

The 5th International Conference on
**New Photocatalytic Materials for
Environment, Energy and Sustainability**
(NPM-5)

The 6th International Conference on
**Photocatalytic and Advanced Oxidation
Technologies for the Treatment of Water,
Air, Soil and Surfaces**
(PAOT-6)

Final Program

Hunguest Hotel Forrás, Szeged, Hungary
April 20-23, 2020

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Professor Zoltan Konya (Co-Chair), Szeged University, Hungary

Monday, April 20, 2020

8:00 – 9:30 **Onsite Registration**

9:30 – 9:45 **Welcoming Remarks**

Track A

Session A: Photocatalysis – I

9:45 – 10:10 **Viability of TiO₂-Based Self-Cleaning Glass: What Can be Deduced from Prolonged Field Experiments and Life Cycle Assessment?**

Pierre Pichat

"Photocatalyse et Environnement", CNRS/Ecole Centrale de Lyon (STMS)
Ecully CEDEX, France

10:10 – 10:35 **TiO₂/Silane Nanomaterials with Enhanced Photocatalytic Properties**

A.W. Morawski, A. Wanag, A. Sienkiewicz, P. Rokicka-Konieczna, A. Babyszko, E. Kusiak-Nejman

West Pomeranian University of Technology, Szczecin, Poland

10:35 – 11:00 **Performance and Disinfection Kinetics of Novel Chitosan-N-Doped TiO₂ Composite Derived from Agricultural Waste**
Li-Ting Yen¹, Chih-Huang Weng², Ying-Chen Chen¹, Jing-Hua Tzeng^{1,3}, Yao-Tung Lin¹

¹National Chung Hsing University, Taichung, Taiwan

²I-Shou University, Kaohsiung, Taiwan

³University of Delaware, Newark, DE, USA

11:00 – 11:20 **Coffee Break**

11:20 – 11:45 **Influence of Carbon Nature on the Photocatalytic Properties of Carbon/TiO₂ Hybrids for Elimination of Volatile Organic Compounds in Gas Phase**

I. Jansson¹, J. García-García², B. Sánchez¹, S. Suárez¹

¹CIEMAT, Renewable Energy Division, FOTOAIR: Group of Analysis and Photocatalytic Treatment of Pollutant in Air, Madrid, Spain

²ICTS-CNME, Universidad Complutense de Madrid, Madrid, Spain

11:45 – 12:05 **TiO₂/Chitosan-Lignin Photocatalyst for the Selective Oxidation of 5-Hydroxymethyl-2-Furaldehyde**
Ayesha Khan¹, Juan Carlos Colmenares¹, Roger Gläser²
¹ Polish Academy of Sciences, Warsaw, Poland
² Institute of Chemical Technology, Leipzig University, Leipzig, Germany

12:05 – 13:00 **Lunch**

Session B: Photocatalysis – II

13:00 – 13:25 **Hollow-Structured Semiconductor Oxides for Photocatalytic Environmental Applications**
Klara Hernadi¹, Tamás Gyulavári¹, Balázs Réti¹, László Péter Bakos⁵, Gábor Veréb², Zsolt Pap³, Zoltán Erdélyi⁴, Imre Miklós Szilágyi⁵
¹ Department of Applied and Environmental Chemistry, University of Szeged, Szeged, Hungary
² Department of Process Engineering, University of Szeged, Hungary
³ Institute of Environmental Science and Technology, University of Szeged, Szeged, Hungary
⁴ Department of Solid State Physics, University of Debrecen, Debrecen, Hungary
⁵ Department of Inorganic and Analytical Chemistry, Budapest, Hungary

13:25 – 13:50 **Visible-Light-Active Nitrogen-Doped Titanium Dioxide: Preparation and Photocatalytic Application**
Máté Fonyó¹, Ottó Horváth¹, Erzsébet Szabó-Bárdos¹, Abdul Wafi¹, Éva Kristóf-Makó², Miklós Jakab², Balázs Zsirka³, Mihály Pósfai⁴
¹ Department of General and Inorganic Chemistry, University of Pannonia, Veszprém, Hungary
² Institute of Materials Engineering, University of Pannonia, Veszprém, Hungary
³ Institute of Environmental Engineering, University of Pannonia, Veszprém, Hungary
⁴ Department of Earth and Environmental Sciences
University of Pannonia, Veszprém, Hungary

