

The 3rd International Conference on
**Photocatalytic and Advanced Oxidation
Technologies for the Treatment of Water, Air,
Soil and Surfaces**
(PAOT-3)

FINAL PROGRAM



Gdansk University of Technology, Gdansk, Poland
September 1-4, 2015

International Organizing Committee

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Conference Lead Organizer

Hussain Al-Ekabi, Ph.D.

President, Redox Technologies, Inc.,

The University of Western Ontario Research Park

100 Collip Circle, Suite 230A, London, Ontario N6G 4X8, Canada

Phone: (519) 858-5055; Fax: (519) 858-5056

E-mail: Hussain@alekabi.com; Website: www.redoxtech.com

PL: Plenary Lecture
IL: Invited Lecture
ST: Short Talk

Tuesday, September 1, 2015

15:00 – 20:00	On-Site Registration
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Wednesday, September 2, 2015

08:00 – 09:00	Registration
09:00 – 09:05	Opening Remarks – Conference Chair
Session 1: Plenary Lectures	
09:05 – 09:45 PL	Breaking the Spell of Band Structure: Energy-resolved Distribution of Electron Traps as the Key Issue for Photocatalysis Bunsho Ohtani,^{1,2} Akio Nitta² and Mai Takase^{1,3} ¹ Catalysis Research Center, Hokkaido University, Sapporo, Japan ² Graduate School of Environmental Science, Hokkaido University, Sapporo, Japan ³ Graduate School of Engineering, Muroran Institute of Technology, Muroran, Japan
09:45 – 10:25 PL	Photocatalytic Degradation of Organic and Biological Water Contaminates using 1D Tania Nanotubes Arrays Mano Misra^{1,2*}, York R. Smith¹, Krista Carlson¹ ¹ Metallurgical Engineering Department, University of Utah, Salt Lake City, USA ² Chemical Engineering Department, University of Utah, Salt Lake City, USA
10:25 – 10:55	Coffee Break
Session 2: Fundamental Investigations–1	
10:55 – 11:20 IL	The Liquid Phase Photoreactor: "Laboratory Tool" or "Master of Disguises"? David Ollis North Carolina State University, Raleigh, NC, USA

11:20 – 11:45 IL	<p>Unravelling Charge Transfer Processes in Solar H₂ Production from Water over Semiconductor Photocatalysts by Combined In-Situ Spectroscopy</p> <p>J. Priebe, D.Hollmann, A. J. J. Lennox, H. Junge, M. Beller, <u>A. Brückner</u> University of Rostock (LIKAT), Rostock, Germany</p>
11:45 – 12:10 IL	<p>Charge-carrier Dynamics in Photocatalytic Processes</p> <p><u>C. Colbeau-Justin</u>¹, A. Herissan¹, S. Pigeot-Rémy², O. Durupthy², S. Cassaignon², C. Ferronato³, R. Hazime³, C. Guillard³</p> <p>¹Laboratoire de Chimie Physique, CNRS UMR 8000, Université Paris-Sud, Orsay France ²Chimie de la Matière Condensée de Paris, Collège de France, CNRS UMR 7574, UPMC, Paris Cedex, France ³IRCELYON, CNRS UMR 5256, Université Lyon 1, Villeurbanne, France</p>
12:10 – 12:35 IL	<p>Mechanistic Complexity during the Photochemical Degradation of Amino Acids and Peptides: Selective Hydrogen and Ligand Transfer Reactions</p> <p>Christian Schöneich University of Kansas, Lawrence, KS, USA</p>
12:35 – 13:35	Lunch
Session 3: Materials Development–1	
13:35 – 14:00 IL	<p>Photocatalytic Luminous Materials for Water and Air Treatment</p> <p><u>Chantal Guillard</u>*¹, Chloe Indermuhle¹, Eric Puzenat¹, Lina Lamaa², Laure Peruchon², Cedric Brochier²</p> <p>¹ IRCELYON, CNRS-Université Claude Bernard Lyon 1, Villeurbanne Cedex, France ² Brochier Technologies, Lyon, France</p>
14:00 – 14:25 IL	<p>TiO₂/SiO₂ Composite Photocatalysts for Air Treatment</p> <p>Andraž Šuligoj,¹ Urška Lavrenčič Štangar,¹ Dejan Verhovšek² and <u>Nataša Novak Tušar</u>*^{1,3}</p> <p>¹University of Nova Gorica, Nova Gorica, Slovenia ²Cinkarna company, Celje, Slovenia ³National Institute of Chemistry, Ljubljana, Slovenia</p>

