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5TH | PERU

5th Iberoamerican Conference on Advanced Oxidation Technologies

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*The **5th Iberoamerican Conference on Advanced Oxidation Technologies (V CIPOA)**, was held in Cusco, Peru, from 7th to 11th November 2022.*

The goal of CIPOA conference is to gather scientists, scholars, and professionals to present their research findings and discuss future directions and opportunities concerning the fundamentals and application of Advanced Oxidation Technologies in the environmental, energy and climate sectors, towards a sustainable and carbon-neutral circular economy.

The meeting is an international forum of discussion on breakthrough science and technology on themes related to advanced oxidation processes (AOPs), electrochemical advanced oxidation processes (EAOPs), high-frequency ultrasound, ozonation processes, and their integration with other physical/chemical and biological processes. Additional topics of interest include techno-economic analysis of industrial and commercial processes for the treatment of soil, water, wastewater, and air. Emerging topics related to wastewater resources recovery, as also organic synthesis, H₂ generation and CO₂ photoreduction using photocatalytic/electrocatalytic routes are also welcome.

CIPOA meeting is also an appropriate time to renew contacts, exchange ideas and discuss problems of common interest. It is gratifying to note that the agenda of the V CIPOA covers a wide range of very interesting research fields relating to Advanced Oxidation/Reduction Technologies.

The V CIPOA conference contains invited lectures (plenary and keynotes), oral communications, short-oral communications (only for Ph.D. students) and poster communications.



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 - **Maria Clara Vieira Martins Starling**, Federal University of Minas Gerais (UFMG), Brazil
 - **Miguel Martín Somer**, University Rey Juan Carlos (URJC), Spain
 - **Osmin Avilés García**, Autonomous University of Mexico State (UAEM), Mexico
 - **Paula Brussino**, National University of Litoral (UNL), Argentina
 - **Pierre Giovanni Ramos Apestegui**, National University of Engineering (UNI), Peru
 - **Rodrigo Pereira Cavalcante**, University of Campinas (UNICAMP), Brazil
 - **Sandra Elizabeth Estrada Flórez**, University of Antioquia (UdeA), Colombia
 - **Sandra Yadira Mendiola Alvarez**, Autonomous University of Nuevo León (UANL), Mexico
 - **Tânia Filomena Castro Valente Silva**, Faculty of Engineering of the University of Porto (FEUP), Portugal

Plenary Speakers



CÉSAR PULGARÍN

SWITZERLAND

Emeritus Professor at École Polytechnique Fédérale de Lausanne.

Emeritus Prof. C. Pulgarín is active at the EPFL, the World's 12th engineering & technology University and 10th in chemistry where he led during 30 years a research group. His main research topics include the elucidation of mechanistic action mode of advanced oxidation processes (AOPs) towards chemical and biological pollutants in water and the design, preparation, and characterization of self-disinfecting Nano-surfaces. He has participated in twenty international projects in 4 continents including 8 from European Union. He has contributed to 277 Q1 level publications and the average IF of journals in which his papers were published between 2018 and 2020 is 13. His H index is 67 with 15'800 citations in Scopus and 76 with 21'600 citations in Scholar Google. He has several seminal scientific papers and is the 1st to 4th world most cited author in his research fields. Applied Catalysis B ((IF: 19.5) devoted in 2020 a special issue on his honor as he was at that moment the 4th most published author in this journal. He has been invited for a hundred key talks in congress and is a member of the scientific committee in the most important AOPs conferences. He participated in the development of two patents and two startups. He has been contributing during 30 years in the starter and development of AOPs research in Colombia. He has 100 scientific Q1 level papers with Colombian students and colleagues including the first Colombian papers in the field.

Talk: "Good practices for research and publication in Advanced Oxidation Processes" (Award for distinguished career/excellence in implementation and practice in the fields of CIPOA)



FLORINELLA MUÑOZ

ECUADOR

Rector of the National Polytechnic School.

Florinella Muñoz Bisesti was born in Quito (Ecuador) and she is a Chemical Engineer from the Escuela Politécnica Nacional (EPN), Quito, Ecuador. She obtained her PhD degree in Natural Sciences at the Ruhr-Universität Bochum, Germany in 1999. She has been a tenured professor at the Escuela Politécnica Nacional since 2000. In December 2018, she became the first woman to occupy the position of Rector of the Escuela Politécnica Nacional in almost 150 years of the universities' existence. In addition, she has held the Head of the Department of Nuclear Sciences from 2002 to 2016, the Directorate of Research and Social Projection during 2016, and she participated as a member of the Polytechnic Council between 2017 and 2018. Concerning her scientific activity in the field of Advanced Oxidation Processes, her main interest is related to the use of ozone in water treatment and she also explored the use of various Fenton processes and heterogeneous photocatalysis for the removal of contaminants resistant to biological degradation from water. Her scientific achievements include multiple scientific articles published in national and international journals.

Talk: “AOP: from teaching to scientific research with society and industry as the target” (Award for distinguished education and knowledge dissemination in the fields of CIPOA)



WILSON JARDIM

BRAZIL

Director of Innovative Projects, Venturo Consulting Company.

In the last 50 years, AOPs have been applied in many ways to treat air, soil, and water. Some processes became well established with clear benefits to our society. On the other hand, air treatment still must overcome many engineering barriers to be consolidated as an abatement conventional technology. In this talk I will present some case studies of success and unsuccess of AOPs that I had experienced during my academic life. Wilson F. Jardim, Director of Innovative Projects, Venturo Consulting Company, obtained his Ph.D. in 1983 at the University of Liverpool, UK. Retired in 2013 as Full Professor at the Chemistry Institute, State University of Campinas (UNICAMP), after supervising 28 M.Sc., 27 Ph.D., 8 Postdocs, published more than 130 scientific papers, 2 books, 7 patents and received many scientific prizes, including the Mercosul Prize in Science and Technology in 2006. Recently Dr. Jardim was listed as one of the 600 most influent researchers in Brazil according to Stanford University survey (Plos Biology 2020).

Talk: “Believe, there is life after retirement” (Award for distinguished scientific research in the fields of CIPOA)



JAVIER MARUGÁN

SPAIN

Full Professor at University of Rey Juan Carlos.

Dr. Javier Marugán is Full Professor of Chemical Engineering and Director of the Wastewater Treatment Plant and Water Analytical Laboratory (LAGUA) at Universidad Rey Juan Carlos (URJC, Spain). He has been visiting researcher at the Institut für Technische Chemie (Hanover University, Germany), Instituto de Desarrollo Tecnológico para la Industria Química (Santa Fe, Argentina), Plataforma Solar de Almería (Spain), School of Chemical Engineering and Advanced Materials (Newcastle University, UK), School of Engineering and Applied Sciences (Harvard University, USA) and Department of Civil and Environmental Engineering (Massachusetts Institute of Technology, USA). He has been working in photochemical processes for water treatment for more than 20 years, especially in the synthesis of catalytic materials, their application to the photocatalytic oxidation of pollutants and the inactivation of microorganisms, and the modelling and scaling-up of photocatalytic processes. His significant experience on the mechanistic modelling of disinfection processes and radiation transport inside photoactive systems has been the focus of participation as the lead investigator of URJC in the European Projects PCATDES, WATERSPOUTT (<http://www.waterspoutt.eu>) and PANI-WATER, and as coordinator of the Water JPI European Project MOTREM (<http://motrem.eu>) and the REWATERGY project (<http://rewatergy.eu>), an MSCA-ITN European Industrial Doctorate network where three academic and three industrial partners are training 8 PhD students developing industrial prototypes for different applications in the waterenergy nexus. His scientific outcome has been published in 10 book chapters, more than 115 articles in peer-reviewed international JCR journals and more than 200 contributions to scientific congresses.

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Talk: “Modeling radiation transport for the design of photochemical reactors for water treatment”



DESPO FATTA-KASSINOS

CYPRUS

Full Professor at University of Cyprus.

Dr. Despo Fatta-Kassinou is a Professor at the Department of Civil and Environmental Engineering of the University of Cyprus (UCY). With a Chemical Engineering background and further studies in Environmental management and education, her record includes more than 166 publications in refereed journals and more than 120 papers in international conferences. She is a Highly Cited Researcher since 2018. She has received various science awards and international recognition and she is a member of the advisory boards of various water / environmental research centers including ICRA and CRETUS in Spain and the Chair of the Advisory Board of the African Center of Excellence in Water and Environment Research. She is a founding member of the International Ph.D. School on Advanced Oxidation Processes. She has participated and coordinated numerous European, national, and regional research projects with a total budget of 11.5 million EUR. She is Editor of the Journal of Environmental Chemical Engineering, and Associate Editor of Water Research, Elsevier.

Talk: “Advanced oxidation and disinfection processes against antibiotic resistance-related contaminants present in wastewater”



SERGI GARCIA-SEGURA

USA

Full Professor at Arizona State University.

Dr. Sergi Garcia-Segura is currently an Assistant Professor at Arizona State University. He holds a B.S. degree in Chemistry from the University of Barcelona and a B.S. degree in Material Science Engineering from the Polytechnic University of Catalonia. He conducted a M.S. in electrochemistry science and engineering at the University of Alicante and completed his Ph.D. in Physical Chemistry at the University of Barcelona. Dr. Garcia-Segura research seeks to develop sustainable water treatment technologies by using nano-enabled photo-assisted and electrochemically driven catalytic processes. He has worked across four continents in multidisciplinary teams, aiming to ensure availability and sustainable management of water and sanitation for all. His contributions to the field of environmental electrochemistry (> 125 articles with h= 47) have been recognized by international awards including the Environmental Electrochemistry Prize of the International Society of Electrochemistry, the Green Talent Award from the German Federal Ministry of Education and Research, and the Elsevier International Society of Electrochemistry Prize for Applied Electrochemistry. He is an editorial board member of Chemosphere (Elsevier), Catalysts (MDPI), Sensors (MDPI), Water (MDPI), and Editor of Water Science & Technology (IWA).