Session C: Photocatalysis – III

13:50 – 14:15 **Immobilized Zinc Oxide (ZnO) Photocatalysts, and Their Use in Continuous-Flow Photoreactors for Wastewater Treatment**
Michalis V. Karavasilis^{1,2}, Christos A. Aggelopoulos¹, Christos D. Tsakiroglou¹

¹ Foundation for Research and Technology Hellas, Institute of Chemical Engineering Sciences, Stadiou str, Platani, 26504 Patras, Greece

² University of Patras, Department of Chemistry, 26504 Patras, Greece

14:15 – 14:40 **Design, Preparation and Characterization of Solid Photocatalyst Materials Based on Energy-Resolved Distribution of Electron Traps**

Bunsho Ohtani

Institute of Catalysis, Hokkaido University, Japan

14:40 – 15:05 **Nanoengineering of Optocatalytic Microreactor with Immobilized Catalysts for Selective Oxidation of Aromatic Alcohols**

S. R. Pradhan^{*1}, Laura Wrońska², J. C. Colmenares^{*1}

¹ Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland

² Warsaw University of Technology, Warsaw, Poland

15:05 – 15:30 **Coffee Break**

Session D: Photocatalysis – IV

15:30 – 15:55 **The Role of Sn Cations in Heterostructured TiO₂ Thin Films with Enhanced Photocatalytic Activity**

Urška Lavrencic Stangar¹, Ksenija Maver², Iztok Arcon^{2,3}

¹ University of Ljubljana, Faculty of Chemistry and Chemical Technology, Vecna pot 113, 1000 Ljubljana, Slovenia

² University of Nova Gorica, Vipavska cesta 13, 5000 Nova Gorica, Slovenia

³ Jozef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia

15:55 – 16:20 **What is Rotten in the Kingdom of Practical Photocatalysis?**

Yaron Paz

Technion, Haifa, Israel

16:20 – 16:45 **Natural Photocatalyst: Real Alternatives to the Synthesized Ones?**

Kata Saszet^{1,2}, Zsolt Czekes^{2,3}, Lucian Baia^{1,2,4}, Enikő-Eszter Almási^{5,6}, Ádám Rácz⁷, Gábor Rákhely^{6,8}, Klára Hernádi⁹, Zsolt Pap^{2,4,6}

¹ Faculty of Physics, Babeş–Bolyai University, Cluj–Napoca, Romania

² Nanostructured Materials and Bio-Nano-Interfaces Center, Institute for Interdisciplinary Research on Bio-Nano-Sciences, Babeş – Bolyai University, Cluj-Napoca, Romania

³ Faculty of Biology and Geology, Babeş–Bolyai University, Cluj-Napoca, Romania

⁴ Advanced Materials and Applied Technologies Laboratory, Institute of Research-Development-Innovation in Applied Natural Sciences, Babeş-Bolyai University, Cluj-Napoca, Romania

⁵ Vulcano Research Group, Department of Mineralogy, Geochemistry and Petrology, University of Szeged, Szeged, Hungary

⁶ Institute of Environmental Science and Technology, University of Szeged, Tisza Lajos blvd. 103, Szeged, Hungary

⁷ Institute of Raw Material Preparation and Environmental Processing, University of Miskolc, Miskolc, Hungary

⁸ Department of Biotechnology, University of Szeged, Szeged, Hungary

⁹ Department of Applied and Environmental Chemistry, University of Szeged, Szeged, Hungary

Tuesday, April 21, 2020

Track A, Continued ...