14:25 – 14:50 IL	<p>Insights on Carbon-Based Catalysts and Membranes for Water Treatment Adrián M.T. Silva LCM – Laboratory of Catalysis and Materials, Porto, Portugal</p>
14:50 – 15:15 IL	<p>Indoor Air Treatment by Plasma-Catalyst Coupling: Fundamentals to Process Christelle Barakat¹, Loganathan Sivachandiran¹⁻³, Olivier Guaitella¹, Binjie Dong⁴, Frédéric Thevenet^{2,3}, <u>Antoine Rousseau¹</u> ¹LPP, Ecole Polytechnique, UPMC, Université Paris Sud 11, CNRS, France ²Université Lille Nord-de-France, Lille, France ³Mines Douai, CE, Douai, France ⁴R&D Department of AL-KO Therm GmbH, Germany</p>
15:15 – 15:35	Coffee Break
<p>Session 4: Advanced Oxidation Technologies-1 (UV-Oxidation, Chemical Oxidation and Photo-Fenton)</p>	
15:35 – 16:00 IL	<p>Soluble Bio-Organic Substances (SBO) as Chemical Auxiliaries on the Photo-Fenton Process Arlen Mabel Lastre-Acosta¹; Antonio Arques²; Ulises J. Jáuregui-Haza³, <u>Antonio Carlos S. C. Teixeira¹</u> ¹Universidade de São Paulo, São Paulo, Brasil ²Universitat Politècnica de València, Alcoy, España ³Instituto Superior de Tecnologías y Ciencias Aplicadas (InSTEC), Avenida Salvador Allende, La Habana, Cuba</p>
16:00 – 16:25 IL	<p>Hybridization of Advanced Oxidation Processes With Membrane Separation for Treatment of Laundry Wastewater <u>Sylwia Mozia¹</u>, Magdalena Janus² Piotr Brożek¹, Sławomira Bering², Krzysztof Tarnowski², Jacek Mazur², Antoni W. Morawski¹ ¹West Pomeranian University of Technology, Szczecin, Institute of Chemical and Environment Engineering, Szczecin, Poland ²West Pomeranian University of Technology, Szczecin, Faculty of Civil Engineering and Architecture, Szczecin, Poland</p>
16:25 – 16:50 IL	<p>Experimental Study on Heat Flow by Ozone Dissociation on a Discharge Electrode Shigeru Ono Tokyo City University, Tokyo, Japan</p>

