The 23rd International Conference on

Advanced Oxidation Technologies for Treatment of
Water, Air and Soil

(AOTs-23)

This conference is dedicated to the memory of Professor Ezio Pelizzetti and the memory of Professor Mario Ollino for their significant contributions for Semiconductor Photocatalysis/Advanced Oxidation Technologies fields.

FINAL PROGRAM

Holiday Inn Hotel & Suite – Clearwater Beach, Florida
November 13-16, 2017
International Scientific Committee:

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Shiyong Fan, Dalian University of Technology, China
Anett Georgi, Helmholtz-Zentrum für Umweltforschung GmbH – UFZ, Germany
Yidong Hou, Fuzhou University, China
Chantal Houée Levin, Université Paris Sud, France
Nilsun Ince, Bogazici University, Turkey
Lev N. Krasnoperov, New Jersey Institute of Technology, USA
Jaesang Lee, Korea University, Korea
Xinyong Li, Dalian University of Technology, China
Teik-Thye Lim, Nanyang Technological University, Singapore
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Hyunwoong Park, Kyunpook National University, Korea
Joanna Pawlat, Lublin University of Technology, Poland
Xie Quan, Dalian University of Technology, China
Yutaka Sakakibara, Waseda University, Japan
Christian Schoeneich, University of Kansas, USA
Krisztina Schrantz, University of Szeged, Hungary
Adrian M. T. Silva, Porto University, Portugal
George Sorial, University of Cincinnati, Ohio, USA
Henryka Danuta Stryczewska, Lublin University of Technology, Poland
Frederic Thevenet, Ecole Nationale Supérieure des Mines de Douai, France
David Waite, UNSW Australia, Kensington, Australia
Yuxian Wang, China University of Petroleum, China
Yongbing Xie, Institute of Process Engineering, China
Shujuan Zhang, Nanjing University, China
Monday, November 13, 2017

Session 1: Advanced Oxidation Processes: Fundamentals and Applications

8:30 – 8:55am
IL
Degradation of Cyanotoxins Using Advanced Oxidative Processes
Kevin E. O’Shea¹ *, Dionysios D. Dionysiou², and Virender K. Sharma³
¹Florida International University, Miami, Florida, USA
²University of Cincinnati, Cincinnati, OH USA
³Texas A&M University, College Station, Texas, USA

8:55 – 9:20am
IL
Treatment of Urban Sludge by Advanced Oxidation Processes
İşıl Akmehmet Balcıoğlu
Boğaziçi University, Istanbul, Turkey

9:20 – 9:45am
IL
A Review on UV-Light Emitting Diodes for Application to Advanced Oxidation Systems
Catherine B. Almquist
Miami University, Oxford, Ohio, USA

9:45 -10:10am
IL
Design of Photocatalysts for Oxidation Processes – A Thermodynamic Approach
Wojciech Macyk, Marcin Kobielusz, Joanna Kuncewicz
Jagiellonian University, Kraków, Poland

10:10 – 10:30am
Coffee Break

10:30 – 10:55am
IL
Keys to Optimizing Chemical Injection & Soil Blending Applications
Ken Summerour
Eden Remediation Services, Inc., Monroe, GA, USA

10:55 – 11:20am
IL
Adding Accurate Control to Horizontal Well Systems under Tanks, Roads, Utilities, and Adjacent Owner Properties
Lance I. Robinson
EN Rx, Inc., Tampa, Florida, USA
Session 2: Photo-Fenton, Fenton-Like and Bio-Fenton Reactions

11:20 – 11:45am  
**Photo-Fenton Treatment of Emerging Contaminants at Circumneutral pH**  
Jose Miguel Albahaca, Nuria López, Violette Romero, Antonella De Luca, Pilar Marco, Jaime Giménez and Santi Esplugas  
University of Barcelona, Barcelona, Spain

11:45 – 12:10pm  
**Treatment of Tetracycline by Bio-Fenton Process in Diatoms in SBR**  
V. P. Ranjusha and Y. Sakakibara  
Waseda University, Japan