Session E: Photocatalysis – V

9:00 – 9:25 **Chemoinformatics Methods for Supporting Safe-By-Design Strategies**

Alicja Mikołajczyk, Karolina Jagiello, Agnieszka Gajewicz-Skrętna, Tomasz Puzyn

Faculty of Chemistry, University of Gdańsk, Gdańsk, Poland

9:25 – 9:50 **Tailoring of Photocatalysis: Combining Controlled-Size Nanoparticles and Mesoporous Oxide Nanostructures Towards High Photocatalytic Activity and Selectivity**
Zoltán Kónya

University of Szeged, Interdisciplinary Excellence Centre, Szeged, Hungary

9:50 – 10:15 **Tailoring Titanate Nanostructures for Enhanced Photocatalytic Performance**

Chen Zhou¹, Jie Zhang¹, László P. Bakos^{1,2}, Lee-Woon Jang¹, So Yoon Lee², Jean-Pierre Locquet³, Jin Won Seo¹

¹ Department of Materials Engineering, KU Leuven, Leuven, Belgium

² Department of Inorganic and Analytical Chemistry, Budapest University of Technology and Economics, Budapest, Hungary

³ Shibaura Institute of Technology, Tokyo, Japan

⁴ Department of Physics and Astronomy, KU Leuven, Leuven, Belgium

- 10:15 – 10:45 **Coffee Break**
- 10:45 – 11:10 **Nanocomposite Photocatalyst Materials for Environmental Remediation**
R.G. Ciocarlan and P. Cool
University of Antwerp, Wilrijk, Belgium
- 11:10 – 11:35 **Nanophotocatalysts for Green Synthesis and Environmental Application**
Diana Sannino¹, Olga Sacco², Vincenzo Vaiano¹
¹University of Salerno, Department of Industrial Engineering, Fisciano (SA), Italy
²University of Salerno, Department of Chemistry and Biology “A. Zambelli”, Fisciano (SA), Italy

Session F: Photocatalysis – VI

- 11:35 – 12:00 **Black Phosphorous Composite Nanomaterials: Photocatalytic Degradation of Organic Pollutants in Water**
Langelihle Nsikayezwe Dlamini
University of Johannesburg, Johannesburg, South Africa
- 12:00 – 12:25 **On the Mechanisms of Formation of M⁰-nanoparticles via the Reduction of MⁿL_m Complexes**
Alina Sermiagin¹, Totan Mondal¹, Dan Meyerstein^{1,2}, Ronen Bar-Ziv³, Haya Kornweitz¹, Tomer Zidki¹
¹Department of Chemical Sciences, Ariel University, Ariel Israel
²Chemistry Department, Ben-Gurion University of the Negev, Beer-Sheva, Israel
³Department of Chemistry, Nuclear Research Centre Negev, Beer-Sheva, Israel
- 12:25 – 13:30 **Lunch**
- 13:30 – 13:55 **Electronic Structures of Doped BaTaO₂N: A DFT Study**
Koichi Yamashita¹, Hiroki Iriguchi², Masanori Kaneko¹
¹Element Strategy Initiative for Catalysts and Batteries (ESICB), Kyoto University, Japan
²Department of Chemical System Engineering, Graduate School of Engineering, The University of Tokyo, Tokyo, Japan

13:55– 14:15 **Photoelectrochemical Behaviour of Composite Based on BiVO₄ for Wastewater Treatment**
Tayebeh Sharifi¹, Marin Kovačić¹, Klara Perović¹, Marijana Kraljić Roković¹, Hrvoje Kušić¹, Urška Lavrenčić Štangar², Ana Lončarić Božić¹
¹ University of Zagreb, Zagreb, Croatia
² University of Ljubljana, Ljubljana, Slovenia

14:15 – 14:35 **Synthesis of Highly Efficient g-C₃N₄ Nanosheets Utilizing Modified Cyanuric Acid-Melamine Complex as Precursor**
Hossein Fattahimoghaddam, Tahereh Mahvelati-Shamsabadi, Byeong-Kyu Lee*
Department of Civil and Environmental Engineering, University of Ulsan, Republic of Korea

