

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

**Virtual Conference
May 24-27, 2021**

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Important Notes:

- (1) The time in this program is the Central European Time (CET).
- (2) IL stands for invited lecture (25 min).
- (3) ST stands for short talk (15 min).
- (4) PP stands for poster presentation (10 min).
- (5) All Presentation are Power Point.

Monday, May 24, 2021

- 8:00 – 9:00 **Instructions for online registration**
- 8:30 – 9:00 **Instructions by the IT company who runs the online conference**
- 9:00 – 9:15 **Welcoming remarks by the conference chairs**

Session A: Photocatalysis – I

- 9:15 – 9:35
IL **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
- 9:35 – 9:55
IL **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, Szeged, Hungary
- 9:55 – 10:10
ST **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, Brasov, Romania

10:10 – 10:25
ST **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

10:25 – 10:45 **Coffee Break**

Session B: Photocatalysis – II

10:45 – 11:05
IL **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

11:05 – 11:25
IL **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
¹ CIEMAT, Renewable Energy Division, FOTOAIR: Group of Analysis and Photocatalytic Treatment of Pollutant in Air, Madrid, Spain
² ICTS-CNME, Universidad Complutense de Madrid, Madrid, Spain

11:25 – 11:45
IL **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

11:45 – 12:05
IL **Black Phosphorous Composite Nanomaterials: Photocatalytic Degradation of Organic Pollutants in Water**
Langelihle Nsikayezwe Dlamini
University of Johannesburg, Johannesburg, South Africa

12:05 – 12:20
ST **TiO₂/Chitosan-Lignin Photocatalyst for the Selective Oxidation of 5-Hydroxymethyl-2-furaldehyde**
Ayesha Khan,¹ Michael Goepel,² Juan Carlos Colmenares,¹

Roger Gläser²

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

² Institute of Chemical Technology, Leipzig University, Leipzig, Germany

12:20 – 13:20 **Lunch**

Session C: Photocatalysis – III

13:20 – 13:40

IL

Visible-light-active Nitrogen-doped Titanium Dioxide: Preparation and Photocatalytic Application

Máté Fonyó¹, Ottó Horváth², Erzsébet Szabó-Bárdos¹, Abdul Wafi¹, Éva Kristóf-Makó², Miklós Jakab², Balázs Zsirka³, Mihály Pósfai⁴

¹Department of General and Inorganic Chemistry, Center for Natural Sciences

²Department of Materials Engineering, Research Center for Engineering Sciences

³Research Center for Biochemical, Environmental and Chemical Engineering

⁴Nanolab, Research Institute of Biomolecular and Chemical Engineering.

University of Pannonia, H-8210 Veszprém, POB. 1158, Hungary

13:40 – 14:00

IL

Hollow-Structured Semiconductor Oxides for Photocatalytic Environmental Applications

Klára Hernádi¹, Tamás Gyulavári¹, Balázs Réti¹, László Péter Bakos⁵, Gábor Veréb², Zoltán 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

14:00 – 14:20

IL

Vis-Active Photocatalytic Composites for Advanced Wastewater Treatment

Tismanar Ioana, Bogatu Cristina, Covei Maria, Duta Anca*

Transilvania University of Brasov, Brasov, Romania

14:20 – 14:40

IL

BiOI/BiOCl Composite Photocatalysts – Synthesis, Characterization, and Application for the Elimination of Organic Pollutants using Various LED Light Sources

Tünde Alapi¹, Máté Náfrádi¹, Tamás Hlogyik¹, Klára Hernádi²

¹Department of Inorganic and Analytical Chemistry, University of Szeged, Hungary

²Department of Environmental and Applied Chemistry, University of Szeged, Hungary

Tuesday, May 25, 2020

Session D: Photocatalysis IV

8:00 – 8:20
IL

Immobilized Zinc Oxide (ZnO) Photocatalysts, and Their Use in Continuous-flow Photoreactors for Wastewater Treatment
Michalis V. Karavasilis^{1,2}, Maria A. Theodoropoulou¹, and 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