12:10 – 1:30pm  
Lunch

Session 3: Electrochemical Oxidation

1:30– 1:55pm  
**Development of ROS-Generating Oxide Electrocatalysts for High Efficiency Remediation of Aquatic Pollutants**  
So Young Yang¹,², Dong Suk Han³ and Hyunwoong Park¹,²,*  
¹School of Energy Engineering and ²School of Architectural, Kyungpook National University, Daegu, Korea  
³Texas A&M University at Qatar, Doha, Qatar

1:55 – 2:20pm  
**Boron-doped Diamond Powder-based Polymer Composites for Flexible Electrolysis Unit**  
Tsuyoshi Ochiai¹,²,³, Shoko Tago², Mio Hayashi², Takeshi Kondo³, and Akira Fujishima²,³  
¹Kanagawa Institute of industrial Science and TEChnology (KISTEC), Japan  
²Photocatalyst Group, KISTEC, Japan  
³Tokyo University of Science, Japan

2:20 – 2:45pm  
**The Role of Carbonate in Heterogeneous Electro-Catalytic Water Oxidation by Ni(II) Complexes**  
Ariela Burg¹,* , Yaniv Wolfer², Dror Shamir³, Haya Kornweitz⁴, Yael Albo⁵, Eric Maimon³ and Dan Meyerstein⁴,²,*  
¹Shamoon College of Engineering, Beer-Sheva, Israel  
²Ben-Gurion University of the Negev, Beer-Sheva, Israel  
³Nuclear Research Centre Negev, Beer-Sheva, Israel  
⁴Chemical Sciences Department, Ariel University, Ariel, Israel  
⁵Chemical Engineering Department, Ariel University, Ariel, Israel

2:45 – 3:00pm  
**Dehalogenation of Antibiotic Compounds Using a Bifunctional Cobalt-Phosphorous/Oxide Electrocatalyst**  
Tian Liu¹, Jinming Luo², Xiaoyang Meng², John Crittenden², Liming Yang¹, Bin Liang³, Meijun Liu¹, Chengbin Liu¹, Aijie
Wang\textsuperscript{3}, Xia Liu\textsuperscript{4}, Yong Pei\textsuperscript{4}, Jili Yuan,\textsuperscript{1} Huiling Liu\textsuperscript{1} and Ya Ma\textsuperscript{1}
\textsuperscript{1} Hunan University, Changsha, P. R. China
\textsuperscript{2} Georgia Institute of Technology, Atlanta, Georgia, USA
\textsuperscript{3} Chinese Academy of Sciences, Beijing, P. R. China
\textsuperscript{4} Xiangtan University, Xiangtan, China

3:00 – 3:30pm \hspace{1em} \textbf{Coffee Break}

\textbf{Session 4: Ultrasound/Cavitation}

3:30 – 3:55pm \hspace{1em} \textbf{IL} \hspace{1em} \textbf{Ultrasound-Assisted Advanced Oxidation Processes for the Destruction of Emerging Pollutants}  
N. H. Ince  
Bogazici University, Istanbul, Turkey

3:55 – 4:10pm \hspace{1em} \textbf{ST} \hspace{1em} \textbf{Kinetic, Product, and Computational Studies of the Ultrasonic Induced Degradation of 4-Methylcyclohexanemethanol (MCHM)}  
Danni Cui\textsuperscript{1}, Alexander M. Mebel\textsuperscript{1}, Luis E. Arroyo-Mora\textsuperscript{2}, Howard Holness\textsuperscript{1}, Kenneth G.Furton\textsuperscript{1} and Kevin O’Shea\textsuperscript{1}  
\textsuperscript{1}Florida International University, Miami, Florida, USA  
\textsuperscript{1}West Virginia University, Morgantown, West Virginia, USA

4:10 – 4:25pm \hspace{1em} \textbf{ST} \hspace{1em} \textbf{Oxidation of Chloramphenicol in Water using Hydrodynamic Cavitation}  
Greg Loraine and Georges Chahine  
Dynaflow Inc, Jessup, MD, USA