Talk: “Decentralized electrochemical devices for water treatment”



GIOVANNI PALMISANO

UNITED ARAB EMIRATES

Associate Professor at
Khalifa University.

Giovanni Palmisano is an Associate Professor of Chemical Engineering, working mostly in the field of photocatalysis applied to water, environment, materials functionalization, and energy. He is the co-author of ca. 130 highly cited journal papers, eight patents, seven books and nine book chapters. He has been recipient of internal and external funding regularly, and winner of the ADEK Award for Research Excellence twice. In 2018 he received the Faculty Research Excellence Award granted by Khalifa University for the category "Associate Professor" of the College of Engineering. Since 2020 he is associate editor of the Journal of Environmental Chemical Engineering (Elsevier, I.F. 5.9). Recently he was listed among world's top 2% scientists by the Stanford University ranking (2020). In 2021 he has been granted the membership in the Mohammed bin Rashid Academy of Scientists under the "Engineering & Technology" category and in 2022 he was appointed theme lead of "Novel materials and nanomaterials for water application" at the Center for Membranes and Advanced Water Technology (CMAT) at Khalifa University.

Talk: "Photocatalytic H₂ generation and CO₂ reduction"



MARIA QUINTANA

PERU

Full Professor at National
University of Engineering.

Dr. María Quintana obtained her Ph.D. between Uppsala University (Sweden) and the National Engineering University (Peru), working about dye-sensitized solar cells. Following her doctorate, she did a postdoc at the Royal Institute of Technology in Stockholm, perfecting her knowledge on the subject. Her master's thesis in chemistry was done at the National University of Engineering, working in nanomaterials topic. After finishing her degree in Chemical Engineering, she worked in various mining companies in analytical chemistry. Currently, she is a research professor at the National University of Engineering and head of the Environmental Engineering career at the Cayetano Heredia Peruvian University. His research focuses on the area of nanomaterials for their environmental applications in the fields of renewable energy and water decontamination, having several publications as well as participation in international conferences.

Talk: "Natural Peruvian Dyes for Solar Cells"



DEIRDRE DUNNE

Deirdre has been working with Elsevier since 2002 in various Publishing roles within Life, Social and Physical Sciences. Currently she is the Executive Publisher responsible for the Chemical & Environmental Engineering flagship journals including Chemical Engineering Journal, Hazardous Materials and the Journal of Membrane Science. (d.dunne@elsevier.com). Knowing the best way to identify the most appropriate journal to send your paper to can be difficult but really helps to get your paper accepted. This talk aims to give participants a clear idea of the publishing landscape and provides detailed insights into identifying the right journal before starting to write a paper. Authors are also made aware of what aspects of their papers Editors and Publishers

ELSEVIER

Executive Publisher,
Chemical & Environmental
Engineering.

look at critically, and to ensure that in taking care of these areas,
their papers are much more likely to be accepted.



Keynote Speakers



JAEHONG KIM

USA

Full Professor at Yale University.

Jaehong Kim is currently Henry P. Becton Sr. Professor of Engineering and Department Chair of Chemical and Environmental Engineering in School of Engineering and Applied Science at Yale University. His areas of interest include: 1) environmental application of nanomaterials and single atom catalysts; 2) development of photoluminescence / photocatalysis technology for environmental and energy application; and 3) onsite synthesis of water treatment chemicals and catalytic advanced oxidation processes. Kim received B.S. and M.S. degrees in chemical and biological engineering from Seoul National University in Korea in 1995 and 1997, respectively, and a Ph.D. degree in environmental engineering from the University of Illinois at Urbana-Champaign in 2002. After graduation, he joined the School of Civil and Environmental Engineering at Georgia Institute of Technology where he later held the title of Georgia Power Distinguished Professor and Associate Chair for Undergraduate Programs until he moved to Yale University in 2013. He is a recipient of various awards including Walter L. Huber Civil Engineering Research Prize from ASCE (2013) and Paul L. Busch Award from WERF (2009). He is currently serving as an associate editor of a recently launched journal, ACS ES&T Engineering.

Talk: “Membrane-Confined Heterogeneous Advanced Oxidation



Rosa María Ramírez Zamora works currently as Senior Researcher in the Engineering Institute of UNAM. She authored more than 150 articles published in journals (52 with impact factor) and in international and national congresses, as well as book chapters on the application of advanced processes such as adsorption, catalysis, and photocatalysis for water and air treatment. She has eight national patents granted by the Mexican Institute of Industrial Property (IMPI) and two patent applications. She has developed about 35 projects for public and private organizations. Since 1999, she is a member of the National System of Researchers (Mexico). She has participated on several occasions as a scholarship evaluator, graduate program and CONACYT projects, and International journals. She is also an active member of the International Water Association (IWA), the Mexican Federation of Sanitary Engineering and Environmental Sciences, and the CYTED-Iberoamericana Network of Adsorbents for environmental protection.

Talk: “Metallurgical slags, and their modification, for the removal of recalcitrant compounds in water and wastewater: recent advances, and perspectives”



José Antonio Sánchez Pérez. Full Professor at the Department of Chemical Engineering, University of Almería, SPAIN. Director of the Solar Energy Research Center, CIESOL, joint center between the University of Almería and the Plataforma Solar de Almería-CIEMAT, director of the University Chair “Cátedra Aqualia del ciclo integral del agua” and secretary of the Spanish Board on Water Treatments (Sociedad META). 19 PhD thesis supervised in different fields such as biotechnology of microalgae, filamentous fungi fermentation and water treatment, 9 of them with University of Almería extraordinary prize and 3 prizes for the best PhD thesis on AOPs of the International PhD School on Advanced Oxidation Processes, years 2015, 2019 and 2020. More than 180 scientific publications in international journals (Scopus). He has been involved in 25 research projects (European and Spanish projects) and has led 13 of them. 12 Research contracts with private companies most of them related with the development of Solar Technologies applied to wastewater treatment. Main current research lines are solar photo-Fenton for microcontaminant removal and wastewater disinfection, photoreactors and wastewater reuse.

Talk: “Large-scale solar photo-Fenton continuous flow reactors for WWTP secondary effluent reclamation”



Márcia Dezotti brought her experience from the field of chemistry to the sciences of chemical engineering. She introduced relevant research topics for Brazil, such as emerging pollutants and innovated in the identification of the organic sub-products and in their association with biological processes, in addition to advanced biological processes. She has published in the best international journals and had outstanding performance in the training of MSc and DSc students. She conducted several projects in the environmental area (water and effluents treatment) with oil, petrochemical, chemical and pharmaceutical companies. She led many other projects with Brazilian research agencies (FAPERJ, CNPq, CAPES) and foreign universities (Spain, Portugal, France, Norway, among others). Prof Dezotti has published three books, two national and one international. The book, *Advanced Biological Processes for Effluent Treatment and Molecular Biology Techniques for the Study of Microbial Diversity*, 2011 is adopted in Brazilian graduate courses with great success and is a reference for several Brazilian research groups. The 3rd book was published by Springer, *Advanced Biological Processes for Wastewater Treatment – Emerging, Consolidated Technologies and Introduction to Molecular Techniques*, 2017. During her academic career, she received more than 30 awards (<http://lattes.cnpq.br/8152054984438197>). Other highlights are the Scientist of Our State, FAPERJ awards in 2006, 2009, 2015 and 2021, which is awarded to the best researchers in the State of Rio de Janeiro/Brazil. She was elected Full Member of the Brazilian Academy of Sciences in 2020 and Fellow of the TWAS in 2022 in recognition of her scientific production and its impact in Brazil.

Talk: “Biodegradation of ozonation by-products in a moving-bed biofilm reactor: evaluating the impact on nitrification and microbial community”



Fiderman Machuca-Martinez, Director of GAOX Group of the Universidad del Valle, obtained his Ph.D. in 1993 at the Industrial University of Santander (Colombia). He is Full Professor at the Chemical Engineering School of the Universidad del Valle (Colombia) since 2002, his interests are related to the application of catalysis in the development of processes and products with applications in energy, environment and health, as well as aspects of intellectual property and the transfer of knowledge to the productive sector. His academic record includes +150 undergraduate, 27 M.Sc., 14 Ph.D., 3 Postdocs, more than 100 scientific papers, 12 patents (Colombia, Mexico, Chile, USA, Brazil) and three National Scientific Prizes (2020, 2016) from the Professional Council of Chemical Engineering of Colombia for his work in industrial research with technology-based companies founded by students and best doctoral thesis.

Talk: “Opportunities of the advanced oxidation processes in the context of circular economy projects”



Joaquim Luís Faria is an Associated Professor with Aggregation at the Department of Chemical Engineering at the Faculty of Engineering of the University of Porto, Portugal. Prof. Faria graduated in 1993 with a Doctoral degree in Chemistry from the Technical University of Lisbon (now University of Lisbon) following the studies on Physical Organic Chemistry performed at the Max-Planck-Institut für Strahlenchemie (now Max-PlanckInstitut für Chemische Energiekonversion) in Mülheim a.d. Ruhr, Germany. Joaquim Faria got the title of Aggregate in Chemical and Biological Engineering by the University of Porto in 2020 with the lecture “Applied Photochemistry”. Prof. Faria is co-director of the Doctoral Program in Chemistry, a joint program between the Faculties of Sciences and Engineering of the University of Porto, a member of the Scientific Committee on the Master in Chemical Engineering, and a member of the Council of Chemical engineering Department. Since 1998 is an active member of the Portuguese Chemical Society, and presently he is Vice-President of this scientific institution. He has organized over 40 conferences, symposia, and meetings for the past 30 years. He has been actively involved in training graduate students with the successful supervision of 18 PhD Thesis. Prof. Faria’s outreach and dissemination activities in Chemistry and Chemical Engineering education have been very intense in the last years, with several programs dedicated to young students at various levels. In 2020 was awarded a prize Project on Pedagogical Innovation, inserted in the Program “Promoting Pedagogical Excellence” by the University of Porto. In 2021/22 launched at 28 the University of Porto the world acclaimed competition Three Minute Thesis (3MT®). His original research deals with applying chemical and photochemical principles to developing cutting-edge materials with catalytic and photocatalytic

properties for applications in the improvement of novel reactor design, engineering processes, environmental issues, advances in new energy vectors, and heterogeneous photocatalytic assisted synthesis. In 2005 he received the Scientific Prize of the Portuguese Association of Doctoral Studies in France (APDF) "Celestino da Costa / Jean Perrin". Prof. Faria is the author of 240-peer reviewed publications, editor of 8 books, and several other contributions, including editorials, news, interviews, and book reviews. He is currently the Scientific Coordinator of the R&D unit LSRE-LCM, the Laboratory of Separation and Reaction Engineering – Laboratory of Catalysis and Materials. He acts on the Board of Directors of ALiCE, the Associate Laboratory in Chemical Engineering, an R&D consortium of three R&D institutions (including LSRE-LCM) that is established to pursue national scientific and technological policy objectives. Prof. Faria also acts as the Thematic Line of Materials Coordinator in the ALiCE.

