

The 22nd International Conference on

**Semiconductor Photocatalysis and Solar Energy
Conversion**

(SPASEC-22)

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 Organizing Committee

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Teruhisa Ohno, Kyushu Institute of Technology, Japan
Bunsho Ohtani, Hokkaido University, Japan
David Ollis (Co-Chair), North Carolina State University, USA
Hyunwoong Park, Kyunpook National University, Korea
Yiseul Park, Pukyong National University, Korea
Yaron Paz, Department of Chemical Engineering, Israel
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Ling Wu, Fuzhou University, China
Akira Yamakata, Toyota Technological Institute, Japan
Shozo Yanagida, Osaka University, Japan
Atsuo Yasumori, Tokyo University of Science, Japan
Ying Yu, Central China Normal University, China
Jinlong Zhang, East China University of Science and Technology, China
Jincai Zhao, Institute of Chemistry, The Chinese Academy of Sciences, China

IL Stands for Invited Lecture (25 minutes)

ST Stands for Short Talk (15 minutes)

Monday, November 13, 2017

8:30 – 8:45 am Welcoming Remarks

Session 1: Photocatalyzed Reduction – I

8:45 – 9:10 am Development of Photocatalysts for Stand-Alone CO₂ Conversion into Value-Added Chemicals

IL

Unseok Kang,^{1,2} Seung Yo Choi,^{1,2} Sun Hee Yoon,³ Dong Suk Han,³ and Hyunwoong Park^{1,2*}

¹School of Energy Engineering and ²School of Architectural, Civil, Environmental, and Energy Engineering, Kyungpook National University, Daegu, Korea

³Texas A&M University at Qatar, Doha, Qatar

9:10 – 9:35 am Preparation of Nanostructured Metal Oxide for (Photo) Electrochemical CO₂ Conversion to Organic Fuel

IL

Ying Yu,* Luo Yu, Xin Ba, Guodong Shi, Yanfang Li and Wenpei Zhang

Central China Normal University, P.R. China

Session 2: Photocatalyzed Water Treatment

9:35 – 10:00 am Prussian Blue Deposited TiO₂ for Effective Cesium Removal

IL

Soonhyun Kim¹, Minsun Kim, Hyuncheol Kim² and Wannoo Lee²

¹Daegu Gyeongbuk Institute of Science and Technology (DGIST), Daegu, Republic of Korea

²Korea Atomic Energy Research Institute (KAERI), Daejeon, Republic of Korea

10:00 – 10:30 am Coffee Break

10:30 – 10:45 am Kinetic Study on Multielectron-transfer Mechanism in Photocatalytic Oxidative Decomposition of Organic Compounds by Bismuth-tungstate Particles

ST

Haruna Hori¹, Mai Takashima^{1,2}, Mai Takase³ and Bunsho Ohtani^{1,2}

¹Graduate School of Environmental Science, Hokkaido University, Sapporo, Japan

²Institute for Catalysis, Hokkaido University, Sapporo, Japan

³Graduate School of Engineering, Muroran Institute of Technology, Japan

10:45 – 11:00 am **Mechanism of Antimicrobial Action of Mono and Bi-Metal (Au/Ag)-Modified Titania Photocatalysts**
ST

M. Endo, Z. Wei, B. Ohtani and E. Kowalska

Hokkaido University, Sapporo, Japan

11:00 – 11:15 am **Kinetic and Mechanistic Study on TiO₂ Photocatalytic Degradation of the Flame Retardant Tris (2-Chloroethyl) Phosphate in Aqueous Solution**
ST

A. M. Abdullah and Kevin O'Shea

Florida International University, Miami, Florida , USA

Session 3: Hydrogen Production – I

11:15 – 11:40 am **Factors That Impact the Water Splitting Process with Semiconductor Photocatalysts**
IL

Nick Serpone,¹ A.V. Emeline,^{2,3} V. K. Ryabchuk,² V. N. Kuznetsov,² Y. M. Artemev,³ and S. Horikoshi⁴

¹ Universita di Pavia, Pavia, Italia

² Faculty of Physics, Saint-Petersburg State University, Saint-Petersburg, Russian Federation

³ Laboratory of Photoactive Nanocomposite Materials, Saint-Petersburg State University, Saint-Petersburg, Russian Federation