4:25 – 4:40pm \hspace{1em} \textbf{ST} \hspace{1em} \textbf{Fundamental Study of Ultrasound Induced Degradation of a Popular Antihistamine, Diphenhydramine (DPH)}  
Danni Cui\textsuperscript{1}, Alexander M. Mebel\textsuperscript{1}, Luis E. Arroyo-Mora\textsuperscript{2}, Cen Zhao\textsuperscript{1}, Anthony De Caprio\textsuperscript{1} and Kevin O’Shea\textsuperscript{1}  
\textsuperscript{1}Florida International University, Miami, Florida, USA  
\textsuperscript{2}West Virginia University, Morgantown, West Virginia, USA

5:30 – 7:00pm \hspace{1em} \textbf{Poster Session / Reception}

\textbf{Tuesday, November 14, 2017}

\textbf{Session 5: Photocatalytic/Catalytic Oxidation- 1}

8:30 – 8:55am \hspace{1em} \textbf{IL} \hspace{1em} \textbf{Strategies to Activate Oxyanions for Oxidative Treatment of Organic Pollutants}  
Jaesang Lee, Korea University, Korea
8:55 – 9:20am  Dramatically Coupling O3 into C3N4 Photocatalysis under Visible Light towards Superior Mineralization of Water Pollutants
Jiadong Xiao, Yongbing Xie,* and Hongbin Cao
Chinese Academy of Sciences, Beijing, China

9:20 – 9:45am  Functionalized Graphene for Synergistic Catalytic Oxidation and Adsorption of Recalcitrant Pollutants in Water Decontamination
Teik-Thye Lim, Xiao Chen, Wen-Da Oh and Zhong-ting Hu
Nanyang Technological University, Singapore

9:45 – 10:10am  Probing the Active Sites for Reduced Graphene Oxide for Efficient Catalytic Ozonation: A Combined Experimental and Theoretical Study
Yuxian Wang¹,², Hongbin Cao¹, Yongbing Xie¹,* and Shaobin Wang³
¹China University of Petroleum, Beijing, China
²Institute of Process Engineering, Chinese Academy, Beijing, China
³Curtin University, Perth, Western Australia, Australia

10:10 – 10:40am  Coffee Break

10:40 – 11:05am  Advances on Carbon-based Materials for Water Treatment
Adrián M.T. Silva
Universidade do Porto, Porto, Portugal

11:05 – 11:30am  Tailored Semiconductor Catalysts of Spinel Ferrite for Photocatalysis
Shiying Fan¹ and Xinyong Li,*¹,²
¹Dalian University of Technology, Dalian, China
²Curtin University, Perth, Australia

Session 6: Plasma/Ozone

11:30 – 11:55am  Reactions in Non-Thermal Plasma, Transient Luminous Events, Destruction of CFCs and Atmospheric Chemistry
Lev N. Krasnoperov
New Jersey Institute of Technology, Newark, NJ, U.S.A.

11:55am – 12:20pm  Measurement of Pressure Waves in Dielectric Barrier Discharge by Fibered Optical Wave Microphone
Toshiyuki Nakamiva¹, Fumiaki Mitsugi², Yoichiro Iwasaki³, and Yoshito Sonoda¹
12:20 – 1:30pm  Lunch

1:30 – 1:55pm  Nanoparticles Preparation by Atmospheric Pressure Gliding Arc Discharge and its Application
Shin-ichi Aouki¹, Tamiko Ohshima², Hiroharu Kawasaki² and Fumiaki Mitsugi³
¹Sojo University, Kumamoto, Japan
²Sasebo National College of Tech., Sasebo, Japan
³Kumamoto University, Kumamoto, Japan

1:55 – 2:20pm  Mobile Installations of Air, Water and Soil Treatment with Ozone
Henryka Danuta Stryczewska¹, Kenji Ebihara² and Robert Muszański³
¹Lublin University of Technology, Poland
²Environment & Energy Laboratory, Fukuoka, Japan
³WOFIL Ozone Technology, Krynica Zdrój, Poland

2:20 – 2:45pm  Oxidation of Persistent Groundwater Contaminants with Non-Thermal Plasma as Pretreatment for Effective Bioremediation
Robert J. Wandell, Yi Xiong, Youneng Tang and Bruce R. Locke
FAMU-FSU College of Engineering, Florida State University, Tallahassee, Florida, USA