Session G: Photocatalysis – VII

14:35 – 15:00 **Nanostructured Photocatalysts Prepared by Atomic Layer Deposition**
Imre Miklós Szilágyi¹, László Bakos¹, Dániel Karajz¹, Vincent Otieno Odhiambo¹, Krisztina László², Zoltán Hórvölgyi², Klára Hernádi³, Zoltán Erdélyi⁴, Bence Párditka⁴
¹ Department of Inorganic and Analytical Chemistry, Budapest University of Technology and Economics, Hungary
² Department of Physical Chemistry and Materials Science, Budapest University of Technology and Economics, Hungary
³ Department of Applied and Environmental Chemistry, University of Szeged, Hungary
⁴ Department of Solid State Physics, University of Debrecen, Hungary

15:00 – 15:30 **Coffee Break**

15:30 – 15:55 **Transition Metal Chalcogenide Single-Layers as Efficient Templates for Single-Atom Catalysis**
Levente Tapasztó
Institute for Technical Physics and Materials Science, Budapest, Hungary

15:55 – 16:20 **Fast Treatment of Volatile Organic Compounds Through Plasma and Photocatalytic Actions**
Zhong Chen¹ and Bang Ji^{1,2}
¹ School of Materials Science and Engineering, Nanyang Technological University, Singapore
² College of Engineering, South China Agricultural University, Guangzhou, P.R. China

16:20 – 16:45 **The Role of Ultrasound in Selective Oxidation Photocatalysis**
Juan Carlos Colmenares, D.A. Giannakoudakis, A. Qayyum, D. Łomot
Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland

Wednesday, April 22, 2020

Track A, Continued...

Session H: Photocatalysis – VIII

- 9:00 – 9:25 **Metal-free Core-shell Structural Plasmonic Boron Phosphide@Carbon Nitride Photocatalysts for Overall Water Splitting**
Gongxuan Lu
Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou, P.R. China
- 9:25 – 9:50 **How First Row Transition Metal Complexes Can Be Utilized to Improve Water Oxidation in (Photo)Electrocatalytic Hybrid Systems?**
József S. Pap¹, Tímea Benkó¹, Krisztina Frey¹, Sahir M. Al-Zurajji^{1,2}, Márta M. Móricz¹, Shaohua Shen³
¹ Surface Chemistry and Catalysis Department, Centre for Energy Research, Budapest, Hungary
² Doctoral School on Materials Sciences and Technologies, Óbuda University, Budapest, Hungary
³ International Research Center for Renewable Energy, Xi'an Jiaotong University, Xian, P.R. China
- 9:50 – 10:15 **Achieving Record High Solar-to-Hydrogen Conversion Efficiency with Steamed Water**
Shaohui Guo¹, Xuanhua Li¹, Bingqing Wei²
¹ Northwestern Polytechnical University, Xi'an, P.R. China
² University of Delaware, Newark, USA
- 10:15-10:35 **Coffee Break**
- 10:35 – 10:55 **Mo-BiVO₄ / Fe₂TiO₅ Heterojunction Photoanodes for Improving Photoelectrochemical Water Splitting Performance**
Zoherh Masoumi, Meysam Tayebi, Byeong-Kyu Lee*
University of Ulsan, Ulsan, South Korea

10:55 – 11:15 **Co-Precipitation Method Optimisation for the Synthesis of Superparamagnetic Copper ferrite Nanoparticles for Water Treatment**
Ngonidzashe Masunga, Bhekie B. Mamba, Kebede K. Kefeni
University of South Africa, Johannesburg, South Africa

Session I: Photocatalysis – IX

11:15 – 11:40 **Exploring the Mechanisms of Nitrogen Adsorption and Activation on the 2H/1T Mixed-phase Ultrathin $\text{Mo}_{1-x}\text{W}_x\text{S}_2$ Nanosheets for Boosting Nitrogen Photosynthesis**
Jiangzhou Qin, Xia Hu, Baojun Liu
Guizhou University, Guiyang, P.R. China

11:40 – 12:05 **Construction of Novel Spinel Materials and Their Application on Environment and Energy**
Shiyang Fan¹ and Xinyong Li^{*1,2}
¹ State Key Laboratory of Fine Chemicals, Key Laboratory of Industrial Ecology and Environmental Engineering (MOE), School of Environmental Science and Technology, Dalian University of Technology, Dalian, P.R. China
² Department of Chemical Engineering, Perth, Western Australia