<p>16:50 – 17:15 IL</p>	<p>Decrease of By-Products Generation in Air-fed Ozone Generator by Homogeneous Dielectric Barrier Discharge <u>Naoki Osawa</u>, Takafumi Tsuji, Yoshio Yoshioka Kanazawa Institute of Technology, Ishikawa, Japan</p>
<p>17:15 – 17:40 IL</p>	<p>Commercially Used Sunscreens as Potential Sensitizers in Peptides Oxidation? Marta Teresa Ignasiak^{1,2}, Tomasz Pędziński¹, Krzysztof Bobrowski³, Bronisław Marciniak¹ <u>Chantal Houée-Levin</u>² ¹ Faculty of Chemistry, Adam Mickiewicz University, Poznań, Poland ² Laboratory of Physical Chemistry, University of Paris-Sud, Orsay, France ³ Institute of Nuclear Chemistry and Technology, Warsaw, Poland</p>
<p>17:40 – 18:05 IL</p>	<p>Sulfate-Radical Based Oxidation of Xenobiotic Micropollutants in Wastewater <u>Teik-Thye Lim</u>, Wen Da Oh Nanyang Technological University, Republic of Singapore</p>
<p>18:05 – 18:30 IL</p>	<p>Cosmetic Wastewater Treatment by Advanced Oxidation Processes (AOPs) <u>Jeremi Naumczyk</u> , Piotr Marcinowski, <u>Jan Bogacki</u>, Piotr Wiliński Warsaw University of Technology, Warsaw, Poland</p>
<p>18:30 – 18:55 IL</p>	<p>The New Photooxidation as a Best Available Technology (BAT) for VOC and Odour Treatment and Their Relevance for Industrial Applications - <i>uviblox</i>[®] and <i>bioblox</i>[®] Frank Seitz, IBL Umwelt- und Biotechnik GmbH, Heidelberg, Germany</p>
<p>18:55 – 20:00</p>	<p>Poster Session</p>

Thursday, September 3, 2015

08:00 – 08:30	Registration
Session 5: Catalytic Oxidation and Reduction Technologies	
08:30 – 08:55 IL	Enhanced Removal of Environmental Pollutants in Aerobic nZVI Process and its Mechanism Zhihui Ai Central China Normal University, Wuhan, People's Republic of China
08:55 – 09:20 IL	Sustainable and Efficient Indoor Air Treatment by Plasmacatalysis K. Van Wesenbeeck, B. Hauchecorne, and S. Lenaerts ¹ Research group of Sustainable Energy, Air & Water Technology, Department of Bioscience Engineering, University of Antwerp, Groenenborgerlaan 171, 2020 Antwerp, Belgium
09:20 – 09:45 IL	Evaluation of the Catalytic Effect of the Ozone/Graphene Process Joon-Wun Kang¹, Yeojoon Yoon¹, Heegun Oh¹, Wonkyu Park², Wooseok Yang² ¹ Yonsei University, Wonju-si, Gangwon-do, Republic of Korea ² Korea Electronics Technology Institute, Seongnam-si, Gyeonggi-do, Republic of Korea
Session 6: Advanced Oxidation Technologies–2 (Electrochemical and Sonochemical–1)	
09:45 – 10:10 IL	Some Interesting Plasmas States Produced by Atmospheric Pressure Discharges in Air for Oxidation Technologies Emmanuel Marode and Pierre Tardiveau Laboratoire de Physique des Gaz et des Plasmas, Université Paris-Sud 11, France
10:10 – 10:35 IL	Effect of Non-Thermal Plasma on Bio-Particles Akira Mizuno Toyohashi University of Technology, Toyohashi, Japan
10:35 – 10:55	Coffee Break
10:55 – 11:20 IL	Decomposition of Alcohols by Microwave Plasma J. Mizeraczyk¹, M. Jasiński², B. Hrycak², D. Czyłkowski², R. Miotk², M. Dors² ¹ Department of Marine Electronics, Gdynia Maritime University, Gdynia, Poland