⁴ Sophia University, Tokyo, Japan

11:40 – 12:05 pm **Photoelectrolysis of Water on TiO₂: Fifty Years of Scientific Serendipity**
IL

L. Kavan¹, H. Krysova¹, K. Minhova-Macounova¹, P. Krtil¹, A. Li Bassi^{2,3}, P. Mazzolini^{2,3}, P. Deák⁴ and J. Rossmeisel⁵

¹ J. Heyrovsky Institute of Physical Chemistry, Prague , Czech Republic

² Politecnico di Milano, Milano, Italy

³ Center for Nano Science and Technology, Milano, Italy

⁴ University of Bremen, Bremen, Germany

⁵ University Copenhagen, Kobenhavn, Denmark

12:05 – 1:30 pm **Lunch Break**

1:30 – 1:55 pm **Morphology Control of Photoelectrode for Efficient Photoelectrochemical Solar Energy Conversion**
IL

Yiseul Park

Pukyong National University, Busan, South Korea

1:55 – 2:20 pm
IL **Visible Light-Driven Hydrogen Production from Water via Photocatalytic Processes on Au/gC₃N₄/TiO₂ Nanocomposites**
Clément Marchal, Pablo Calvo, Valérie Caps, Thomas Cottineau and Valérie Keller
ICPEES UMR 7515 CNRS/Université de Strasbourg, Strasbourg cedex FRANCE

2:20 – 2:35 pm
ST **Hydrogen Production by Water Splitting Reaction Using a Novel Photocatalyst Based on Tb Doped Hydroxyapatite**
M. Suárez-Quezada¹, Y. Jiménez-Flores¹, J.B. Rojas-Trigos¹, V. Suárez^{1,2} and A. Mantilla^{1*}
¹ Instituto Politécnico Nacional, CICATA-Legaria, Legaria, México
² UAM – Iztapalapa, Área de Catálisis, ECOCATAL, México, México

2:35 – 2:50 pm
ST **Role of Bismuth Vacancy, Structural Transformation, Graphene and Graphene Quantum Dots in Great Enhancement of Photoelectrochemical (PEC) Activity of Bismuth Vanadate**
Ahmad Tayyebi, Tayyebeh Soltani, Hyeonseon Hong and Byeong-Kyu Lee*
University of Ulsan, Ulsan, Republic of Korea

3:00 – 3:30 pm **Coffee Break**

Session 4: Photocatalyzed Reduction – II

3:30 – 3:55 pm
IL **On the Photo-Reduction of Carbon Dioxide by Titanium Dioxide Electrons**
Joseph Rabani
The Hebrew University of Jerusalem, Jerusalem, Israel

3:55 – 4:20 pm
IL **The Photo-Assisted Methanation of CO₂ over Cu/TiO₂-C Catalyst**
Ke Wang, Xun Chen and Wenxin Dai*
Fuzhou University, Fuzhou, P. R. China

4:20 – 4:45 pm
IL **Advances in Photocatalytic Energy Conversion**
Xinyong Li*^{1,2}
¹ Dalian University of Technology, Dalian, China
² Curtin University, Perth, Australia

4:45 – 5:10 pm
IL **Tandem Photoelectrodes for Solar Fuel Synthesis - Design Considerations for Water Splitting and CO₂ Reduction**
Brian Seger¹, Ole Hansen² and Peter C. K. Vesborg^{1*}

¹DTU- Physics, Technical University of Denmark, Lyngby, Denmark

²DTU-Nanotech, Technical University of Denmark, Lyngby, Denmark

5:30 – 7:00 pm **Poster Session/ Reception**

Tuesday, November 14, 2017

Session 5: Fundamentals – I

8:30 – 8:55 am **True Multielectron Transfer in Photocatalysis: Digital-analogue-digital Mode Change in Titania-Photocatalyzed Oxygen Evolution**

IL

Bunsho Ohtani,^{1,2} **Shugo Takeuchi**², **Mai Takase**³ and **Mai Takashima**^{1,2}