2:45 – 3:10pm  Atmospheric Pressure Plasma Applications for Selected Heat-Sensitive Materials
Joanna Pawłat, Michal Kwiatkowski, Piotr Terebun and Jarosław Diatczyk
Lublin University of Technology, Lublin, Poland

3:10 – 3:40pm  Coffee Break

Session 7: Homogeneous AOPs

3:40 – 4:05pm  Mechanisms of Tungstate-Induced Oxidation and Cleavage Pathways of Proteins
Christian Schöneich
University of Kansas, Lawrence, KS, USA
4:05 – 4:30pm
IL
Removing Contaminants of Emerging Concern by UV/H₂O₂ in Water Reuse and Detoxification Applications
Ying Huang¹, Yiqing Liu¹, Scott Coffin², Elvis Genbo Xu², Daniel Schlenk², Kristin H. Cochran³, Cassiana C. Montagner³, Susan D. Richardson³, and Dionysios D. Dionysiou¹*
¹University of Cincinnati, Cincinnati, Ohio, USA
²University of California, Riverside, California, USA
³University of South Carolina, Columbia, South Carolina, USA

4:30 – 4:55pm
IL
Concerted Redox Conversion of Chromate and Arsenite in the UV/Acetylacetone Process
Shujuan Zhang, Tianyu Xie, Bingdang Wu, and Zhihao Chen
Nanjing University, China

4:55 – 5:20pm
IL
Kinetic Isotope Fractionation Studies on Selectivity of Hydroxyl Radicals in Aqueous Solution – Indications for a Cage Effect
Anett Georgi and Frank-Dieter Kopinke
Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany

5:20 – 5:45pm
IL
High Catalytic Efficiency of Some Selected MOFs with Specific Metallic Elements and Structure for Fenton-Like Reaction
Xie Quan and Cong Gao
Dalian University of Technology, Dalian, China

5:45 – 6:00pm
ST
Ozone and H₂O₂ in Wastewater Treatment of a Bio-Refinery
Cristian Carboni and Alex Bettinardi
De Nora S.p.a, Milan, Italy

6:00 – 6:15pm
ST
Correlation between Oxidative Degradation and Chemical Structure of Selected Compounds in Aqueous Systems
Maik Weisse¹, Michael Stelter¹,² and Patrick Braeutigam¹
¹Friedrich Schiller University Jena, Jena, Germany
²Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Hermsdorf, Germany

Wednesday, November 15, 2017

Session 8: Gas Phase Treatment

8:30 – 8:55am
IL
Photocatalytic Treatment of Indoor Air Contaminated by Wood-Based Material Emissions
Frédéric Thevenet, Pamela Harb and Nadine Locoge
IMT Lille Douai, Université de Lille, Douai, France
8:55 – 9:20am
**Characteristics of NO Oxidation by 172 nm VUV irradiation**
Shinji Kambara* and Tomohito Wakazono
Gifu University, Gifu, Japan

9:20 – 9:45am
**Innovative Design Approach for Mitigating Landfill Gas: A Landfill Post-Closure Mixed-Use Development Case Study**
Omer Uppal1, Jeffrey Ludlow2, Matt Ambrusch1, Chris Glenn3, Nadira Najib1, Stewart Abrams4, Greg Corcoran5 and Annie Lee6
1Langan, Parsippany, New Jersey, USA
2Langan, San Francisco, California, USA
3Langan, Oakland, California, USA
4Langan, Lawrenceville, New Jersey, USA
5Geosyntec, San Diego, California, USA
6Geosyntec, Waterloo, Ontario, Canada

9:45 – 10:00am
**Distinct Characteristics of Room-temperature Catalysis: Active-site Exposure and Oxygen Radicals Activation**
Hai Wei Li1, Shun Cheng Lee1,*, Yu Huang2, Jun Ji Cao2 and Wing Kei Ho3
1The Hong Kong Polytechnic University, Hong Kong, China
2Institute of Earth Environment, Chinese Academy of Sciences, Xi’an, China
3The Hong Kong University of Education, Hong Kong, China