	² Centre for Plasma and Laser Engineering, The Szewalski Institute of Fluid Flow Machinery, Polish Academy of Sciences, Gdańsk, Poland
11:20 – 11:45 IL	Advanced Oxidation Processes with Plasma Generated Hydrogen Peroxide and Ozone <u>K. Yasuoka</u>, Yu Kamiya, Ryo Saeki, and Nozomi Takeuchi Tokyo Institute of Technology, Tokyo, Japan
11:45 – 12:10 IL	Atmospheric Pressure Air Microplasmas - An Advanced Oxidation Technology for the Treatment of Water and Exhaust Gases Longfei Ji, Yang Xia, Zhenhua Bi, Jinhai Niu, and Dongping Liu* Liaoning Key Lab of Optoelectronic Films & Materials, School of Physics and Materials Engineering, Dalian Nationalities University, Dalian, China
12:10 – 12:35 IL	Industrial Application of Atmospheric Pressure Plasmas Thomas Hammer Siemens AG, CT RTC PET, Erlangen, Germany
12:35 – 13:35	Lunch
Session 7: Advances in Practical Aspects of TiO₂ Photocatalysis	
13:35 – 14:00 IL	Photocatalytic Treatment of Flow Back Fluid from Hydraulic Fracturing of Shales <u>Jan Hupka</u>, Marcin Janczarek, Anna Zielińska-Jurek, Andreas Hänel Gdansk University of Technology, Gdansk, Poland
14:00 – 14:25 IL	Wastewater Treatment by a Combined Photocatalytic – Biological Approach: Letting the Bacteria to Do the Hard Work of Controlling the System <u>Yaron Paz</u>^{1*}, Zach Shidlovsky¹, Sima Yaron² ¹ Department of Chemical Engineering, Technion, Haifa, Israel ² Department of Biotechnology and Food Engineering, Technion, Haifa, Israel
14:25 – 14:50 IL	Photocatalytic Environmental Cleaning and its Limits <u>Frantisek Peterka</u>, Tereza Sazavska, Michaela Jakubickova Centre for Nanomaterials, Advanced Technologies and Innovations of Technical University of Liberec Czech Republic

14:50 – 15:15 IL	Barriers in Commercialization of Photocatalytic Products Jan Prochazka Advanced Materials-JTJ., Czech Republic
15:15 – 15:35 ST	Comparative Study on Carbamazepine Removal by Heterogeneous Photocatalysis from Model Wastewaters and Unspiked Municipal Secondary Effluent Moses K. Ogun, <u>Holger Gulyas</u>, Wibke Meyer, Margrit Reich, Ralf Otterpohl Hamburg University of Technology, Hamburg, Germany
15:35 – 15:55 ST	Commercialization and Scale-Up Issues of Photocatalyst Systems Robert C. Dalton ESTEC Technology Works, LLC, Columbia, South Carolina, USA
15:55 – 16:15	Coffee Break
Session 8: Fundamental Investigation–2	
16:15 – 16:40 IL	Photocatalytic Degradation Mechanisms and Risk Reduction of Typical Antiviral Drugs in Water Yanpeng Gao^{1,2}, Jibin An^{1,2}, Guiying Li¹, <u>Taicheng An^{1*}</u> ¹ Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, China ² University of Chinese Academy of Sciences, Beijing, China
16:40 – 17:05 IL	EPR Study of UVA-Excited TiO₂ and ZnO Systems <u>Dana Dvoranová</u>, Zuzana Barbieriková, Vlasta Brezová Slovak University of Technology in Bratislava, Bratislava, Slovak Republic
17:05 – 17:30 IL	Design of a Laboratory Non-invasive Non-destructive Procedure to Track Ferrous Oxidation Evolution in Porous Media Alvaro Videla Pontificia Universidad Católica de Chile, Chile
17:30 – 17:55 IL	Enhanced Photoresponse of a Ru Decorated TiO₂ Nanotubes Array: Application to the Heterogeneous Photodegradation of the Dye Remazol Black in Aqueous Media Douglas Iafrate Castelhana¹, Juliana de Almeida¹, Carlos Henrique de Paiva Pinheiro¹, <u>Rodnei Bertazzoli²</u>, Christiane de Arruda Rodrigues¹ ¹ Universidade Federal de São Paulo, Diadema, SP, Brazil ² Universidade Estadual de Campinas, Campinas, SP, Brazil