Talk: "Mechanistic and synthetic aspects of semiconductorassisted photocatalytic synthesis"

Round Table

WASTEWATER REUSE TOWARDS A CIRCULAR ECONOMY



DIONYSIOS DIONYSIOU
USA

Full Professor at University of Cincinnati.

Dr. Dionysios (Dion) D. Dionysiou is currently a Professor of Environmental Engineering and Science Program at the University of Cincinnati. He teaches courses and performs research in the areas of water quality, treatment, and monitoring. He is the author or co-author of over 600 refereed journal publications and his work received over 66,000 citations with an H factor of 131 (Google Scholar). Web Page 1: <https://dion-lab.weebly.com/> Web Page 2: <https://researchdirectory.uc.edu/p/dionysdd> Web Page 3: http://ceas.uc.edu/chemical-environmentalengineering/Dr_Dionysios_Dionysiou.html Professor Dionysiou is currently a Herman Schneider Professor of Environmental Engineering and has served as a UNESCO coChair Professor on "Water Access and Sustainability" at the University of Cincinnati. He teaches courses on drinking water quality, treatment and reuse, advanced unit operations for water treatment, advanced oxidation technologies, and physical/chemical processes for water quality control. Professor Dionysiou is leading several projects of local, state, national and international importance focused on water quality, treatment, reuse, and monitoring. His work encompasses surface water, groundwater, agricultural water, and industrial waters of complex mixtures. His research interests include (i) physical chemical processes for water treatment and water reuse, (ii) urban water quality, (iii) advanced oxidation processes, (iv) UV and solar lightbased remediation processes, (v) treatment of contaminants of emerging concern (i.e., PFAS, pharmaceuticals and personal care products, biotoxins, heavy metals, microplastics/nanoplastics), (vi) remediation of Harmful Algal Blooms/cyanotoxins, (vii) environmental nanotechnology, environmental catalysis, and nanosensing, (viii) water-energy/food (WEF) nexus, and (ix) water sustainability. Several of his current projects are focused on the treatment, sensing, and monitoring of cyanotoxins formed in freshwater aquatic systems such as Lake Erie and several inland lakes and rivers in Ohio.



Suresh C. Pillai obtained his PhD in the area of Nanotechnology from Trinity College Dublin, Ireland. He then performed his postdoctoral research at California Institute of Technology (Caltech), USA. Upon completion of this appointment, he returned to Trinity College Dublin as a Research Fellow before joining CREST-DIT as a Senior Scientist in April 2004. He has joined Atlantic Technological University in 2013 as a senior lecturer in nanotechnology and currently leads the Nanotechnology and Bio-Engineering Research Group. He is the recipient of the 'Boyle-Higgins Award-2019' from the Institute of Chemistry Ireland and 'Linus Pauling Lecture Award 2020' from Mahatma Gandhi

SURESH PILLAI

IRELAND

Full Professor at Atlantic
Technological University.

University, India. He is an elected fellow of the UK's Royal Microscopical Society (FRMS) and the Institute of Materials, Minerals and Mining (FIMMM). He has also completed an executive MBA from Dublin City University, in 2009. Suresh was responsible for acquiring more than €8 million direct R&D funding (overall funding €35 million). He has published several scientific articles in leading peer reviewed journals has contributed to several book chapters, has presented in more than hundred international conferences and has delivered over hundred international invited talks. Suresh has also been invited to deliver keynote/plenary speeches at various international conferences. He is the lead inventor in two granted US patents (awarded in 2013 and 2015) and one UK patent (awarded in 2015) and a number of international patents (pending). He is the editor for four published books (Springer-Nature, De Gruyter, IOP CRC-Taylor and Francis) and was the editor for a number of special issue journals. Currently, he is an executive editor for the Chemical Engineering Journal (Elsevier) and Results in Engineering (Elsevier) and an Editorial Board Member for the journal Applied Catalysis B (Elsevier). Prof. Suresh C. Pillai, PhD, MBA, FIMMM, FRMS Director, Health and Bio-Medical Centre & Head of Nanotechnology and Bio-Engineering Research Group, Atlantic Technological University ATU Sligo, Ash Lane, Sligo, F91 YW50, Ireland.

Talk: "Overview of the EU-India collaboration on water treatment technologies"

**SIXTO MALATO**

SPAIN

Full Professor at
Plataforma Solar de
Almería.

Full Professor at Plataforma Solar de Almería (CIEMAT, Spain). Co-Director of Joint Research Center (Univ. Almería-CIEMAT) of R&D in Solar Energy (CIESOL). <http://www.ciesol.es>. Head of Technical Services of Plataforma Solar de Almería. Scientific career based on R&D projects linked to water decontamination by advanced oxidation processes. Concretely, he has been involved in 28 International (3rd-7th, H2020 EU Framework Programmes) and 32 National R&D Projects related to the development of Solar Technologies for the treatment of industrial wastewater and the reuse of industrial and municipal water, as well as the photocatalytic production of hydrogen. Prof. Malato has organized as "chairman" the most important events in the area ("European conference on environmental applications of advanced oxidation processes, EAAOP" and "European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications, SPEA"). He has given seminars at universities around the world, from Argentina or Brazil, to China or Thailand. He is co-author of > 300 publications in indexed international journals, more than 350 contributions to different International Congress and Symposiums and 5 patents. He has participated as speaker in different specialized courses on Advanced Water Treatment. He has directed 18 PhD Thesis. More than 25000 citations since 1996. Scopus h-index: 82. Associated editor of scientific journals: Photochemical and Photobiological Sciences, Environmental Chemistry Letters and Catalysis Today. Award Jaime I in Environmental Protection, 2011 (Most important in science in Spain). <http://www.fvea.es/medioambiente.html>



LUIGI RIZZO
ITALY
Full Professor at University
of Salerno

Luigi Rizzo is Associate Professor in Sanitary and Environmental Engineering at University of Salerno (Italy). He is Coordinator of the “International PhD School on Advanced Oxidation Processes”, external expert of European Commission Scientific Committee SCHEER (former member of SCENIHR). He is editor of “Water Science and Technology” journal, associate editor of the “Journal of Environmental Chemical Engineering”. His main research interest is water/wastewater treatment by advanced oxidation processes (AOPs). He published 152 papers: 109 in “peer review indexed journals”, 23 in proceedings of international conferences, 14 book chapters and 5 in proceedings of national conferences (8426 citations and 46 h-index in SCOPUS). He is co-editor of 3 books. He was ranked 82th (out of 77304) for the category Environmental Science according to the “Top 100.000 scientists (2020)” Stanford’s rank.

Talk: “Wastewater reuse in Italy: main obstacles and DSWAP project contribution”



DAPHNE HERMOSILLA
SPAIN
Associate Professor at
Universidad Politécnica de
Madrid.

Daphne Hermosilla, PhD, is Associate Professor at the Department of Forest and Environmental Engineering and Management at the School of Forest and Natural Environment Engineering of “Universidad Politécnica de Madrid” (Spain). She has developed her scientific career in the development and implementation of water and wastewater treatment technologies, including water reclamation and reuse initiatives, rainwater reuse in urban environments, the closure of water circuits in industry, and the design of advanced water treatments, with a particular interest on the removal of emerging and priority pollutants and the development of other waste valorization strategies in the frame of fostering a more sustainable development applying the principles of the circular economy and industrial symbiosis. She has devoted a special research effort in the development of advanced oxidation processes, and their efficient combination with other treatment technologies. She holds a wide scientific expertise, as denoted by her publications, her contributions to scientific symposia, and her participation in several important related research initiatives and committees.

Talk: “Wastewater Reuse Towards a Circular Economy: Situation in Spain”



CAMILA AMORIM
BRAZIL
Full Professor at Federal
University of Minas Gerais.

Prof. Camila Amorim is an Environmental Engineer with a PhD degree in Sanitation, Environment and Water Resources (Federal University of Minas Gerais, Brazil). Since 2010, Dr. Amorim is a Professor at the Department of Sanitary and Environmental Engineering/UFGM where she is involved with teaching (undergraduate and graduate levels) and research activities. Dr. Amorim is the head of the Research Group on Environmental Application of Advanced Oxidation Processes GruPOA since 2011. As a leader, she guides research on the development and application of different advanced oxidation processes applied to water and wastewater (domestic and non-domestic, including hospital effluents) treatment focusing on disinfection, removal of antimicrobial resistant bacteria and genes as well as contaminants of emerging concern (CEC) to improve effluent quality for reuse in agriculture. Prof. Amorim was the Conference Chair of II CIPOA-Iberoamerican Congress of Advanced Oxidation, which was held in Belo Horizonte in 2016. Since 2010, 18 members of her research group have successfully completed their Master’s studies and 8 members have successfully achieved their PhD degrees

under her supervision. In the last 10 years, she has published 50 articles in research journals and 110 abstracts in event.