8:20 – 8:40
IL

One Step Mechanochemical Synthesis of ZnO Nanoparticles as Perovskite Substrate

G. Kozma¹, K. Lipták¹, M. Náfrádi², T. Alapi², Á. Kukovecz¹, Z. Kónya^{1,3}

¹ University of Szeged, Department of Applied and Environmental Chemistry, Szeged, Hungary

² University of Szeged, Department of Inorganic and Analytical Chemistry, Szeged, Hungary

³ MTA-SZTE Reaction Kinetics and Surface Chemistry Research Group, Szeged, Hungary

8:40 – 8:55
ST

Nanoengineering of Optocatalytic Microreactor with Immobilized Catalysts for Selective Oxidation of Aromatic Alcohols

S. R. Pradhan*, J. C. Colmenares*

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

Session E: Photocatalysis – V

8:55 – 9:15
IL

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

² Szeged University, Szeged, Hungary

9:15 – 9:35
IL

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

9:35 – 9:55
IL

Nanophotocatalysts for Green Synthesis and Environmental Application

Diana Sannino¹, Olga Sacco², Vincenzo Vaiano¹

¹ University of Salerno, Department of Industrial Engineering, Italy

² University of Salerno, Department of Chemistry and Biology, Italy

9:55 – 10:15
IL

Photocatalytic Properties of TiO₂ Layers on Aluminium Substrates: Effect of Acid Pretreatment

J. Paccha¹, S. Suárez¹, S. Fernández², L. Gudiño¹, A. Soubrié³, M. B. Gómez-Mancebo⁴, F. J. Sánchez⁵, J. Gandia², B. Sánchez¹

¹ Fotoair Unit, Energy Department, CIEMAT, Madrid, Spain

² Photovoltaic Solar Energy Unit, Energy Department, CIEMAT, Spain

³ ICTS-CNME, Universidad Complutense de Madrid, Av. Complutense s/n

⁴ Spectroscopy Unit, Technology Department, CIEMAT, Spain

⁵ Fusion Technology Division, National Fusion Laboratory, CIEMAT, Spain

10:15 – 10:45

Coffee Break

Session F: Photocatalysis – VI

10:30 – 10:50
IL **The Role of Subnanosized Gold Clusters in Photocatalytic CH₄ Transformation and CO₂ Hydrogenation on Titania and Titanate Nanotubes**
János Kiss
Department of Applied and Environmental Chemistry, University of Szeged, Hungary

10:50 – 11:10
IL **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

11:10 – 11:30
IL **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 Parditka⁴
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

Session G: Advanced Oxidation Processes – I

11:30 – 11:50
IL **Characteristics, Development and Application of Excimer Flow-Through Photoreactors (FTPs)**
Thomas Oppenländer
Hochschule Furtwangen University (HFU), Villingen-Schwenningen, Germany

11:50 – 12:10
IL **Application of Various Advanced Oxidation Processes for Elimination of Sulfonamides from Aqueous Solution: Reaction Mechanism, Efficiency, Toxicity and Economic Considerations**
Tünde Alapi, Luca Farkas, Máté Náfrádi
University of Szeged, Szeged, Hungary

- 12:10 – 12:30
IL **Reactive Radicals in Advanced Oxidation Processes: Rate Constants, Reduction Potentials, Mechanisms**
L. Wojnárovits
Centre for Energy Research, Budapest, Hungary
- 12:30 – 12:50
IL **On the Mechanisms of Formation of M^0 -nanoparticles via the Reduction of M^nL_m Complexes**
Alina Sermiagin¹, Totan Mondal¹, Dan Meyerstein^{1,2}, Ronen Bar-Ziv³, Haya Kornweitz¹, Tomer Zidki¹
¹ Department of Chemical Sciences, Ariel University, Ariel Israel
² Chemistry Department, Ben-Gurion University of the Negev, Beer-Sheva, Israel
³ Department of Chemistry, Nuclear Research Centre Negev, Beer-Sheva, Israel
- 12:50 – 13:50 **Lunch**