17:55 – 18:20 IL	<p>Development of Photocatalyst Particle Containing Polymer Hybrid Films for the Inactivation of Bacteria by Visible Light</p> <p><u>László Janovák</u>^{1,*}, Szabolcs Péter Tallósy¹, Ágnes Veres¹, Ádám Juhász³, Norbert Buzás³, Imre Dékány^{1,2}</p> <p>¹University of Szeged, Szeged, Hungary ²Hungarian Academy of Sciences, Szeged, Hungary ³Nanocolltech Ltd, Szeged, Hungary</p>
18:20 – 18:40 ST	<p>Visible Light Photocatalysis: An EPR Spin Trapping Study</p> <p><u>T. Fotiou</u>¹, T. M. Triantis¹, T. Kaloudis², N. Ioannidis¹ and A. Hiskia¹</p> <p>¹ NCSR "Demokritos", Athens, Greece ² Athens Water Supply and Sewerage Company (Eydap Sa), Athens, Greece</p>
19:30 – 23:00	Banquet Dinner

Friday, September 4, 2015

08:00 – 08:30	Registration
Session 9: Advanced Oxidation Technologies–3 (Electrochemical and Sonochemical Technologies–2)	
08:30 – 08:55 IL	<p>Environmental and Biomedical Applications of Gliding Arc Discharge Plasma</p> <p>Henryka Danuta Stryczewska and Joanna Pawlat</p> <p>Lublin University of Technology, Lublin, Poland</p>
08:55 – 09:20 IL	<p>Investigation of Dielectric Barrier Discharge Sound in Atmospheric Pressure by Novel Method</p> <p><u>Toshiyuki Nakamiya</u>¹, Fumiaki Mitsugi², Yoichiro Iwasaki¹, Tomoaki Ikegami², Ryoichi Tsuda¹ and Yoshito Sonoda¹</p> <p>¹ Tokai University, kumamoto, Japan ² Kumamoto University, Kumamoto, Japan</p>
09:20 – 09:45 IL	<p>Conversion of Hydrocarbons with Dielectric Barrier Discharges</p> <p><u>M. Schiorlin</u>¹, P. Kaczmaczyk^{1,2}, R. Brandenburg¹</p> <p>¹INP Leibniz Institute for Plasma Science and Technology, Greifswald, Germany ²Warsaw University of Technology, Faculty of Chemistry, Warszawa, Poland</p>

09:45 – 10:10 IL	<p>Overview of IAEA Strategies for Developing Radiation Technologies for Environmental Remediation</p> <p><u>Sunil Sabharwal</u>, Agnes Safrany, Joao Alberto Osso Junior and Meera Venkatesh International Atomic Energy Agency, Vienna, Austria</p>
10:10 – 10:30	Coffee Break
Session 9: Materials Development–2	
10:30 – 10:55 IL	<p>Morphology-dependent Photocatalytic Activity of Octahedral Anatase Particles (OAPs) Prepared by Ultrasonication-hydrothermal Reaction of Titanate Nanowires (TNWs)</p> <p><u>Ewa Kowalska</u>, Zhishun Wei and Bunsho Ohtani Catalysis Research Center, Hokkaido University, Sapporo, Japan</p>
10:55 – 11:20 IL	<p>Carbon Nanotubes Synthesis and Purification for Magnetic Hyperthermia Applications</p> <p><u>Grzegorz Raniszewski</u>¹, Justyna Fraczyk², Anna Surmacz¹ ¹Lodz University of Technology, Institute of Mechatronic and Information Systems, Lodz, Poland ²Lodz University of Technology, Institute of Organic Chemistry, Lodz, Poland</p>
11:20 – 11:40 ST	<p>Photocatalytic Materials Put in Place: In Situ Laboratory Comparison and Durability of the Efficiency</p> <p>M. Sapiña and M. Castellote Institute of Construction Science, “Eduardo Torroja“, IETcc(CSIC), Madrid, Spain</p>
11:40 – 12:00 ST	<p>The Effect of Nanoparticles Size on Photocatalytic and Antimicrobial Properties of TiO₂ Loaded with Monometallic (Ag or Pt) and Bimetallic (Ag-Pt) Nanoparticles</p> <p><u>Anna Zielińska-Jurek</u>¹, Zhishun Wei³, Izabela Wysocka¹, Piotr Szweda², Ewa Kowalska³ ¹ Department of Chemical Technology, Faculty of Chemistry, Gdansk University of Technology (GUT), Poland ² Department of Pharmaceutical Technology and Biochemistry, Faculty of Chemistry, (GUT), Poland ³ Catalysis Research Center, Hokkaido University, Sapporo, Japan</p>