10:00 – 10:30am
**Coffee Break**

10:30 – 10:45am
**Ozonation of Aldehydes in Gas Phase**
L. Vitola Pasetto1,2,*, V. Simon2, J. S. Pic3, R. Richard1, F. Violleau4 and M. H. Manero1
1Laboratoire de Génie Chimique, Université de Toulouse, CNRS, INPT, UPS, Toulouse, France
2Laboratoire de Chimie Agro-industrielle, Université de Toulouse, INRA, INPT, ENSIACET, Toulouse, France
3Laboratoire d'Ingénierie des Systèmes Biologiques et de Procédés, Université de Toulouse, CNRS, INRA, INSA, Toulouse, France
4Laboratoire de Chimie Agro-industrielle, Université de Toulouse, INRA, INPT, E1 PURPAN, Toulouse, France

Session 9: Photocatalytic/Catalytic Oxidation - 2

10:45 – 11:10am
**Pilot-Scale Treatment of Printing and Dyeing Wastewater by Photocatalytic Ozonation Process**
Yidong Hou
Fuzhou University, People’s Republic of China
11:10 – 11:25am  Treatment of Household Grey Water with Photocatalytic Activated Ceramic Foams
Erik Schülze¹, Burkhardt Faßauer¹, Marcus Weyd² and Jeffrey McCutcheon³
¹Fraunhofer IKTS, Dresden, Germany
²Fraunhofer IKTS, Hermsdorf, Germany
³Fraunhofer Center for Energy Innovation, University of Connecticut, Storrs CT, USA

11:25 – 11:40am  Evaluation of Catalysts Based on Titanium and Tin Supported on Graphene Oxide in Heterogeneous Photocatalytic Treatment of Wastewater
Natali Lorena Mena¹ and Julián Urresta A²
¹Universidad del Valle, Cali-Colombia

11:40 – 11:55am  Semiconductor Bi₂S₃ and Zns Nanocatalysts Supported on Cotton Fibers for Dyes Removal
Inês V. Ferreira, O. C. Monteiro and Virginia C. Ferreira
Universidade de Lisboa, Lisboa, Portugal

12:00 – 1:30pm  Lunch

Session 10: Remediation

1:30 – 1:55pm  Comparative Studies on the Removal of Trihalomethanes under Different Environmental Conditions in Biotrickling Filters
Bineyam Mezgebe¹, George Sorial¹, David Wendell¹, Endalkachew Sahle-Demesse²
¹University of Cincinnati, Cincinnati, OH, USA
²U.S. Environmental Protection Agency, Cincinnati, OH, USA

1:55 – 2:10pm  Dechlorination of Lindane with Tea Extract in Aqueous Phase
Chi-Wei Wang and Chenju Liang
National Chung Hsing University, Taichung City, Taiwan

2:10 – 2:25pm  An Integrated Multiphase Extraction, Soil Vapor Extraction, and Air Sparging Approach for Treatment of LNAPL Impacts: A New York State Brownfield Cleanup Program Site Case Study
Omer J. Uppal¹, Christopher McMahon², Matthew Ambrusch³, Nadira Najib⁴, Steve Ciambruschini⁵, Imtiyaz Khan⁶, and Stewart H. Abrams⁷
¹Langan, ouppal@langan.com; ²Langan, cmcmahon@langan.com;
From Vapor Intrusion to Mitigation – A Status Review of the Current Practice

Omer Uppal1, Matt Ambrusch1, Nadira Najib1, Angelo Falabella1, Stewart Abrams2, Steve Ciambruschini1 and Brian Blum1
1Langan, 300 Kimball Drive, 4th Floor, Parsippany, NJ, USA
2Langan, 989 Lenox Drive, Suite 124, Lawrenceville, NJ, USA

Session 11: Photocatalytic / Catalytic Oxidation -3

High Efficiency Photoreduction of Cr6+ Traces in Wastewater and Its Innovative Detection by Thermal Lens Microscopy (TLM)

E. Cedeño1, L. A. Hernández-Carabalí1, A. Mantilla1,*, S. Alvarado1, H. Cabrera2,3, A. M. Mansanares4, A. Calderón1 and E. Marín1
1Instituto Politécnico Nacional, Ciudad de México, México
2International Centre for Theoretical Physics, Italy
3Instituto Venezolano de Investigaciones Científicas, Mérida, Venezuela
4University of Campinas-UNICAMP, Campinas, SP, Brazil