12:05 – 12:30 **The Role of Subnanosized Gold Clusters in Photocatalytic CH_4 Transformation and CO_2 Hydrogenation on Titania and Titanate Nanotubes**
János Kiss
Department of Applied and Environmental Chemistry, University of Szeged, Hungary

12:30 – 13:30 **Lunch**

13:30 – 13:55 **Valorization of Ethanol into 1,1 Diethoxy-Ethane by Photocatalysis in Presence of TiO_2 -Based Photocatalyst**
Marwa Hamandi, Lynn M. Betts, Melissa Pandal, Frederic Dappozze, Chantal Guillard
Univ Lyon, Universite Claude Bernard Lyon1, CNRS, IRCELYON, Villeurbanne, France

13:55 – 14:20 **CO_2 Conversion to Ethylene by Copper Oxide Derived Cu Electrode with Solar Energy**
Wei Zhang and Ying Yu

Central China Normal University, P.R. China

- 14:20 – 14:45 **Photo-assisted Methanation over Ru/TiO₂-Investigation the Role of Surface Hydroxyls**
Ke Wang, Xun Chen*, Wenxin Dai*
State Key Laboratory of Photocatalysis on Energy and Environment,
Research Institute of Photocatalysis, Fuzhou University, Fuzhou, P. R. China
- 15:05 – 16:00 **Social Program – To be Announced**
- 19:00 – 21:00 **Conference Dinner**

Thursday, April 23, 2020

Track A, Continued...

Session J: Photocatalysis – X

- 9:00 – 9:25 **Vis-Active Photocatalytic Composites for Advanced Wastewater Treatment**
Tismanar Ioana, Bogatu Cristina, Covei Maria, Duta Anca*
Transilvania University of Brasov, Brasov, Romania
- 9:25 – 9:50 **Application of Perovskites in Heterogeneous Photocatalysis**
M. Miodyńska¹, B. Bajorowicz¹, M. Borecka¹, P. Parnicka¹, A. Mikołajczyk¹, H.P. Pinto², T. Klimczuk³, G. Trykowski⁴, W. Lisowski⁵, I. Kaplan-Ashiri⁶, M. Kazes⁶, D. Oron⁶, A. Zaleska-Medynska¹
¹University of Gdansk, Gdansk, Poland
²Yachay Tech University, Urcuqui, Ecuador
³Gdansk University of Technology, Gdansk, Poland
⁴Faculty of Chemistry, Nicolaus Copernicus University, Torun, Poland
⁵Polish Academy of Sciences, Warsaw, Poland
⁶Weizmann Institute of Science, Rehovot, Israel
- 9:50 – 10:15 **Engineering of Semiconductor Interfaces in Perovskite Photovoltaics**
Ladislav Kavan
J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic
- 10:15 – 10:35 **Coffee Break**

- 10:35 – 11:00 **Functional Surfaces with Designed Wetting and Photocatalytic Properties**
László Janovák, Ágota Deák, László Mérai, Mohamed M. Abdelghafour, Imre Dékány
University of Szeged, Interdisciplinary Excellence Centre, Department of Physical Chemistry and Materials Science, Faculty of Science and Informatics, H-6720, Rerrich Béla tér 1, Szeged, Hungary
- 11:00 – 11:25 **Investigation on the Surface-Interface Charge-Transfer Process on the Photocatalysis and Photo/Electrocatalysis Process by In Situ Spectroscopy**
Xinyong Li
State Key Laboratory of Fine Chemicals, Key Laboratory of Industrial Ecology and Environmental Engineering (MOE), School of Environmental Science and Technology, Dalian University of Technology, Dalian 116024, P.R. China
- 11:25 – 11:50 **New Challenges of the Old Titania Photocatalyst**
Zsolt Pap,¹ Virginia Danciu,¹ Monica Baia,¹ Klara Hernadi,² Lucian Baia¹
¹“Babeş-Bolyai” University, Cluj-Napoca, Romania
²Szeged University, Szeged, Hungary
- 11:50 – 12:15 **Novel Photoactive Nanomaterials and Technologies for Environmental Cleaning: A New Solution for Culture Heritage Protection**
František Peterka
Nanotec System, Praha, Czech Republic
- 12:15 – 12:35 **Self-Cleaning Composite Thin Films Based on Metallic Oxides and Reduced Graphene Oxide for PV Glazing**
Maria Covei, Cristina Bogatu, Dana Perniu, Anca Duta, Ion Visa
R&D Center Renewable Energy System and Recycling, Transilvania University of Brasov, 29 Eroilor Street, 500036, Brasov, Romania
- 12:35 – 12:55 **Application of Photocatalytic Filler Materials for the Preparation of Functional Composites with Designed Properties**
László Mérai¹, Ágota Deák¹, Mohamed M. Abdelghafour¹, Dániel Sebők², Imre Dékány², László Janovák¹
¹ University of Szeged, Interdisciplinary Excellence Centre, Department of Physical Chemistry and Materials Science, Szeged, Hungary