Talk: “Challenges Associated to Wastewater Treatment and Reuse in Brazil”



RICARDO TORRES-PALMA
COLOMBIA Full Professor
at University of Antioquia.

Prof. Ricardo A. Torres-Palma is graduated in Chemistry and Master in Chemistry by Universidad del Valle, Colombia. From 1999-2002, he was awarded with the Scholarship for Foreign Students at the EPFL (Switzerland). In 2007, he received the PhD in Chemistry from the University of Savoie in France. From 2009-2011, he was post-doctoral re-researcher in Chemical Engineering and Applied Chemistry at the University of Toronto (Canada). He is head of the Research Center at the Faculty of Exact and Natural Sciences of Universidad de Antioquia, leader of the Research Group on Environmental Remediation and Biocatalysis and Editor of the journal Environmental Science and Pollution Research (Springer). He has dedicated his scientific life to the understanding and development of water treatment systems through electrochemical, photochemical, and sonochemical processes, among others. He acts as an expert evaluator of the National Accreditation Council of the Ministry of National Education. He has been also a Guest Editor for Applied Catalysis B: Environmental, Journal of Hazardous Materials and ECS Transactions. He has been part of the scientific committee of renowned international congresses such as European Conference on Environmental Applications of Advanced Oxidation Processes, Asia- Oceania Sonochemical Society Conference, Iberoamerican Conference on Advanced Oxidation Technologies, and European meeting on Solar Chemistry and Photocatalysis: Environmental Applications. He has been awarded as the most outstanding Afro-Colombian of the last decade in the academy. Currently, he is also President of the Electrochemical Society in Colombia and Coordinator for Latin America of the International PhD School on advanced oxidation processes.

Talk: “Wastewater Reuse Towards a Circular Economy: Situation in Colombia”



SALOMÉ SOARES
PORTUGAL
Auxiliary Researcher at
University of Porto.

Salomé Soares graduated in Chemical Engineering by Porto Superior Institute of Engineering in 2003. In 2006 she received the Master diploma in Environmental Engineering at the Faculty of Engineering of University of Porto and obtained the PhD diploma in Chemical and Biological Engineering at the same Faculty in December 2010. From 2011 to 2016 she was a Postdoctoral researcher at Associate Laboratory LSRE/LCM host by FEUP. Since July 2016, she is an auxiliary researcher of LSRE/LCM. From September 2010 to February 2014 she was tutorial assistant of the subject Algebra of the Integrated Master in Chemical Engineering. Since 2014 she has been lecturing in the Integrated Master in Environmental Engineering at FEUP. During her PhD and Postdoctoral period, she visited the Universities of Alicante and Cadiz (Spain) to perform characterization of catalysts. Her background is in the field of Chemical and Environmental Engineering, focused on heterogeneous catalysis. Her current research focus is the development of novel nanostructured materials in powder form, for different applications (air and water treatment, energy conversion) and also of structured catalysts in the monolith form. She co-authored more than 220 publications, including 75 ISI indexed papers, 1 book chapters, 1 book of abstracts, 1 international patent, and more than 145

communications in conference proceedings. She was guest-editor of 2 special issues. She received a Prize from Fundação Eng. António Almeida for the best doctoral thesis of 2010 due their originality, high scientific merit and socio-economic potential and in 2017 she was awarded by FEUP with the Scientific Recognition Prize, among other prizes. She has been a team member of several National and European projects. She is regularly involved in the supervision of MSc and PhD students and fellow researchers, and in the organization of scientific conferences and other events for diffusion of science to the society.

Talk: "Wastewater Reuse Towards a Circular Economy: Situation in Portugal"

Conference Programme:

Monday, 7 November 2022

		PAGE
15:30 - 17:00	REGISTRATION	
17:00 - 17:25	OPENING CEREMONY	
	MAIN AUDITORIUM MACHUPICCHU	
	<i>Jessica Nieto-Juárez, Conference Host and Chair, National University of Engineering, Peru</i>	
	<i>Vítor Vilar, CIPOA Coordinator, Faculty of Engineering of the University of Porto, Portugal</i>	
17:25 - 17:45	SENIOR RESEARCHERS AWARDS CEREMONY	
	<i>Jessica Nieto-Juárez, Conference Host and Chair, National University of Engineering, Peru</i>	
	<i>Vítor Vilar, CIPOA Coordinator, Faculty of Engineering of the University of Porto, Portugal</i>	
	<i>José Guimarães, State University of Campinas, Brazil</i>	
	<i>Ricardo Torres-Palma, University of Antioquia, Colombia</i>	
	<i>Paul Vargas Jentzsch, National Polytechnic School, Ecuador</i>	
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	AOP: from teaching to scientific research with society and industry as the target	
	<i>Florinella Muñoz, National Polytechnic School, Ecuador</i>	
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	Believe, there is life after retirement	
	<i>Wilson Jardim, Venturo Consulting Company, Brazil</i>	
	Introduced by: José Guimarães, State University of Campinas, Brazil	78

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Tuesday, 8 November 2022

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	<p>Good practices for research and publication in Advanced Oxidation Processes</p> <p>César Pulgarín, <i>École Polytechnique Fédérale de Lausanne (EPFL), Switzerland</i></p> <p>Introduced by: Ricardo Torres-Palma, University of Antioquia (UdeA), Colombia</p>	79
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POSTER SESSION I

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PC-009	Solar-driven versus Fenton-based processes: a screening investigation for progestin degradation and estrogenic activity evaluation	J. M. S. de Jesus, A. S. Argolo, E. Almeida, <u>Bruno Ramos</u> , D. M. Bila, A. C. S. C. Teixeira	Brazil	220
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PC-011	Sustainable treatment of wastewaters generated at a chemotherapy unit through the sequential use of microbial fuel cells and constructed wetlands	<u>Carlos A. Lutterbeck</u> , G.S. Colares, E.L. Machado, L.H.R. Rodrigues	Brazil	224
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PC-080	The comparison of photoPersulfate and photo-Fenton at high temperature for the treatment of landfill leachate	<u>Jefferson E. Silveira</u> , J. Carbajo, A. R. Ribeiro, W. S. Paz, J. Zazo, J. Casas	Spain	362
PC-081	UVC-LED assisted photo-Fenton system operated in continuous flow for water reclamation meeting EU 2020/741 regulation	<u>José L. Casas López</u> , D. Rodríguez-García, P. Soriano-Molina, J. L. Guzmán, J. L. García Sánchez, J. A. Sánchez Pérez	Spain	364
PC-082	In-Farm Remediation by Solar Photocatalysis of Agro-wastewater with Pesticides from Remnants, Cleaning and Rinse	I. Garrido, C. M. Martínez, F. Contreras, P. Flores, P. Hellín, <u>José Fenoll</u>	Spain	366
PC-083	Solar Photo-Fenton Based on the Concurrent Supply of H ₂ O ₂ and NaOCl for Bacteria, Virus and Microcontaminant Removal	<u>José A. Sánchez Pérez</u> , S. Belachqer-El Attar, N. Pichel, P. Soriano-Molina	Spain	368
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PC-085	Evaluation of Rose Bengal dyed Polyamide Fabrics in the Disinfection of Wastewaters under visible light.	P. Moya, J. Flores, A. Blázquez-Moraleja, M. Bonet-Aracil, F. Bosca, <u>María L. Marin</u>	Spain	372
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PC-087	Study of Norfloxacin Degradation Under Light Exposure Using SbSnO ₂ Ceramic Anodes Coated by a Layer of a BiFeO ₃ Photocatalyst	<u>Montserrat GarcíaGabaldón</u> , C. Domingo-Torner, A. Balseviciute, M. C. Martí-Calatayud, S. Mestre, V. Pérez-Herranz	Spain	376
PC-088	Decontamination of WWTP Effluents by UVC-Assisted Tertiary Treatments	<u>Rubén López Timoner</u> , L. Santos-Juanes, A. Amat, E. Zuriaga, J. Climent, A. Arques	Spain	378

Wednesday, 9 November 2022

08:45- 09:30	PLENARY LECTURE	
	MAIN AUDITORIUM MACHUPICCHU	
	Photocatalytic H ₂ generation and CO ₂ reduction Giovanni Palmisano , Khalifa University, United Arab Emirates Introduced by: Juan Matos Lale, Autonomous University of Chile, Chile	83
09:30- 10:30	PARALLEL SESSIONS: ORAL COMMUNICATIONS	

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	<i>Chaired by: Giovanni Palmisano</i>	
09:30 - 09:45	Juan Murillo Sierra (Chile) Effect of operation conditions in the continuous-flow photocatalytic reduction of CO ₂ using WO ₃ /ZnS Z-scheme <i>Authors: J. C. Murillo-Sierra, A. Hernández-Ramírez, A. MartínezHernández</i>	381
09:45 -10:00	Tânia Silva (Portugal) Thermo-photocatalytic CO ₂ methanation at low temperature using RuO ₂ doped TiO ₂ incorporated in SBA-15 <i>Authors: L. Paulista, A. Ferreira, B. Castanheira, Đ. Maja, R. Martins, R. Boaventura, V. J. P. Vilar, T. Silva</i>	383
10:00 - 10:15	Christiane A. Rodrigues (Brazil) Selective conversion of CO ₂ into oxygenated carbon products on a Ti-O-Cu nanotube system modified by UiO-66 (Zr) nanoparticles <i>Authors: J. De Almeida, I. Disigant, R. Bertazzoli, C. A. Rodrigues</i>	385
10:15 - 10:30	Kamila Kočí (Czech Republic) Hydrogen production from methanol-water mixture over NiO/TiO ₂ nanorods structure photocatalysts <i>Authors: K. Kočí, M. Filip Edelmannová, H. Wang, H. Jiang , L. Čapek</i>	387