Session H: Poster Presentations – I

- 13:50 – 14:00
PP **Preparation and Investigation of Sulfur and Nitrogen Co-Doped TiO_2**
Larissa Albuquerque, Ottó Horváth, Erzsébet Szabó-Bárdos
University of Pannonia, Veszprém, Hungary
- 14:00 – 14:10
PP **Photocatalytic Degradation of Organic Pollutants**
Gábor Kocsis, Ottó Horváth, Erzsébet Szabó-Bárdos
University of Pannonia, Veszprém, Hungary
- 14:10 – 14:20
PP **Mechanochemical Synthesized TiO_2 Nanostructures for Building Perovskite Structures**
G. Kozma¹, Á. Kukovecz¹, Z. Kónya^{1,2}
¹ University of Szeged, Department of Applied and Environmental Chemistry, Szeged, Hungary.
² MTA-SZTE Reaction Kinetics and Surface Chemistry Research Group, Szeged, Hungary

Wednesday, May 26, 2021

Session I: Photocatalysis – VII

8:00 – 8:20
IL

Design, Preparation and Characterization of Solid Photocatalyst Materials Based on Energy-Resolved Distribution of Electron Traps

Bunsho Ohtani

Institute of Catalysis, Hokkaido University, Japan

8:20 – 8:40
IL

Photocatalytic Degradation of Ethylene under UV-LED Light using Mesh-supported TiO₂ Film

Zhong Chen¹ and Bang Ji^{1,2}

¹School of Materials Science and Engineering, Nanyang Technological University, Singapore

²College of Engineering, South China Agricultural University, Guangzhou, P.R. China

8:40 – 9:00
IL

Construction of Novel Spinel Based Photocatalyst for Highly Efficient CO₂ Conversion

Shiyang Fan

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

9:00 – 9:20
IL

CO₂ Conversion to Ethylene by Copper Oxide Derived Cu Electrode with Solar Energy

Wei Zhang and Ying Yu

Central China Normal University, P.R. China

Session J: Photocatalysis – VIII

9:20 – 19:40
IL

Engineering of Semiconductor Interfaces in Perovskite Photovoltaics

Ladislav Kavan

J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic

9:40 – 10:00
IL

Preparation of Perovskite Structure and Metal-oxide Nanomaterials via Mechanochemical Process

G. Kozma¹, Á. Kukovec¹, Z. Kónya^{1,2}

¹ University of Szeged, Department of Applied and Environmental Chemistry, Szeged, Hungary

² MTA-SZTE Reaction Kinetics and Surface Chemistry Research Group, Szeged, Hungary

- 10:00 – 10:20 **Break**
- 10:20 – 10:40
IL **Valorization of Ethanol into 1,1 Diethoxy-Ethane by Photocatalysis in Presence of TiO₂-Based Photocatalyst**
Marwa Hamandi, Lynn M. Betts, Melissa Pandal, Frederic Dappozze, Chantal Guillard
Univ Lyon, Universite Claude Bernard Lyon1, CNRS, IRCELYON, Villeurbanne, France
- 10:40 – 11:00
IL **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-Zuraiji^{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
- 11:00 – 11:20
IL **The Role of Ultrasound in Selective Oxidation Photocatalysis**
Juan Carlos Colmenares, D.A. Giannakoudakis, A. Qayyum, D. Lomot
Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland
- 11:20 – 11:35
ST **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
- 11:35 – 12:35 **Lunch**

Session K: Advanced Oxidation Processes - II/ Ozone and Membrane Technology

12:35 – 12:55
IL **Utilization of Photocatalytic Nanomaterials for the Development of Advanced Membrane Surfaces Used for the Purification of Oil Emulsions**

Gábor Veréb^{1,*}, Áron Ágoston¹, Laura Fekete¹, Erika Nascimben Santos¹, Ákos Fazekas¹, Zoltán Jákói¹, Szabolcs Kertész¹, Sándor Beszédes¹, Cecilia Hodúr¹, Zsuzsanna László¹, Gangasalam Arthanareeswaran², Tamás Gyulavári³, Gábor Kovács³, Zsolt Pap³, Klára Hernádi³,