² University of Szeged, Interdisciplinary Excellence Centre, Department of Applied and Environmental Chemistry, Szeged, Hungary

13:00 – 13:20 **Closing Ceremony**

13:20 – 14:20 **Lunch**

Wednesday, April 22, 2020

Track B

Session A: Advanced Oxidation Processes - I / High Energy Radiation and Reaction Mechanism

9:00 – 9:25 **Interaction of Graphene Oxide (GO) With TiO₂ and Its Unique Reduction with Excess TiO₂ Electrons Produced with the Aid of Gamma Radiolysis**

Joseph Rabani¹, David Behar¹, Tijana Rajh²

¹The Hebrew University of Jerusalem, Israel

²Argonne National Laboratory, IL, USA

9:25 – 9:50 **Reactive Radicals in Advanced Oxidation Processes: Rate Constants, Reduction Potentials, Mechanisms**

L. Wojnárovits

Centre for Energy Research, Budapest, Hungary

9:50 – 10:15 **Using High-Energy Radiation for the Removal of Contaminants of Emerging Concern from Wastewater**
Erzsébet Takács¹, László Szabó¹, Csilla Mohácsi-Farkas², László Wojnárovits¹

¹Institute for Energy Security and Environmental Safety, Centre for Energy Research, Budapest, Hungary

²Department of Microbiology and Biotechnology, Szent István University, Budapest, Hungary

10:15-10:35 **Coffee Break**

10:35 – 11:00 **Characteristics, Development and Application of Excimer Flow-Through Photoreactors (FTPs)**

Thomas Oppenländer

Hochschule Furtwangen University (HFU), Villingen-Schwenningen,
Germany

- 11:00 – 11:25 **Application of Various Advanced Oxidation Processes for Elimination of Sulfonamides from Aqueous Solution: Reaction Mechanism, Efficiency and Economic Considerations**
Tünde Alapi, Luca Farkas, Máté Náfrádi
University of Szeged, Szeged, Hungary

Session B: Advanced Oxidation Processes - I / Ozone and Membrane Technology

- 11:25 – 11:50 **Utilization of Photocatalytic Nanomaterials for the Development of Advanced Membrane Surfaces**
Gábor Veréb^{1*}, Erika Nascimben Santos¹, Áron Ágoston¹, Laura Fekete¹, Szabolcs Kertész¹, Máté Pataki¹, Zsolt Pap², Zsolt Kása², Klára Hernádi³, Tünde Alapi⁴, K. Gokula⁵, G. Arthanareeswaran⁵, Cecilia Hodúr^{1,2}, Zsuzsanna¹
¹ Institute of Process Engineering, University of Szeged, Szeged, Hungary
² Institute of Environmental Science and Technology, University of Szeged, Szeged, Hungary
³ Department of Applied and Environmental Chemistry, Institute of Chemistry, University of Szeged, Szeged, Hungary
⁴ Department of Inorganic and Analytical Chemistry, Institute of Chemistry, University of Szeged, Szeged, Hungary
⁵ Membrane Research Laboratory, Department of Chemical Engineering, National Institute of Technology, Tamilnadu, India
- 11:50 – 12:15 **Photocatalytic Membranes: What Does the Future Hold in Integrated Photocatalysis/Membrane Technology Applications?**
Alex T. Kuvarega and Bhekie B. Mamba
University of South Africa, Johannesburg, South Africa
- 12:15 – 12:40 **Effect of Advanced Oxidation Pretreatments on Membrane Filtration of Protein Containing Waste Waters**
Zsuzsanna László, Mihály Zakar, Elias Jigar Sisey, Gábor Veréb
University of Szeged, Szeged, Hungary
- 12:40 – 13:40 **Lunch**