12:00 – 12:20 ST	<p>Cu-TiO₂ and N-TiO₂ Thin Transparent Films with Enhanced Photocatalytic Activity</p> <p><u>M. Janczarek</u>, I. Markowska, J. Hupka Gdansk University of Technology, Poland</p>
12:20 – 13:30	Lunch
13:30 – 13:50 ST	<p>Formation and Immobilization of Photocatalysts onto Stainless Steel by Electrochemical Deposition</p> <p><u>Andreas Hänel</u>, Marcin Janczarek, Marek Lieder, Jan Hupka Gdansk University of Technology, Gdansk, Poland</p>
13:50 – 14:10 ST	<p>Synthesis of TiO₂ Particles Supported on CoFe₂O₄ for Electrocatalytic Oxidation of Ammonia in Acidic Medium</p> <p>Cheng-Di Dong, Chiu-Wen Chen and Chang-Mao Hung* National Kaohsiung Marine University, Taiwan, ROC</p>
14:10 – 14:30 ST	<p>Doped Titania Nanopowders with Photocatalytic and Antimicrobial Properties under Visible Light Irradiation</p> <p>D. S. Tsoukleris¹, C. Psarras¹, M. Loizidou², E. A. Pavlatou¹, G. Chousos³, P. Panagopoulos³, Ch. Vasilakos³, Th. Maggos³</p> <p>¹General Chemistry Laboratory, National Technical University of Athens, Greece ²Unit of Envir Science and Technology, National Technical Univ.of Athens, Greece ³Environmental Research Laboratory, INRASTES, NCSR “Demokritos”, Ag. Parskevi, Athens, Greece</p>
14:30 – 14:50 ST	<p>Cu-Substituted Lanthanum Ferrite Perovskites: Preparation, Characterization and Photocatalytic Activity in Gas-Solid Regime under Simulated Solar Light Irradiation</p> <p><u>F. Parrino</u>¹, E. García-López¹, G. Marci¹, L. Palmisano¹, V. Felice², I. Natali Sora², L. Armelao³</p> <p>¹ University of Palermo, Palermo, Italy ² University of Bergamo, Bergamo, Italy ³ Università di Padova, Padova, Italy</p>
14:50 – 15:10 ST	<p>Revisiting the Synergistic Effect of Powdered Activated Carbon on Photocatalytic Oxidation of Phenol Solutions</p> <p><u>Holger Gulyas</u>, Seyhan Tuerk, Hamed Torkzadeh Hamburg University of Technology, Hamburg, Germany</p>
15:10 – 15:20	Concluding Remarks

Posters

Preparation and Characterization of Magnetic TiO₂ Nanoparticles and their Utilization for the Degradation of Organic Pollutants in Water

A. Zielińska-Jurek, Z. Bielan, I. Wysocka, J. Strychalska, M. Janczarek, J. Hupka

Gdansk University of Technology, Poland

Gas-Phase Photodegradation of Toluene and Cyclohexane on TiO₂ Modified With Pt, Cu, Ag Nanoparticles

I. Wysocka, P. Szveda, M. Janczarek, A. Zielińska-Jurek

Gdansk University of Technology, Poland

Gas Phase Photodegradation of Toluene over Modified WO₃/TiO₂ Photocatalysts

J. Mioduska, A. Zielińska-Jurek, J. Hupka

Gdansk University of Technology, Poland

Cosmetic Wastewater Treatment by ZVI/H₂O₂ Process

Jan Bogacki, Piotr Marcinowski, Justyna Maksymiec, Ewa Zapalowska, Jeremi Naumczyk