	AUDITORIUM 2: PISAQ	
	<i>Chaired by: Ricardo Torres-Palma</i>	
09:30 - 09:45	Luigi Rizzo (Italy) Treatment of landfill leachate by advanced oxidation, air stripping and activated sludge processes: a bacterial community analysis <i>Authors: L. Rizzo, M. De Carluccio, R. Sabatino, E. M. Eckert, A. Di Cesare, G. Corno</i>	389
09:45 -10:00	Isabel Espinoza Pavón (Ecuador) Removal of phthalic acid by Fenton, heterogeneous Fenton, homogeneous sono-Fenton, and heterogeneous sono-Fenton <i>Authors: I. Espinoza Pavón, E. Laverde-Cerda, C. Sandoval Pauker, L. Ramos Guerrero, R. Santos, P. Vargas Jentzsch, F. Muñoz Bisesti</i>	391

10:00 - 10:15	Lourdes Hurtado Alva (Mexico) Metallic foams as catalyst support for the solar hydrogenation of CO ₂ <i>Authors: L. Hurtado, A. Mohan, U. Ulmer, R. Natividad, A. Tountas, T. Torres and G. A. Ozin</i>	393
10:15 - 10:30	Suresh Pillai (Ireland) Integration of SODIS technologies for the effective disinfection and decontamination of drinking water: Microbicidal efficacy and toxicity <i>Authors: S. C. Pillai, K. O'Dowd, I. Oller, M. I. Polo-López, J. Marugán, H. Gómez-Couso, K. G. McGuigan</i>	395
AUDITORIUM 3: TIPON		
<i>Chaired by: Regina Moreira</i>		
09:30 - 09:45	Victor Montesinos (Argentina) Photocatalytic NO _x removal with TiO ₂ -impregnated 3D-printed PET supports <i>Authors: V. N. Montesinos, G. F. Binetti Basterrechea, N. Quici</i>	397
09:45 - 10:00	Claudia Espinosa González (Mexico) TiO ₂ -Al ₂ O ₃ -GnPs compound containing industrial grade GnPs, and its application in the Diuron photocatalytic degradation <i>Authors: C. G. Espinosa-González, A. J. Zurita-Yduarte, A. CervantesUribe, U. A. Sierra-Gómez, G. J. Labrada-Delgado, S. Fernández-Tavizón, P. J. Herrera-Franco</i>	399
10:00 - 10:15	Lucia Mascaro (Brazil) Cu-BiVO ₄ photocatalyst synthesized by microwave for photocatalytic reduction of CO ₂ <i>Authors: L. H. Mascaro, P. G. Corradini, B. S. Salvati, S. F. Blaskiewicz, B. C. e S. Menezes, M. V. B. Zanoni, J. F. Brito</i>	401
10:15 - 10:30	Inmaculada Ortiz Uribe (Spain) rGO/TiO ₂ composite immobilization onto nafion membranes for photocatalytic hydrogen production <i>Authors: I. Ortiz, E. Pérez, J. Corredor, M.J. Rivero</i>	403

10:30 - 10:50	COFFEE-BREAK	
10:50 - 11:25	KEYNOTE LECTURE	
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	Membrane-confined heterogeneous advanced oxidation Jaehong Kim, Yale University, USA Introduced by: Sergi García-Segura, Arizona State University, USA	97
11:25 - 12:00	KEYNOTE LECTURE	
	MAIN AUDITORIUM MACHUPICCHU	
	Biodegradation of ozonation by-products in a moving-bed biofilm reactor: evaluating the impact on nitrification and microbial community Márcia Dezotti, Federal University of Rio de Janeiro, Brazil	

	Introduced by: Renato Dantas, University of Campinas, Brazil	
12:00 - 12:15	GROUP PHOTO - V CIPOA	
12:15 - 14:00	LUNCH	
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	Advanced oxidation and disinfection processes against antibiotic resistance-related contaminants present in wastewater Despo Fatta-Kassinou , <i>University of Cyprus, Cyprus</i>	85
	Introduced by: Dionysios Dionysiou, University of Cincinnati, USA	
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	<i>Chaired by: Despo Fatta-Kassinou</i>	
09:15 - 09:30	Alexandra Ribeiro (<i>Portugal</i>) Electro-assisted technologies applied upstream and downstream of contamination sources - Application potential <i>Authors: A. B. Ribeiro, N. Couto, A. R. Ferreira, P. Guedes, E. P. Mateus</i>	406
09:30 - 09:45	Olivier Lefebvre (<i>Singapore</i>) Electrochemical mineralization of real pharmaceutical wastewater streams enriched with antibiotics <i>Authors: O. Garcia-Rodriguez, T. Tan, N. Harjoko, J. Imbrogno, T. Swenson and O. Lefebvre</i>	408
09:45 - 10:00	Ana Rey (<i>Portugal</i>) Electrochemical treatments for cork bleaching wastewaters <i>Authors: A. Rey, D. Cortez, J. R. Silva, R. M. Quinta-Ferreira, L. M. Castro</i>	410

10:00 - 10:15	Francisca Moreira (Portugal) The e-NETmix: A pioneering electrochemical flow reactor with a novel network static mixer <i>Authors: F. C. Moreira, T. F. C. V. Silva, V. J. P. Vilar, R. A. R. Boaventura, D. F. S. Morais, M. M. Dias, A. E. Rodrigues</i>	412
10:15 - 10:30	Paul Vargas Jentzsch (Ecuador) Assessment of the quality of treated water using zebrafish: Can this strategy be applied to effluents from AOPs-based treatments? <i>Authors: P. Vargas-Jentzsch, T. Cabascango, K. Ortiz, C. Sandoval-Pauker, I. Espinoza-Pavón, A. Ramoji, J. Popp, J. Pérez, C. M. Pinto, J. L. Rivera-Parra, F. Muñoz-Bisesti, M. B. Aldás, C. V. M. Araújo</i>	414

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09:30 - 09:45	Ana Lopes (Portugal) AO7 photoelectrocatalytic oxidation under visible light at SrTi _{1-y} Fe _y O ₃ perovskite electrodes <i>Authors: A. Lopes, M. J. Nunes, M. J. Pacheco, L. Ciriaco</i>	418
09:45- 10:00	Sandra Arzate Salgado (Mexico) Electrochemical peroxidation or heterogeneous photo Fenton to remove recalcitrant organic matter in water for human consumption <i>Authors: S. Arzate, A. Martín-Domínguez, R. M. Ramírez-Zamora, M. L. Rivera-Huerta, S. Pérez-Castrejón, M. Piña-Soberanis, A. GonzálezHerrera, L. M. Herrera-Ibarra, J. A. Bañuelos-Díaz</i>	420
10:00 - 10:15	Virgínia Ferreira (Portugal) Photocatalytic hybrid materials based on fibres and manganese-doped semiconductor nanoparticles <i>Authors: V. C. Ferreira, I. V. Ferreira, N. R. Neng, O. C. Monteiro</i>	422
10:15 - 10:30	Dimitra Lambropoulou (Greece) Photocatalytic performance of buoyant TiO ₂ -immobilized poly(ethylene terephthalate) beads for pharmaceuticals removal <i>Authors: D. A. Lambropoulou, N. M. Ainali, N. Malesic, E. N. Evgenidou, D. N. Bikiaris</i>	424

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	<i>Chaired by: Dionysios Dionysiou</i>	
09:15 - 09:30	Annabel Fernandes (Portugal) Electrochemical treatment of industrial solid waste landfill leachate <i>Authors: A. Fernandes, R. Silva, L. Ciriaco, M. J. Pacheco, A. Lopes</i>	426
09:30 - 09:45	Orlando Garcia-Rodriguez (Singapore) Mineralization of cloxacillin by electrochemical processes via hydroxyl radicals, evaluation of degradation by-products and toxicity <i>Authors: O. Garcia-Rodriguez, Z. H. Goh, K. S. Yeo, H. Jiang, R. Muzzi, J. Imbrogno, T. Swenson, O. Lefebvre</i>	428
09:45- 10:00	Olinda Monteiro (Portugal) Impact of diethylenetriamine sensitization on photocatalytic properties of TiO ₂ and titanate nanotubes for pollutants removal <i>Authors: O. C. Monteiro, B. T. Barrocas, M. C. Oliveira</i>	430
10:00 - 10:15	Patricio Espinoza-Montero (Ecuador) Photoelectrocatalytic Degradation of Diclofenac on Boron-Doped Diamond Electrode Modified with Titanium Dioxide as a Photoanode <i>Authors: P. J. Espinoza-Montero, C. Sigcha-Pallo, J. M. PeraltaHernández, L. Fernández</i>	432

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10:55 - 11:00	Edith Alvarez Aguiñaga (Mexico) Photocatalysis of dotarem: Assessing the effect of the photocatalyst on the conversion pathway <i>Authors: E. A. Alvarez-Aguiñaga, M. P. Elizalde-González, L. E. García-Díaz, S. A. Sabinas-Hernández</i>	482
11:00 - 11:05	Rubi Casimiro Chavez (Mexico) Enhancement of the oxidant production in a reactor divided by an anion exchange membrane <i>Authors: R. Casimiro-Chávez, P. Mijaylova Nacheva, I. Robles, I. MonjeRamírez</i>	486
11:05 - 11:10	Kourosh Nasr Esfahani (Spain) Mathematical modelling of microcontaminants removal by Fe ³⁺ -EDDS complex photo-activation <i>Authors: K. Nasr Esfahani, A. Cabrera Reina, S. Miralles-Cuevas, M. PérezMoya, M. Graells</i>	500