Coffee Break

Photocatalytic Degradation of Acetaminophen in Water Using TiO2 Nanoparticles Supported on Glass Beads

Carmen Santos1, Juan Rodríguez2 and Silvia Ponce1
1Facultad de Ingeniería Industrial, Universidad de Lima, Lima, Peru
2Facultad de Ciencias, Universidad Nacional de Ingeniería, Lima, Peru

Sonophotocatalytic Generation of Hydroxyl Radicals (*OH) and Degradation of Bisphenol a by High-Power-UV-Leds and TiO2-Nanotubes

Dirk Paustian1, Erik Schulze2, Michael Stelter1,2 and Patrick Braeutigam1
1FSU Jena, Jena, Germany
2Fraunhofer Institute for Ceramic Technologies and Systems, Hermsdorf, Germany

Photocatalytic Degradation of Organic Dyes by Selective Irradiation in Heterogeneous Aqueous Suspension Using Semiconductor on Rushing Rings: Kinetics Parameters and Intermediate Products Detected by Chromatographic
Techniques
E. Pino¹ and P Barrías
¹Universidad de Santiago de Chile, Santiago, Chile

4:00 – 4:15 pm
Emergent Pollutants Photocatalytic Degradation Using Novel Ruthenium Doped Titanate Elongated Nanostructures
B. Barrocas and O.C. Monteiro
Universidade de Lisboa, Campo Grande, Lisboa, Portugal

4:15 – 4:30 pm
Generation of Reactive Oxygen Species by the Engineered Nanoparticles of Humic Acid Grafted Iron Oxide for the Potential Remediation of Toxic Arsenic from Water
Mamun Rashid and Kevin E. O’Shea
Florida International University, Miami, Florida, USA

4:30 pm
Adjourn

Posters

Facile Synthesis of Nitrogen- and Boron- Codoped TiO₂ with Enhanced Photocatalytic Properties for Wastewater Treatment/Reuse applications
Wael H. M. Abdelraheem¹, ², Meghshyam K. Patil¹,³, Ying Huang¹, Mallikarjuna N. Nadagouda⁴ and Dionysios D. Dionysiou¹*
¹University of Cincinnati, Cincinnati, Ohio, USA
²Sohag University, Sohag, Egypt
³Dr. Babasaheb Ambedkar Marathwada University, Sub-Campus Osmanabad, India
⁴Wright State University, Dayton, OH, United States

Mechanistic Insight into Solar Photocatalytic Destruction of E.Coli
N. Cemre Birben, Ceyda S. Uyguner-Demirel, Ayse Tomruk, and Miray Bekbolet
Bogazici University, Istanbul, Turkey

The Formation of Ti–H Species at Interface Is Lethal to the Efficiency of TiO₂ Based Dye-Sensitized Devices
Wanhong Ma,* Yan Yan, Chuncheng Chen and Jincai Zhao
Institute of Chemistry, Chinese Academy of Sciences, Beijing, P. R. China

A Model of Clearrness Index Using Atmospheric Parameter for Solar Energy Applications in Offa Environment, Nigeria
Oyeleke Olaosebikan and David Henry Olatunji
Federal Polytechnic, Offa. Kwara State, Nigeria
Comparative Study of the Output of Amorphous Silicon Photovoltaic Solar Cells when Receiving Direct and Diffused Radiations
Oyeleke Olaosebikan and David Henry Olatunji
Federal Polytechnic, Offa. Kwara State, Nigeria

UV and Visible Light Photocatalytic Production of Hydroxyl Radical by Reduced Forms of Titanium Dioxide
A. M. Abdulla¹, Dr. Miguel Ángel Gracia-Pinilla² and Kevin O’Shea¹
¹Florida International University, Miami, Florida, USA
²Autonomous University of Nuevo Leon, San Nicolas de los Garza, N.L. Mexico

Synthesis and Characterization of Ferrite Cobalt Nanoparticles for the Photocatalytic Arsenic Decontamination and E-Coli Disinfection of Water
Elmer Gastelo, Juan Espinoza, Edward Carpio and Juan Rodríguez
Universidad Nacional de Ingeniería, Lima, Perú