Warsaw University of Technology, Poland

Pre-Treatment of Cosmetic Wastewater by Dissolved Ozone Flotation

Piotr Wiliński^{1,2}, Jeremi Naumczyk¹, Piotr Marcinowski¹, Jan Bogacki¹

¹Warsaw University of Technology, Warszawa, Poland

²Inwatec sp. z o.o., Warszawa, Poland

Dispersions of Titania-Copper Sulphide-Ag Nanoparticles for Photocatalytic Inks

Cristina Bogatu, Dana Perniu, Luminita Isac, Anca Duta

Transilvania University of Brasov, Brasov, Romania

Preparation of Doped Nanotitanium Dioxide Immobilised on Polymer Nanofibers for Photocatalytic Degradation of Water Pollutants

Mandla B. Chabalala, Jane C. Ngila Langelihle N. Dlamini*

University of Johannesburg, Johannesburg, South Africa

Fate and Behavior of Doped-TiO₂ in a Simulated Wastewater Treatment Plant with Dye Effluent

L. C. Mahlalela, J. C. Ngila, L. N. Dlamini*

University of Johannesburg, Johannesburg, South Africa

VIS-Active Photocatalytic Thin Films: How to Compromise between Dyes Mineralization and Photocorrosion

Anca Duta, Alexandru Enesca, Dana Perniu, Cristina Bogatu
Transilvania University of Brasov, Brasov, Romania

Photodegradation of Gaseous C₆H₆ at Different Relative Humidity, Using ZnO+Zn₂TiO₄ and TiO₂ Thin Films Obtained by Sol-Gel

F. A. Hernández García¹, G. Torres Delgado¹, R. Castanedo Pérez¹, O. Celaya Ángel², J. Márquez Marín¹, C. I. Zuñiga Romero¹

¹Cinvestav, Santiago de Querétaro, Qro. México,

²Cinvestav, Zacatenco, D.F., México

Adhesion and Inactivation of G(+) and G(-) Bacteria on Photocatalyst/Polymer Hybrid Surfaces

Ádám Juhász¹, Szabolcs Péter Tallósy², Ágnes Veres², László Janovák², Norbert Buzás¹, Imre Dékány^{2,3}

¹ Nanocolltech Ltd Szeged, Hungary

² University of Szeged, Szeged, Hungary

³ Hungarian Academy of Sciences, Szeged, Hungary

Photocatalytic Composite Nanoparticles of Tandem Type

Dana Perniu, Cristina Bogatu, Luminita Isac, Anca Duta
Transilvania University of Brasov, Romania

Simultaneous Adsorption and Photocatalytic Oxidation Removal of Benzene in Aerosol Using Cu-doped TiO₂/PU under Visible Irradiation

Thanh-Dong Pham, Byeong-Kyu Lee*

University of Ulsan, Ulsan, Republic of Korea

TiO₂/Au NRs Photocatalysts for Photodegradation of Water Pollutants under UV and Visible Light

A. Truppi,^{1,2} T. Placido,^{1,2} F. Petronella,¹ C. Giannini,³ T. Sibillano,³ A. Agostiano,^{1,2} M. Lucia Curri,¹ R. Comparelli¹

¹ CNR-IPCF UOS Bari, Bari, Italy

² Università degli Studi di Bari, Bari, Italy

Influence of Composite Core/Shell Nanostructures to NO Pollutant Oxidation

S. Karapati^{1,2}, T. Giannakopoulou¹, N. Todorova¹, N. Boukos¹, D. Dimotikali², C. Trapalis^{1*}

¹Institute of Nanoscience & Nanotechnology, NCSR Demokritos, Athens, Greece

²Department of Chemical Engineering, NTUA, Athens, Greece