11:10-11:15	María Salazar Lopez (Mexico) Comparative study of the electro-Fenton process: homogeneous and heterogeneous by means of rotary disk-ring electrode (RRDE) <i>Authors: M. L. Salazar, I. Robles, L. A. Godinez</i>	484
11:15 -11:20	Diego Montenegro Apraetz (Colombia) Applications of activated carbon in advanced oxidation process <i>Authors: D. Montenegro, F. Machuca-Martinez</i>	476
11:20 - 11:25	Andreia Santos (Portugal) Characterization of silica, spongin, and chitosan as carrier material for heterogeneous photosensitization with ZnPcS ₄ <i>Authors: A. D. Santos, E. Pinho, P. Reis, R. C. Martins, M. Gmurek, A. Nogueira, S. Silva, L. M. Castro, R. M. Quinta-Ferreira</i>	490

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<i>Chaired by: Christiane Rodrigues and Tamara Benzaquen</i>		
10:50 - 10:55	Antía Fernández Sanromán (Spain) Design and optimization of a heterogeneous electro-Fenton process for the treatment of wastewater with emerging contaminants <i>Authors: A. Fernandez-Sanroman, M. Groba, M. Pazos, E. Rosales, M. A. Sanromán</i>	496
10:55 - 11:00	Laura Paredes-Quevedo (Colombia) Photocatalytic oxidation of glycerol to produce dihydroxyacetone and other products of higher industrial value <i>Authors: L. C. Paredes-Quevedo, N. Rojas, G. Hincapié-Triviño and M. Velásquez</i>	480
11:00 - 11:05	Alba Hernández Zanoletty (Spain) Disinfection of secondary wastewater effluents by Rose Bengal immobilized in glass wool <i>Authors: I. Polo-López, A. Hernández-Zanoletty, I. Oller, S. Malato, J. Flores, M. L. Marín, F. Boscá</i>	494
11:05 - 11:10	Marcela Paredes Laverde (Colombia) Activation of peroxymonosulfate (PMS) by a novel and efficient biochar from rice husk applied to eliminate pharmaceuticals <i>Authors: M. Paredes-Laverde, J. Romero-Hernandez, J. Porras, N. Acelas, R. A. Torres-Palma</i>	478
11:10-11:15	Pâmela Vilela (Brazil) Application of solar photo-Fenton in CPC reactor for the removal of ARB and ARGs from MWWTP effluent <i>Authors: P. B. Vilela, M. C. V. M. Starling, C. C. Amorim</i>	468
11:15 -11:20	Aline Dória (Brazil) Influence of heating method of ternary anodes on the electrochemical properties and catalytic activity toward thiamethoxam oxidation <i>Authors: A. R. Dória, C. Sáez, L. A. M. Ruotolo, G. R. Salazar-Banda, K. I. B. Eguiluz</i>	472

11:20 - 11:25	Patrícia Reis (Portugal) Optimization of Fenton process conditions in winery wastewater treatment followed by ion exchange process to recover iron <i>Authors: P. Reis, J. Rodrigues, L. M. Gando-Ferreira, R. M. Quinta-Ferreira</i>	492
AUDITORIUM 3: TIPON		
<i>Chaired by: Fiderman Machuca and Bernardo Frontana-Uribe</i>		
10:50 - 10:55	Leticia Costa (Brazil) Persulfate electrogenerated at boron doped diamond electrodes as exsitu oxidation approach: storage and service-life solution parameters <i>Authors: L. G. A. Costa, D. R. Silva, C. A. Martinez-Huitile, E. V. Dos Santos</i>	470
10:55 - 11:00	Andre Luna Magdaleno (USA) Application of electrochemically driven processes for the removal of industrial dye wastewater <i>Authors: A. L. Magdaleno, A. J. dos Santos, M. R. V. Lanza, S. GarciaSegura</i>	502
11:00 - 11:05	Mónica Hernández Laverde (Colombia) AgBr coupled with WO ₃ , TiO ₂ and SnO ₂ with high effectiveness in the treatment of crop irrigation water <i>Authors: M. Hernández-Laverde, J. J. Murcia, F. Puga, J. A. Navío, M. C. Hidalgo</i>	474
11:05 - 11:10	Alejandro Aranda Aguirre (Peru) Mixed metal oxide BiVO ₄ /Bi ₂ MoO ₆ thin films for the photoelectrocatalytic water oxidation <i>Authors: A. Aranda, E. Pastrana Alta, H. Alarcón</i>	488
11:10-11:15	Gabriel Cerrón Calle (USA) Electrochemical persulfate activation using Cu/CuO 3D electrodes for refractory pollutant degradation <i>Authors: G. Cerrón-Calle, A. J. Dos Santos, M. R. V. Lanza, S. Garcia-Segura</i>	504
11:15 -11:20	Guenther Viana (Brazil) Production, characterization and application of heterogeneous photocatalyst from spent alkaline batteries <i>Authors: G. C. C. Viana, E. M. R. Rocha, I. R. D. Leite, C. C. Amorim, E. Scapin</i>	466
11:20 - 11:25	Carmen Barquin Diez (Spain) Comparative kinetics of adsorbable and non-adsorbable chlorinated pollutants on TiO ₂ /rGO photocatalyst <i>Authors: C. Barquín, M. J. Rivero, I. Ortiz</i>	498
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	Metallurgical slags, and their modification, for the removal of recalcitrant compounds in water and wastewater: recent advances, and perspectives Rosa Ramírez Zamora , <i>National Autonomous University of Mexico, Mexico</i> Introduced by: Sandra Arzate Salgado, National Autonomous University of Mexico, Mexico	99
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	Modeling radiation transport for the design of photochemical reactors for water treatment Javier Marugán , <i>University of Rey Juan Carlos, Spain</i> Introduced by: Cíntia Soares, Federal University of Santa Catarina, Brazil	87

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15:15 - 15:30	Maria Satuf (Argentina) Kinetic modeling of a binary mixture of water pollutants in a photocatalytic microreactor <i>Authors: M. L. Satuf, A. L. Eusebi, C. L. A. Berli, M. V. Martin</i>	436
15:30 - 15:45	Cíntia Soares (Brazil) NETmix milli-photocatalytic reactor modeling: Evaluation of illumination systems composed of LEDs with distinct view angles <i>Authors: T. Matiazzo, V. J. P. Vilar, N. Padoin, C. Soares</i>	438

15:45 - 16:00	María Ayude (Argentina) A comprehensive model for assessing the performance of a continuous heterogeneous Fenton-type upflow fixed bed reactor <i>Authors: M. A. Ayude, S. Napoleone, S. Fleite, L. Doumic, M. Cassanello</i>	440
16:00 - 16:15	Natan Padoin (Brazil) Ray-tracing simulation as an optimization method of photomicroreactors <i>Authors: G. Xavier de Oliveira, C. Soares, N. Padoin</i>	442

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14:45 - 15:00	Cintia Casado (Spain) Evaluation of photochemical water disinfection systems by integration of particle tracking into kinetic models for microbial inactivation <i>Authors: C. Casado, V. Yunta, J. Marugán</i>	444
15:15 - 15:30	Omotayo Arotiba (South Africa) Photo-electro-Fenton degradation of aspirin in wastewater on a coupled perovskites photoanode and magnetite modified carbon-felt cathode <i>Authors: C. Muzenda, O. V. Nkwachukwu, O. A. Arotiba</i>	446
15:30 - 15:45	Hugo Olvera-Vargas (Mexico) Sequential electrochemical treatment of cheese wastewater with phosphorous recovery and microalgae biomass production <i>Authors: H. Olvera-Vargas, D. M. Arias-Lizarraga, P. Olvera-Vargas.</i>	448
15:45 - 16:00	Juan Matos (Chile) Nanostructured $K_xNa_{1-x}NbO_3$ hollow spheres as potential materials for the photocatalytic treatment of polluted water <i>Authors: J. Matos, F. R. Praxedes, M. A. L. Nobre, P. S. Poon, S. Lanfredi</i>	450
16:00 - 16:15	Dionysios Dionysiou (USA) The evaluation of UV/sodium percarbonate initiated degradation of bisphenol A in water: Kinetics, mechanism, and toxicity <i>Authors: J. Gao, X. Duan, D. D. Dionysiou, K. O'Shea, J. S. Yadav</i>	452

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<i>Chaired by: José Sánchez-Pérez</i>		

14:45 - 15:00	Deyler Castilla-Caballero (Colombia) Design and construction of a wastewater recovery system from car wash centers based on clarification and solar photocatalysis technologies <i>Authors: D. Castilla-Caballero, J. Colina-Márquez, V. Martínez-Castro, J. Martínez-Díaz, A. Medina-Guerrero</i>	454
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15:15 - 15:30	Marta Pazos Currás (Spain) Doping TiO ₂ as an alternative for enhancing pulse photocatalysis <i>Authors: M. Pazos, A. M. Díez, M. A Sanroman, I. Núñez, Y. Kolen'ko</i>	456
15:30 - 15:45	Carlos Vallejo Pastas (Colombia) Iron-modified g-C ₃ N ₄ materials in the photo assisted heterogeneous Fenton oxidation of phenol at circumneutral pH <i>Authors: C. A. Vallejo, L. A. Galeano, E. A. Burbano</i>	458
15:45 - 16:00	Alexandre Paulino (Brazil) Photodegradation of 2,4-D in water using chitosan-based magnetic membranes <i>Authors: M. J. Paz, T. Vieira, H. Enzweiler, A. T. Paulino</i>	460
16:00 - 16:15	Macarena Muñoz (Spain) Advanced oxidation of microplastics: From surface modification to mineralization <i>Authors: M. Munoz, D. Ortiz, J. Nieto-Sandoval, C. di Luca, Z. M. de Pedro, J. A. Casas</i>	462

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	Mechanistic and synthetic aspects of semiconductor-assisted photocatalytic synthesis Joaquim Faria, Faculty of Engineering University of Porto, Portugal Introduced by: Salomé Soares, Faculty of Engineering of the University of Porto, Portugal	101
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POSTER SESSION II