¹Institute for Catalysis, Hokkaido University, Sapporo, Japan

²Graduate School of Environ. Science, Hokkaido University, Sapporo, Japan

³Graduate School of Engineering, Muroran Institute of Technology, Japan

8:55 – 9:20 am **Behaviors of Photogenerated Electrons and Holes on TiO₂ Powder Photocatalysts**

IL

Akira Yamakata, **Junie Jhon M. Vequizo** and **Hironori Matsunaga**

Toyota Technological Institute, Nagoya, Japan

9:20 – 9:45 am **Transient Phenomena in Photocatalysis, as Studied by Ultrafast FTIR Measurements**

IL

Yaron Paz*

Technion, Haifa, Israel

9:45 – 10:10 am **Relationship Between the Photocatalytic Activity and the Adsorption Mode**

IL

Chuncheng Chen,* **Hongna Zhang**, **Hongwei Ji**, **Wanhong Ma**, and **Jincai Zhao**

Beijing National Laboratory for Molecular Sciences, Chinese Academy of Sciences, Beijing, P. R. China

10:10 – 10:30 am **Coffee Break**

10:30 – 10:45 am **Application of “Black Body” Reactor for Comparison of the Photocatalytic Activity of Different Photocatalysts**

ST

Lena Megatiff¹, **Ralf Dillert**^{1,2} and **Detlef W. Bahnemann**^{1,3}

¹ Institut für Technische Chemie, Leibniz Universität Hannover, Germany

² Laboratorium für Nano- und Quantenengineering, Gottfried Wilhelm Leibniz Universität Hannover, Germany

³ Laboratory “Photoactive Nanocomposite Materials”, Saint-Petersburg

State University, Saint-Petersburg, Russia

Session 6: Photocatalyst Synthesis – I

- 10:45 – 11:10 am**
IL **Challenges in the Development of Efficient Photocatalytic Reaction Systems at the State Key Laboratory of Photocatalysis on Energy and Environment, Fuzhou University**
Masakazu Anpo*, Xincheng Wang, and Xianzhi Fu
Fuzhou University, Fuzhou, Fujian, P. R. China
- 11:10 – 11:35 am**
IL **Rice Husk-Templated Multidoped TiO₂ Microparticles**
Nazli Turkten and Zekiye Cinar
Yildiz Technical University, Istanbul, Turkey
- 11:35 – 12:00 pm**
IL **Nanoporous Photocatalysts with Varying Metal Compositions for the Efficient Photodegradation of Dyes, Phenol and Salicylic Acid**
Pegie Cool
University of Antwerp, Wilrijk, Belgium
- 12:00 – 1:30 pm** **Lunch Break**
- 1:30 – 1:55 pm**
IL **Recent Developments in the Production of Photocatalytic Materials by Magnetron Sputtering Techniques**
Peter Kelly and Marina Ratova
Manchester Metropolitan University, Manchester M1 5GD, UK
- 1:55 – 2:20 pm**
IL **Significant New Evidence/Findings for Energy Savings Related to Self-Cleaning Processes: Critical Issues**
J. Kiwi
Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
- 2:20 – 2:35 pm**
ST **A Comparison of Techniques for the Low Temperature Sputter Deposition of Crystalline Photocatalytic Titania onto Polymer Surfaces**
Glen West, Marina Ratova, and Brice Delfour-Peyrethon
Manchester Metropolitan University, Manchester, UK

Session 7: Photocatalytic Air Treatment

- 2:35 – 3:00 pm**
IL **Photocatalytic Oxidation for Air Purification: The Road from Laboratory Discovery to Practical Applications**
Gregory B. Raupp*

Arizona State University, Tempe, Arizona, USA

3:00 – 3:25 pm
IL

Twenty-Seven Years of Photocatalytic Air Treatment at CIEMAT 1990-2017

Benigno Sanchez

FOTOAIR (Analysis and Photocatalytic Treatment of Pollutants in Air),
Renewable Energies Division, Madrid, Spain

3:25 – 3:40 pm

Coffee Break

3:40 – 4:05 pm
IL

Photocatalytic Mineralization of Gaseous Acetaldehyde on Nitrogen-Modified TiO₂ Photocatalysts Thin Film