- 13:40 – 14:05 **Catalytic Ozonation of Caffeine using Sepiolite or a Sepiolite-based Nanocomposite**
Zeynep Eren¹, Başak Savun-Hekimoğlu², Nilsun H. Ince²
¹Atatürk University, Department of Environmental Engineering, Erzurum Turkey
²Boğaziçi University, Institute of Environmental Sciences, Istanbul Turkey
- 14:05 – 14:25 **Ozone Flotation Pilot Approach for The Treatment of Olive Mill Wastewater – Laboratorial Tests**
Inês O. Inocêncio, Anabela G. Nogueira, N. Amaral-Silva, P. Garção-Nunes, S. Castro-Silva
Adventech – Advanced Environmental Technologies, Lda. João da Madeira, Portugal
- 14:25 – 14:45 **Full-Scale Project with an In-Situ Surfactant Enhanced Flushing Technology for the Reclamation of Hydrocarbons**
Guido Piepoli and Alberto Piepoli
A.S.T.C. Remediation srl, Milano, Italy
- 14:45 – 15:05 **Advanced ISCO and ISSF Remedial Strategy: Multi-Phase Technology – From the Project Stage to the Full-Scale Application**
Guido Piepoli and Alberto Piepoli
A.S.T.C. Remediation srl, Milano, Italy
- 15:05 – 16:00 **Social Program – To be Announced**
- 19:00 – 21:00 **Conference Dinner**

Thursday, April 23, 2020

Track B, Continued...

Session C: Advanced Oxidation Technologies – III / Fenton Like Processes

- 9:00 – 9:25 **Electro-Fenton Reaction by Porous Carbon Based Electrocatalysts for Water and Wastewater Treatment**
Xie Quan, Yanming Liu, Kun, Zhao
Dalian University of Technology, Dalian, China

- 9:25 – 9:50 **Water Purification by In-liquid Plasma Combined with Fenton Reaction**
Chiaki Terashima
Tokyo University of Science, Tokyo, Japan
- 9:50 – 10:15 **Design and Engineering of Catalysts for Fenton-Like AOP Wastewater Cleaning**
Ivalina Trendafilova^{1,2}, Andraž Šuligoj^{1,3}, Alenka Ristić¹, Albin Pintar¹, Nataša Zabukovec Logar^{1,4*}, Nataša Novak Tušar^{1,4*}
¹ National Institute of Chemistry, Ljubljana, Slovenia
² Institute of Organic Chemistry with Center of Phytochemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria
³ University of Ljubljana, Ljubljana, Slovenia
⁴ University of Nova Gorica, Nova Gorica, Slovenia
- 10:15 – 10:35 **Coffee Break**
- 10:35 – 10:55 **Photochemical Degradation of Methylene Blue and Rhodamine B under Heterogeneous Photo-Fenton System using $\text{Cu}^{\text{II}}\text{Fe}^{\text{II}}_{1-x}\text{Fe}^{\text{III}}_2\text{O}_4$ Ferrites**
Asfandyar Khan^{1,2}, Zsolt Valicsek¹, Ottó Horváth¹
¹University of Pannonia, Veszprém, Hungary
²National Textile University, Faisalabad, Pakistan

