole and atenolol by microbial community adapted to histidine*

13:30 – 15:00 Lunch

**SESSION 2: Progress in advanced oxidation processes (AOPs)**

15:00 – 15:30 **Urška Lavrenčič Štangar**, University of Ljubljana, Slovenia
*The effect of water matrix on photocatalytic degradation of bisphenols and pharmaceuticals*

15:30 – 16:00 **Amit Kumar**, Institute of Physics Belgrade, Serbia

 Supervisors: Nevena Puac, Wolfgang Gernjak

 *Wastewater treatment by using cold atmospheric plasma*

16:00 – 16.30 **Barbara Topolovec**, Catalan Institute for Water Research (ICRA), Girona, Spain Supervisors: Mira Petrovic, Paola Verlicchi, Nevena Puac

 *Degradation and of per- and polyfluorinated alkyl substances (PFAS) during plasma treatment*

16:30 – 17:00 Poster session / Coffee break

17:00 – 17:30 **Danilo Bertagna Silva**, Faculty of Chemical Engineering and Technology (FKIT), University of Zagreb, Croatia

 Supervisors: Sandra Babić, Gianluigi Buttiglieri

 *Application of UV-LEDs advanced oxidation processes for the efficient removal of organic micropollutants from water*

18:00 Welcome party and dinner

**Thursday, 12th May 2022**

**SESSION 3: New materials and application of nanotechnology in wastewater treatment**

10:00 – 10:30 **Adrian M. T. Silva**, University of Porto, Portugal

 *Carbon materials as catalysts in AOPs for water/wastewater treatment*

10:30 – 11:00 **Camilo Sánchez**, Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb

 Supervisors: Lidija Ćurković, Jelena Radjenovic

 *Microwave-assisted synthesis of N/TiO2/rGO and immobilization on alumina ceramic foam substrate for photocatalytic degradation of pharmaceuticals*

11:00 – 11:30 **Sabrina Rose de Boer**, University of Santiago de Compostela, Spain

 Supervisors: Maria Teresa Moreira, Andreas Schaeffer

 *Magnetic biocatalyst formulation with unspecific peroxygenase from Agrocybe Aegerita for antibiotic removal*

11:30 – 12:00 Poster session / Coffee break

12:00 – 12:30 **Francis dela Rosa**, Faculty of Chemical Engineering and Technology (FKIT), University of Zagreb, Croatia

 Supervisors: Hrvoje Kušić, Mira Petrovic

 *TiO2-based composite photocatalytic materials for solar driven water purification: Recent achievements, challenges and opportunities*

12:30 – 13:00 **Barbara Kalebić**, Faculty of Technology and Metallurgy, University of Belgrade, Serbia

 Supervisors: Nevenka Rajić, Lidija Ćurković, Nikola Skoro

 *Removal of ciprofloxacin using zeolite-based adsorbents: Adsorption kinetics, mechanism, and regeneration of the spent adsorbents*

13:00 – 13:30**Matej Kern**, Ruđer Bošković Institute, Zagreb, Croatia

 *Modeling the adsorption of emerging contaminants on carbon nanomaterials*

13:30 – 15:00 Lunch

**SESSION 4: Hybrid wastewater treatments**

15:00 – 15:30 **Jörg E. Drewes**, Technical University of Munich, Germany

 *Hybrid systems for wastewater treatment*

15:30 – 16:00 **Marina Gutierrez**, University of Ferrara, Italy

 Supervisors: Paola Verlicchi, Dragana Mutavdžić-Pavlović

 *Addition of activated carbon to an MBR: Strategies to improve micropollutants removal supported by statistical analysis and adsorption experiments*

16:00 – 16:30 **Michele Ponzelli**, Catalan Institute for Water Research (ICRA), Girona, Spain

 Supervisors: Jelena Radjenovic, Konrad Koch

 *The impact of graphene oxide on methane production kinetics*

16:30 – 17:00 Poster session / Coffee break

17:00 – 17:30 **Nebojša Ilić**, Technical University of Munich, Germany

 Supervisors: Jörg Drewes, Uwe Hübner, Gumersindo Feijoo

 *Fabrication of composite materials using MOFs to achieve super hydrophobic materials with exceptional adsorption performance towards PFAS*

17.30 – 18:00 **Nikoletta Tsiarta**, Catalan Institute for Water Research (ICRA), Girona, Spain

 Supervisors: Wolfgang Gernjak, Lidija Ćurković

 *Degradation of pharmaceuticals with heterogeneous catalytic ozonation-membrane filtration process using modified ceramic membranes*

18:00 End of conference

**18:30 City tour**

**Friday 13th May 2022**

**Management project meeting**

10:00 – 10:15 Mira Petrovic, overview of the overall progress of the project

10:15 – 12:00 Open discussion of ESRs progress, status of doctoral thesis, publications, and other activities

12:00 – 12:30 Planning of other activities, dissemination, outreach

12:30 – 13:00 AOB

Workhsop **What after Nowelties?**

15:00 – 15:30 Mira Petrovic, ICRA, Spain

 ***Career in science***

15:30 – 16:00 Laura Bertolini, ICRA, Spain

 ***How to prepare your own competitive proposal and where to submit it***

16:00 – 16:30 Lucia Gusmaroli, Catalan Water Partnership, Girona, Spain

 ***Career in business-oriented companies and research centres associations***

16:30 – 17:00 Tomislav Bolanca, Comprehensive Water Technology, Zagreb, Croatia

 ***Entrepreneurship after NOWELTIES***

17:00 Open discussion