¹ Institute of Process Engineering, Faculty of Engineering, University of Szeged, HU-6725, Moszkvai Blvd. 9., Szeged, Hungary

² Membrane Research Laboratory, Department of Chemical Engineering, National Institute of Technology, Tiruchirappalli-620015, Tamilnadu, India

³ Department of Applied and Environmental Chemistry, Institute of Chemistry, University of Szeged, H-6720, Rerrich Béla sq. 1, Szeged, Hungary

12:55 – 13:15
IL **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

13:15 – 13:35
IL **Effect of Advanced Oxidation Pretreatments on Membrane Filtration of Protein Containing Waste Waters**

Zsuzsanna László, Mihály Zakar, Ákos Fazekas, Elias Jigar Sisey, Gábor Veréb

University of Szeged, Szeged, Hungary

Thursday, May 27, 2021

Session L: Photocatalysis – IX

8:00 – 8:20
IL **Novel 3D In₂S₃/In₂O₃ Heterostructures for Efficient Photocatalytic Application**

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

8:20 – 8:40
IL

**The role of alcoholic sacrificial agents in photo-catalysis:
Is it always trivial?**

**Krishnamoorthy Sathiyam,¹ Ronen Bar-Ziv,² Dan Meyerstein,^{1,3} and
Tomer Zidki^{1*}**

¹ Department of Chemical Sciences, The Center for Radical Reactions and the
Schlesinger Family Center for Compact Accelerators, Radiation Sources and
Applications, Ariel University, Ariel, Israel

² Department of Chemistry, Nuclear Research Centre Negev, Beer-Sheva,
Israel

³ Chemistry Department, Ben-Gurion University, Beer-Sheva, Israel

8:40 – 9:00
IL

**Exploring the Mechanisms of Nitrogen Adsorption and
Activation on the 2H/1T Mixed-phase Ultrathin Mo_{1-x}W_xS₂
Nanosheets for Boosting Nitrogen Photosynthesis**

Jiangzhou Qin, Xia Hu, Baojun Liu

Guizhou University, Guiyang, P.R. China

9:00 – 9:20
IL

**Kinetic Model of Disinfection using Novel Chitosan-N-Doped
TiO₂ Photocatalyst Derived from Fishery Waste**

**Li-Ting Yen^{1,4}, Chih-Huang Weng², Ying-Chen Chen¹, Jing-Hua
Tzeng^{1,3}, Yao-Tung Lin^{1,*}**

¹ Department of Soil and Environmental Sciences, National Chung Hsing
University, Taichung, Taiwan

² Department of Civil and Ecological Engineering, I-Shou University,
Kaohsiung, Taiwan

³ Department of Civil and Environmental Engineering, University of
Delaware, DE, U.S.A.

⁴ Department of Plants, Soils and Climate, Utah State University, UT, U.S.A

9:20 – 9:35
ST

**Mo-BiVO₄ / Fe₂TiO₅ Heterojunction Photoanodes for
Improving Photoelectrochemical Water Splitting Performance**

Zoherh Masoumi, Meysam Tayebi, Byeong-Kyu Lee^{*}

University of Ulsan, Ulsan, South Korea

9:35 – 9:50
ST

**Photocatalytic H₂O₂ Production Over G-C₃N₄ Nanostructures
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

9:50 – 10:10 **Coffee Break**

Session M: Advanced Oxidation Processes - III: Fenton Like Processes and Wastewater Treatment

10:10 – 10:30 **Electro-Fenton Reaction by Porous Carbon Based
IL Electro-catalysts for Water and Wastewater Treatment**

Xie Quan, Yanming Liu, Kun, Zhao

Dalian University of Technology, Dalian, China

10:30 – 10:45 **Photochemical Degradation of Methylene Blue and
ST Rhodamine B under Heterogeneous Photo-Fenton System
using $\text{Cu}^{\text{II}}_x\text{Fe}^{\text{II}}_{1-x}\text{Fe}^{\text{III}}_2\text{O}_4$ Ferrites**