Session D: Advanced Oxidation Processes – IV / Wastewater Treatment

- 10:55 – 11:20 **Advanced Oxidation of Contaminants of Emerging Concern: Environmental Aspects**
Josipa Papac, Antonija Tomić, Marin Kovačić, Hrvoje Kušić, Ana Lončarić Božić
University of Zagreb, Zagreb, Croatia
- 11:20 – 11:45 **Treatment and Valorisation of Agro-Industrial Wastewaters by Advanced Oxidation Processes**
Marco S. Lucas, Leonor Ferreira, Leonilde Marchão, Carlos Amor, José R. Fernandes, José A. Peres
Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal
- 11:45 – 12:05 **Vis (Solar) – Active TiO_2 - Graphene Oxide Composite Thin Films for Continuous Flow Photocatalytic Wastewater Treatment**

Ioana Tismanar¹, Alexandru Cosmin Obreja², Octavian Buiu², Anca Duta¹

¹ Transilvania University of Brasov, Brasov, Romania

² National Institute for R&D in Microtechnologies, Bucharest, Romania

12:05 – 12:35 **Evaluation of photo-Fenton and electro-oxidative processes for the pre-treatment of an agro-industrial wastewater**

L. C. Ferreira^{1*}, I. Salmerón², I. Oller², J. A. Peres¹, P. B. Tavares¹, M. S. Lucas¹

¹ Centro de Química de Vila Real (CQVR), Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal

² Plataforma Solar de Almería-CIEMAT, Tabernas, Almería, Spain

12:35 – 12:55 **Closing Ceremonies**

12:55 – 13:55 **Lunch**

Poster Session

Synthesis of SnS Quantum Dots/Hierarchical g-C₃N₄ Composites for Enhanced Photocatalytic Degradation of Phenol

Marta Borecka¹, Wojciech Lisowski², Tomasz Klimczuk³, Adriana Zaleska Medynska¹

¹ University of Gdańsk, Gdańsk, Poland

² Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland

³ Gdańsk University of Technology, Gdańsk, Poland

Visible-Light Driven Photocatalytic Hydrogen Generation by CuInS₂ Quantum Dots Decorated ZnIn₂S₄ Microspheres Modified by Pt Photodeposition

Onur Cavdar¹, Anna Malankowska¹, Daniel Amgar², Justyna Łuczak³, Wojciech Lisowski⁴, Adriana Zaleska-Medynska¹

¹ University of Gdansk, Gdansk, Poland

² Weizmann Institute of Science, Rehovot, Israel

³ Gdansk University of Technology, Gdansk, Poland

⁴ Institute of Physical Chemistry, Polish Academy of Sciences, Kasprzaka, Warsaw, Poland

Facile Preparation of TiO₂/Fe₂O₃/rGO Layered Composite Films for Solar-driven Photocatalytic Degradation of Pharmaceuticals

Francis M. dela Rosa¹, Josipa Papac¹, Marin Kovačić¹, Marijana Kraljić Roković¹, Hrvoje Kušić¹, Urška Lavrenčič Štangar², Ana Loncaric Bozic¹

¹ University of Zagreb, Zagreb, Croatia

² University of Ljubljana, Ljubljana, Slovenia

Application of Coumarin and Its Hydroxylated Product, 7-Hydroxycoumarin for the Determination of Hydroxyl Radical Formation Rate in 172 And 185 Nm VUV Light Radiated Aqueous Solutions

Luca Farkas, Máté Náfrádi, Tünde Alapi

University of Szeged, Hungary

Investigation of the Photoactivity of MgO-TiO₂ Catalysts

Gábor Kocsis¹, Erzsébet Szabó-Bárdos¹, Ottó Horváth¹, Orsolya Fónagy¹, Tatjana Juzsakova², Éva Kristóf-Makó³

¹ Department of General and Inorganic Chemistry, Institute of Chemistry

² Institute of Environmental Engineering

³ Institute of Materials and Mechanical Engineering, University of Pannonia, Veszprém, Hungary

Various Procedures for Immobilization of TiO₂

Péter Hegedűs, Erzsébet Szabó-Bárdos, Ottó Horváth

Institute of Chemistry, University of Pannonia, Veszprém, Hungary

Heterogeneous Photocatalytic Transformation of Imidacloprid and Tiacloprid: Reaction Mechanism, Effect of Reaction Parameters and Various Matrices

Máté Náfrádi, Tamás Hlogyik, Tünde Alapi

University of Szeged, Szeged, Hungary