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SOC-025	Production, characterization and application of heterogeneous photocatalyst from spent alkaline batteries	<u>Guenther C. C. Viana</u> , E. M. R. Rocha, I. R. D. Leite, C. C. Amorim, E. Scapin	Brazil	466

SOC-026	Application of Solar photo-Fenton in CPC reactor for the removal of ARB and ARGs from MWWTP effluent	<u>Pâmela B. Vilela</u> , M. C. V. M. Starling, C. C. Amorim	Brazil	468
SOC-027	Persulfate electrogenerated at boron doped diamond electrodes as ex-situ oxidation approach: storage and service-life solution parameters	<u>Leticia G. A. Costa</u> , D. R. Silva, C. A. Martinez-Huitle, E. V. Dos Santos	Brazil	470
SOC-028	Influence of heating method of ternary anodes on the electrochemical properties and catalytic activity toward thiamethoxam oxidation	<u>Aline R. Dória</u> , C. Sáez, L. A. M. Ruotolo, G. R. SalazarBanda, K. I. B. Eguiluz	Brazil	472
SOC-029	AgBr coupled with WO ₃ , TiO ₂ and SnO ₂ with high effectiveness in the treatment of crop irrigation water.	<u>Mónica S. HernándezLaverde</u> , J. J. Murcia, F. Puga, J. A. Navío, M. C. Hidalgo	Colombia	474
SOC-030	Applications of Activated Carbon in Advanced Oxidation Process	<u>Diego A. Montenegro</u> , F. Machuca-Martinez	Colombia	476
SOC-031	Activation of Peroxymonosulfate (PMS) By A Novel And Efficient Biochar from Rice Husk Applied to Eliminate Pharmaceuticals	<u>Marcela Paredes-Laverde</u> , J. Romero-Hernandez, J. Porras, N. Acelas, R. A. Torres-Palma	Colombia	478
SOC-032	Photocatalytic oxidation of glycerol to produce dihydroxyacetone and other products of higher industrial value	<u>Laura C. Paredes-Quevedo</u> , N. Rojas, G. HincapiéTriviño and M. Velásquez	Colombia	480
SOC-033	Photocatalysis of Dotarem: Assessing the effect of the photocatalyst on the conversion pathway	<u>Edith A. Alvarez-Aguñaga</u> , M. P. Elizalde-González, L. E. García-Díaz, S. A. Sabinas-Hernández	Mexico	482
SOC-034	Comparative study of the electroFenton process: homogeneous and heterogeneous by means of rotary disk-ring electrode (RRDE)	<u>María L. Salazar</u> , I. Robles, L. A. Godinez	Mexico	484
SOC-035	Enhancement of the Oxidant Production in a Reactor Divided by an Anion Exchange Membrane	<u>Rubi Casimiro-Chávez</u> , P. Mijaylova Nacheva, I. Robles, I. Monje-Ramírez	Mexico	486
SOC-036	Mixed metal oxide BiVO ₄ /Bi ₂ MoO ₆ thin films for the photoelectrocatalytic water oxidation	<u>Alejandro Aranda</u> , E. Pastrana Alta, H. Alarcón	Peru	488

SOC-037	Characterization of Silica, Spongin, and Chitosan as carrier material for heterogeneous photosensitization with ZnPcS ₄	<u>Andreia D. Santos</u> , E. Pinho, P. Reis, R. C. Martins, M. Gmurek, A. Nogueira, S. Silva, L. M. Castro, R. M. Quinta-Ferreira	Portugal	490
SOC-038	Optimization of Fenton Process Conditions in Winery Wastewater Treatment Followed by Ion Exchange Process to Recover Iron	<u>Patrícia Reis</u> , J. Rodrigues, L. M. Gando-Ferreira, R. M. Quinta-Ferreira	Portugal	492
SOC-039	Disinfection of secondary wastewater effluents by Rose Bengal immobilized in glass wool	I. Polo-López, <u>Alba Hernández-Zanoletty</u> , I. Oller, S. Malato, J. Flores, M. L. Marín, F. Boscá	Spain	494
SOC-040	Design and Optimization of a Heterogeneous Electro-Fenton Process for the treatment of wastewater with emerging contaminants	<u>Antía Fernández-Sanromán</u> , M. Groba, M. Pazos, E. Rosales, M. A. Sanromán	Spain	496
SOC-041	Comparative Kinetics of Adsorbable and Non-Adsorbable Chlorinated Pollutants on TiO ₂ /rGO Photocatalyst	<u>Carmen Barquín</u> , M. J. Rivero, I. Ortiz	Spain	498
SOC-042	Mathematical Modelling of Microcontaminants Removal by Fe ³⁺ -EDDS Complex PhotoActivation	<u>Kourosh Nasr Esfahani</u> , A. Cabrera- Reina, S. MirallesCuevas, M. Pérez-Moya, M. Graells	Spain	500
SOC-043	Application of electrochemically driven processes for the removal of industrial dye wastewater	<u>Andre L. Magdaleno</u> , A. J. dos Santos, M. R. V. Lanza, S. Garcia-Segura	USA	502
SOC-044	Electrochemical Persulfate Activation Using Cu/CuO 3D Electrodes for Refractory Pollutant Degradation	<u>Gabriel Cerrón-Calle</u> , A. J. Dos Santos, M. R. V. Lanza, S. Garcia-Segura	USA	504

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PC-089	Influence of simulated solar radiation on micropollutant removal with ferrioxalate-assisted photo-Fenton	<u>Agustina Schenone</u> , B. Giménez, L. Conte, O. Alfano	Argentina	506
PC-090	Ordered Mesoporous Aluminasupported Metal Oxides as Fentonlike Catalysts for Pharmaceuticals Removal	<u>María A. Ayude</u> , N. Inchaurreondo, J. NietoSandoval, M. Munoz, Z. M. de Pedro, J. A. Casas, C. di Luca	Argentina	508

PC-091	Heterogeneous Fenton-like degradation of bisphenol A by electric arc furnace slag	<u>María A. Ayude</u> , F. Bocero, N. Inchaurreondo, C. di Luca, L. Fasce	Argentina	510
PC-092	Quantum and Photonic Efficiencies Evaluation of the Photocatalytic inactivation of Bacteriophages Present in Dairy Industry Air	M. Jacob, M. Briggiler Marcó, <u>María M. Ballari</u> , A. Quiberoni, O. Alfano	Argentina	512
PC-093	Kinetic study of <i>Aspergillus niger</i> inactivation applying photocatalytic paint irradiated with UV-A	D. Martin, S. M. Zacarias, <u>María M. Ballari</u>	Argentina	514
PC-094	Evaluation of Photocatalysis as Pre-Treatment for the Degradation of Recalcitrant Emerging Pollutants	<u>María L. Satuf</u> , S. M. Zacarías, O. M. Alfano, A. Manassero	Argentina	516
PC-095	Paracetamol degradation in aqueous matrices: activated mesoporous materials with LED visible light, as photoremediators.	<u>Tamara Benzaquén</u> , P. Ochoa Rodríguez, G. Eimer, V. Elías	Argentina	518
PC-096	Effect of Calcination Temperature on Sulfur-doped TiO ₂ /SiO ₂ Regarding Photocatalytic Activity under solar light	C. Gusmão, B. Ramos, P. Palharim, <u>Alan G. Camara</u> , J. G. A. Pacheco Filho, A. Teixeira	Brazil	520
PC-097	Evaluation of TiO ₂ /gC ₃ N ₄ heterostructures in the Photodegradation of p-Toluic Acid	<u>Alan G. Camara</u> , V. G. Oliveira, H. T. Alves, E. M. Dantas, S. Henao, C. B. M. Barbosa, L. C. Almeida, J. G. A. Pacheco Filho	Brazil	522
PC-098	Efficiency of zinc oxide immobilized on hydrogel membrane as photocatalyst for photodegradation of Caffeine	C. Bertoglio, J. Prando, L. J. Visioli, <u>Alexandre T. Paulino</u> , H. Enzweiler	Brazil	524
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PC-104	Characterization of Porous materials from Brazilian agro-food waste: Application in POA	M. C. Almeida, <u>Flávio A. Silva</u> , T. Ferreira de Oliveira	Brazil	536
PC-105	Experimental Design for optimization of TiO ₂ -Nb ₂ O ₅ solgel photocatalyst synthesis Applied to salicylic acid degradation	M. E. K. Fuziki, O. A. B. Andreo, R. Brackmann, <u>Giane G. Lenzi</u>	Brazil	538
PC-106	Photoactivity of mixed oxides Nb ₂ O ₅ /TiO ₂ applied in the degradation of 2,4-dichlorophenoxyacetic acid herbicide	Y. B. Fávaro, M. E. K. Fuziki, M. Z. Fidelis, <u>Giane G. Lenzi</u>	Brazil	540
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PC-180	Electrochemical Characterization of a Sb-doped SnO ₂ Anode Coated with BiPO ₄ : Application to the Degradation of an Emerging Pollutant	<u>Montserrat García-Gabaldón, A. Balseviciute, C. DomingoTorner, M. C. MartíCalatayud, S. Mestre, V. Pérez-Herranz</u>	Spain	688
PC-181	Cylindrospermopsin removal by CWPO: effect of aqueous matrix components.	<u>Zahara Martínez de Pedro, D. Ortiz, M. Munoz, S. Cirés, A. Quesada, J. A. Casas</u>	Spain	690
PC-182	Evaluation of Ozone Mass Transfer in a Tubular Porous Stainless Steel Membrane Contactor	<u>María A. Prada Vásquez, P. H. Presumido, M. M. Pituco, M. P. Caixeta, S. A. Cardona Gallo, R. A. Torres Palma, V. J. P. Vilar</u>	Colombia	692
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PC-184	Selective denitrification of a simulated oily wastewater using Janus-structured carbon nanotubes	<u>Helder T. Gomes, F. F. Roman, F. K. K. Sanches, A. Santos Silva, J. L. Diaz de Tuesta, P. Marin, B. F. Machado, P. Serp, A. M. T. Silva, J. L. Faria</u>	Portugal	696
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	Introduced by: Despo Fatta-Kassinou, University of Cyprus, Cyprus		
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	<i>Chaired by: Sixto Malato</i>	
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10:00 - 10:15	Agustina Schenone (Argentina) Evaluation of hydrogen peroxide dosage in a ferrioxalate assisted photoFenton process for the abatement of paracetamol <i>Authors: A. Schenone, B. Giménez, S. Duarte, L. Conte, O. Alfano</i>	703
10:15 - 10:30	Elaine Tiburtius (Brazil) Degradation of explosive nitroaromatic compounds using CuNb ₂ O ₆ immobilized on chitosan membrane with LED radiation <i>Authors: E. R. L. Tiburtius, R. Guz, M. Barreto-Rodrigues, C. A. Pessôa</i>	705