Asfandvar Khan^{1,2}, Zsolt Valicsek¹, Ottó Horváth¹

¹Department of General and Inorganic Chemistry, University of Pannonia,
Hungary

²Department of Textile Processing, National Textile University, Faisalabad –
Pakistan

10:45 – 11:05 **New Insights into the Synthesis of Fenton-like AOP Catalysts
IL for Wastewater Treatment**

**Nataša Novak Tušar^{1,4}, Ivalina Trendafilova,^{1,2} Andraž Šuligoj,^{1,3} Alenka
Ristić,¹ Albin Pintar,¹ Nataša Zabukovec Logar,^{1,4}**

¹National Institute of Chemistry, Ljubljana, Slovenia

²Institute of Organic Chemistry with Center of Phytochemistry, Bulgarian
Academy of Sciences, Bulgaria

³University of Ljubljana, Ljubljana, Slovenia

⁴University of Nova Gorica, Nova Gorica, Slovenia

11:05 – 11:20 **Evaluation of Photo-Fenton and Electro-oxidative Processes
ST 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**

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

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

11:20 – 11:35 **Combination of Microalgae and Immobilized TiO₂/UV-A
ST LEDs to Winery Wastewater Treatment**

L. Marchão^{1*}, **J. R. Fernandes**¹, **A. Sampaio**², **J. A. Peres**¹, **P. B. Tavares**¹,
M. S. Lucas¹

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

²Centro de Investigação e Tecnologias Agroambientais e Biológicas, Universidade de Trás-os-Montes e Alto Douro, Portugal

11:35 – 11:50 **Vis (Solar) – Active TiO₂ - Graphene Oxide Composite Thin**
ST **Films for Continuous Flow Photocatalytic Wastewater**
Treatment

Ioana Tismanar¹, **Alexandru Cosmin Obreja**², **Octavian Buiu**², **Anca Duta**¹

¹Transilvania University of Brasov, Brasov, Romania

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

11:50 – 12:50 **Lunch**

Session N: Poster Presentation – II

12:50 – 13:00 **Application of Coumarin to Determine and Compare the Rate**
PP **of Hydroxyl Radical Formation in Aqueous Solutions**
Irradiated with 172 and 185 nm VUV Light
Luca Farkas, **Daniele Scheres Firak**, **Máté Náfrádi**, **Tünde Alapi**
University of Szeged, Hungary

13:00 – 13:10 **Comparison of the Efficiency of Different Light Sources For**
PP **The Generation Of Hydroxyl Radicals Using TiO₂ and ZnO**
Photocatalysts
Máté Náfrádi, **Tamás Hlogyik**, **Tünde Alapi**
University of Szeged, Hungary

13:10 – 13:20 **Removal of Two pharmaceuticals, 5-Fluorouracil and**
PP **Trimethoprim from Aqueous Media with UV, UV/VUV and**
VUV Photolysis
Luca Farkas, **Anett Čovic**, **Máté Náfrádi**, **Tünde Alapi**
University of Szeged, Hungary

13:20 – 13:30 **Comparison of Xe-Excimer (172 nm) and Low-Pressure**
PP **Mercury Vapor Lamps (185/254 nm) In Terms of Radical**
Generation Rate, Removal of Hazardous Organic Matter and
Matrix Effect
Tünde Alapi¹, **Luca Farkas**¹, **Máté Náfrádi**¹, **Gábor Peintler**²

¹Department of Inorganic and Analytical Chemistry, University of Szeged, Hungary

²Department of Physical Chemistry and Material Sciences, Hungary

13:30 – 13:40

PP

Transformation of sulfamethazine and sulfamethoxypyridazine using TiO₂ and ZnO photocatalysts irradiated with mercury-vapor and UV-LED light sources

Máté Náfrádi, Luca Farkas, Gellért Farkas, Benjámín Vas, Tünde Alapi
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13:40 – 13:500

Closing Remarks