Synthesis and Characterization of ZnO Nanorod Films for the Photocatalytic E-coli Disinfection and Methylene Blue Water Decontamination
Luis Sanchez¹, Violeta García², Clemente Luyo¹, Pilar García¹ and Juan Rodríguez¹
¹Universidad Nacional de Ingeniería, Lima, Perú
²Universidad Nacional de San Agustín de Arequipa, Arequipa, Perú

Application of TiO₂ Photocatalysis vs AOTs in Natural Waters: Bacterial Inactivation
Ayse Tomruk, N. Cemre Birben, Ceyda S. Uyguner-Demirel and Miray Bekbolet
Bogazici University, Istanbul, Turkey

Effect of Ozone, Chlorine and Nano-TiO₂ Fiber Mediated Photocatalytic Oxidation on Antibiotic Resistant Plasmid DNA
Nalan Bilgin Öncü and Işıl Akmehmet Balçoğlu
Boğaziçi University, Istanbul, Turkey

Application of AOTs and Photocatalysis in Natural Waters: Natural Organic Matter Degradation
Ceyda S. Uyguner-Demirel, N. Cemre Birben, and Miray Bekbolet
Bogazici University, Istanbul, Turkey

Reaction Mechanism of NO Removal by 172nm Irradiation
Satsuki Ebata and Shinji Kambara*
Gifu University, Gifu, Japan
Hybrid Process Combining Electrocoagulation and Electro-Oxidation Processes for the Treatment of Textile Wastewater
Edison GilPavas*1,2, Paula Arbeláez1, José Medina1, Carlos M. Gómez1, Izabela Dobrosz-Gómez1,2 and Miguel-Ángel Gómez-Garcia1,2
1GIPAB: Universidad EAFIT, Medellín-Colombia
2PRISMA: Universidad Nacional de Colombia, Manizales, Caldas, Colombia

Kinetic and Product Studies on the Ultrasonically Mediated Degradation of the Second Generation Antihistamine, Cetirizine
Danni Cui, Anamary Tarifa, Anthony De Caprio and Kevin O’Shea
Florida International University, Miami, Florida, USA

Fundamental Study of Ultrasound Induced Degradation of a Popular Antihistamine, Diphenhydramine (DPH)
Danni Cui1, Alexander M. Mebel1, Luis E. Arroyo-Mora2, Cen Zhao1, Anthony De Caprio1, and Kevin O’Shea1
1Florida International University, Miami, Florida, USA
2West Virginia University, Morgantown, West Virginia, USA

Singlet Oxygenation of Domoic Acid as a Potential Remediation Strategy
Marcela Jaramillo and Kevin O’Shea
Florida International University, Miami, Florida USA

Two- or Four-Electron Oxygen Reduction Using Semiconductor Oxide Cathode
Tomoyuki Tanaka1, Sunao Kamimura1,2 and Teruhisa Ohno1,3
1Kyushu Institute of Technology, Tobata, Kitakyushu, Japan
2PRESTO, Japan Science and Technology Agency, Saitama, Japan
3ACT-C, Japan Science and Technology Agency, Saitama, Japan

Fabrication of Cu2MSnS4 (M = Zn, Fe) Electrode by a Spray Pyrolysis Deposition Method and Evaluation of Photoelectrochemical Property
Asahi Baba1, Sunao Kamimura1,2 and Teruhisa Ohno1,3
1Kyushu Institute of Technology, Tobata, Kitakyushu, Japan
2PRESTO, Japan Science and Technology Agency, Kawaguti-shi, Saitama, Japan
3ACT-C, Japan Science and Technology Agency, Kawaguti-shi, Saitama, Japan

Photoelectrochemical Reduction of Nitrobenzene to Aniline by Using Cu2ZnSnS4 Photocathode and a Significant Effect of Surface Modification by N-Type Buffer Layer Deposition
Yuki Kubo1, Sunao Kamimura1,2*, and Teruhisa Ohno1,3
1Kyushu Institute of Technology, Tobata, Kitakyushu, Japan
2PRESTO, Japan Science and Technology Agency, Saitama, Japan
3ACT-C, Japan Science and Technology Agency, Saitama, Japan