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	<i>Chaired by: Gina Hincapié-Triviño</i>	
09:45 - 10:00	Paula Ferreira (Portugal) Optimization of TiO ₂ -PDMS supported catalysts preparation for solar photocatalytic oxidation of emerging contaminants <i>Authors: P. Ferreira, M. J. Silva, P. Alves, R. C. Martins, J. Gomes</i>	707
10:00 - 10:15	Deivisson Cunha (Brazil) Degradation of the antibiotics ciprofloxacin, sulfamethoxazole and tetracycline using a mining residue as catalyst <i>Authors: M. da Silva, D. Cunha, A. Kuznetsov, J. Araujo, B. Archanjo, A. Della-Flora, A. Dallegrave, C. Sirtori, E. Saggio</i>	709
10:15 - 10:30	Minerva Villanueva-Rodríguez (Mexico) Synthesis of ZnO/NH ₂ -MOF 235 (Fe) with applications in photocatalytic degradation of phenolic pollutants mixture <i>Authors: M. Villanueva-Rodríguez, P. C. Quero-Jiménez, A. HernándezRamírez, J. L. Guzmán-Mar, L. Hinojosa-Reyes</i>	711

	AUDITORIUM 3: TIPON	
	<i>Chaired by: Reyna Natividad-Rangel</i>	
9:45 - 10:00	Elizabeth Pastrana Alta (Peru) Fabrication and characterization of copper (II) oxide/iron (III) oxide thin film heterostructures for trace arsenic (III) removal in water <i>Authors: E. Pastrana, H. Alarcón</i>	713
10:00 - 10:15	Carlos J. Tavares (Portugal) Photocatalytic Bi ₂ O ₃ /TiO ₂ : N thin films with enhanced surface area and visible light activity <i>Authors: L. P. Dias, J. M Ribeiro, F. C. Correia, C. J. Tavares</i>	715

10:15 - 10:30	Vicente Rodríguez-González (Mexico) Effective removal of the emerging contaminant, clonazepam, using an eco-friendly nanocomposite SnTiO ₃ immobilized on natural cellulose <i>Authors: E. Valadez-Rentería, N. Navarro-García, J. Oliva, V. RodriguezGonzalez</i>	717
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10:30 - 10:50	COFFEE-BREAK	
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10:50 – 12:05	PARALLEL SESSIONS: ORAL COMMUNICATIONS	
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	AUDITORIUM 1: OLLANTAYTAMBO	
	<i>Chaired by: Joaquim Faria</i>	

10:50 - 11:05	Gloria Luna Aguilera (Ecuador) Photocatalytic transformation of methylene blue and Cr(VI) in the presence of EDTA using a hydrogel of tara gum containing TiO ₂ nanoparticles <i>Authors: M. Luna, F. Muñoz, M. Litter</i>	719
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11:05 - 11:20	Bruno Ramos (Brazil) Performance of Zn-Al layered double hydroxides with oxometallate anions as sunlight-activated hybrid photocatalysts <i>Authors: L. O. Lemes, B. Ramos, A. C. S. C. Teixeira, R. Rosseto</i>	721
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11:20 - 11:35	Diana Endara Dranichnikova (Ecuador) Oxidative Treatment of Mining Effluents by a Platinum-Hydroxalate Catalyst <i>Authors: D. Endara, M. R. Contreras, E. de la Torre</i>	723
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11:35 - 11:50	Regina Moreira (Brazil) Photocatalytic TiO ₂ -coated Al ₂ O ₃ membranes with antifouling properties and high permeability <i>Authors: R. F. P. M. Moreira, L. L. Coelho, J. V. Santos, A. M. Hissanaga, M. Wilhelm, D. Hotza</i>	725
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11:50 - 12:05	Nelson Castellanos Marquez (Colombia) Copper complex (II) covalently bound on the surface of TiO ₂ nanotubes as a catalyst in photooxidation reactions <i>Authors: R. I. Castro, F. Martinez O., N. J. Castellanos</i>	727
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	AUDITORIUM 2: PISAQ	
	<i>Chaired by: Márcia Dezotti</i>	

10:50 - 11:05	Juliana de Almeida (Brazil) Simultaneous photoelectrocatalytic oxidation and PMS activation by TiO-Cu mixed oxide nanotubular electrode grown on Ti-5.5Cu (at%) alloy	729
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	<i>Authors: J. De Almeida, C. I. P. Crivelli, C. A. Lindino, C. A. Rodrigues, G. G. Bessegato</i>	
11:05 - 11:20	Sandra Estrada Flórez (Colombia) Combining ultrasound, iron, and biochar to activate peroxymonosulfate for removing pharmaceuticals in water: Effect of frequency on kinetics and synergy <i>Authors: S. Estrada-Flórez, E. Serna-Galvis, M. Paredes-Laverde, J. Romero, J. Lee, R. A. Torres-Palma</i>	731
11:20 - 11:35	Maria Canela (Brazil) SARS-CoV-2 and VOCs elimination using a hybrid air purification system based on adsorption, active polarization media and photocatalysis <i>Authors: M. C. Canela, B. Sanchez, L. Dominguez, F. Feldman</i>	733
11:35 - 11:50	María-José López-Muñoz (Spain) Influence of the synthesis parameters on the photocatalytic performance of g-C ₃ N ₄ for Hg(II) removal from wastewater <i>Authors: M. J. López-Muñoz, B. Villajos, A. Arencibia</i>	735
11:50 - 12:05	Marina Flores Pogliani (Argentina) Photocatalytic inactivation of airborne bacteria on a commercial absolute filter under different operating conditions <i>Authors: M. Flores, C. Passalía, M. Labas, R. Brandi</i>	737

	AUDITORIUM 3: TIPON	
	<i>Chaired by: Giovanni Palmisano</i>	
10:50 - 11:05	Pierre Ramos Apestegui (Peru) Photoactive ZnO nanostructured thin films modified with TiO ₂ , and Reduced graphene oxide for photocatalytic water purification <i>Authors: P. Ramos, L. Sanchez, J. M. Rodriguez Rodriguez</i>	739
11:05 - 11:20	Daphne Hermosilla (Spain) Supported iron-based catalysts for the treatment of bio-recalcitrant contaminants <i>Authors: K. Jiménez, A. Gascó, S. Ben Kacem, L. Liang, C. Pecharromán, A. Esteban-Cubillo, A. Bahamonde, D. Hermosilla</i>	741
11:20 - 11:35	Guillermo González Moraga (Chile) Bifunctional supramolecular mesoporous material for remediation of water contaminated with dyes by absorption and/or photocatalysis <i>Authors: G. González, M. Alegría, P. Cortes, J. Aliaga, I. Berlanga, R. Villarroel, E. Benavente</i>	743
11:35 - 11:50	Marta Castellote (Spain) Laboratory and real-scale application of photocatalytic pavement for remediation of NO _x outdoor contamination <i>Authors: E. Jimenez-Relinque, M. Grande, M. Castellote</i>	745

11:50 - 12:05	<p>Rodrigo Brackmann (Brazil)</p> <p>Synthesis of Fe₃O₄@TiO₂-Nd magnetic nanoparticles for photocatalytic degradation of propranolol in aqueous medium</p> <p>Authors: M. A. Dariz, J. E. Marmantini, A. S. Júnior, G. L. Colpani, M. A. Fiori, A. A. C. Recco, O. C. Alves, R. Brackmann</p>	747
12:05 - 12:50	<p>PLENARY LECTURE</p> <p>MAIN AUDITORIUM MACHUPICCHU</p> <p>Natural Peruvian Dyes for Solar Cells</p> <p>María Quintana, National University of Engineering, Peru</p> <p>Introduced by: Jessica Nieto-Juárez, National University of Engineering, Peru</p>	
12:50 - 14:30	<p>LUNCH</p>	
14:30 - 16:30	<p>ROUND TABLE DISCUSSION</p> <p>Chaired by: Dionysios Dionysiou, University of Cincinnati, USA</p> <p>Panelists: Camila Amorim, Daphne Hermosilla, Luigi Rizzo, Salomé Soares, Ricardo Torres Palma, Sixto Malato, Suresh Pillai</p>	
16:30 - 16:45	<p>AWARDS CEREMONY</p> <p>Jessica Nieto-Juárez, Conference Host and Chair, National University of Engineering, Peru</p> <p>Vítor Vilar, CIPOA Coordinator, Faculty of Engineering of the University of Porto, Portugal</p>	
16:45 - 17:15	<p>CLOSING CEREMONY</p> <p>Regina Moreira, VI CIPOA Host and Chair, Federal University of Santa Catarina, Brazil</p> <p>Florinella Muñoz, VII CIPOA Host and Chair, National Polytechnic School of Quito, Ecuador</p> <p>Vítor Vilar, CIPOA Coordinator, Faculty of Engineering of the University of Porto, Portugal</p> <p>Jessica Nieto-Juárez, Conference Host and Chair, National University of Engineering, Peru</p>	



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