L. Kowalczyk, A. Wanag, E. Kusiak-Nejman, J. Kapica-Kozar, B. Tryba and A.W. Morawski

West Pomeranian University of Technology, Szczecin, Poland

4:05 – 4:30 pm
IL

Adsorption and Reactivity of Atmospheric Mineral Dusts: First Insight to Geo-Photo-Catalysis

Frédéric Thevenet, Manolis Romanias and Mohamad Zeineddine

IMT Lille Douai, Université de Lille, Douai, France

4:30 – 4:55 pm
IL

Harnessing Low Energy Photons for Solar Photocatalysis by Triplet-Triplet Annihilation Upconversion (TTA-UC)

Hyoung-il Kim

Yonsei University, Seoul, Korea

4:55 – 5:20 pm
IL

Studying Mobile Charge-Carriers in Semiconductor Particles by Time Resolved Microwave Conductivity: Recent Developments

C. Colbeau-Justin, A. Hérisan, A.L. Luna Barrón, M.G. Méndez Medrano and H. Remita

CNRS UMR 8000, Université Paris-Sud, Orsay France

5:20 – 5:45 pm
IL

FTIR Spectroscopy with Isotopic Exchange: A Powerful Technique to Elucidate Photocatalytic Reaction Mechanisms

Mohamad El-Roz and Frederic Thibault-Starzyk

Normandie University, ENSICAEN, UNICAEN, CNRS, Caen, France

5:45 – 6:00 pm
ST

Photocatalytic Oxidation of VOC for Cleaning Vehicle Cabin Air DRIFT Spectroscopy Investigations of Surface Species

Marième Bouhatmi,* Frédéric C. Meunier, Chantal Guillard and Philippe Vernoux

Université de Lyon, CNRS, Université Claude Bernard Lyon 1, IRCELYON, UMR 5256, Villeurbanne, France

Wednesday, November 15, 2017

Session 8: Photocatalyst Synthesis – II

8:30 – 8:55 am **TiO₂-x Photocatalyst with Efficient Charge Separation for Enhanced Photocatalytic Activities**
IL

Jinlong Zhang*

East China University of Science, Shanghai, P. R. China

8:55 – 9:20 am **Photocatalytic Performances of Porous N-doped TiO₂ Prepared by Using MOF as a Precursor**
IL

Yujie Song, Hao Wang, Shijing Liang and Ling Wu *

Fuzhou University, Fuzhou, P. R. China

9:20 – 9:45 am **Silica Supported Photocatalysts: Application Aspects**
IL

Nataša Novak Tušar^{1,2}

¹National Institute of Chemistry, Ljubljana, Slovenia

²University of Nova Gorica, Nova Gorica, Slovenia

9:45 – 10:00 am **Synthesis and Characterization of Ferrites and Evaluation of their Light Induced Activity under Different Irradiation Wavelengths**
ST

Arsou Arimi¹, Ralf Dillert^{1,2} and Detlef W. Bahnemann^{1,3}

¹Institut für Technische Chemie, Leibniz Universität Hannover, Hannover, Germany

²Laboratorium für Nano- und Quantenengineering, Gottfried Wilhelm Leibniz Universität Hannover, Hannover, Germany

³Laboratory “Photoactive Nanocomposite Materials”, Saint-Petersburg State University, Saint-Petersburg, Russia

10:00 – 10:30 am **Coffee Break**

Session 9: Fundamentals – II

10:30 – 10:55 am **An Overview of 30 Years of Research on the Use of Adsorption and Reactions of NO to Probe Photo-excited TiO₂**
IL

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

10:55 – 11:20 am **Kinetics of Photocatalyzed Reactions: Four Lessons Learned**
IL

David Ollis
North Carolina State University, Raleigh, NC, USA

11:20 – 11:45 am **Crystal Phase-Dependent Generation of Diffusing Hydroxyl Radical on TiO₂ and Its Role in Photocatalysis**
IL **Wooyul Kim**
Women's University, Seoul, South Korea

12:00 – 1:30 pm **Lunch Break**

Session 10: Organic Synthesis

1:30 – 1:45 pm **Characterization and Application of Gold and Platinum Colloids Stabilized by Chiral Molecules**
ST **Mai Takase¹, Shunsuke Kimura² and Bunsho Ohtani^{2,3}**
¹ Graduate School of Engineering, Muroran Institute of Technology, Muroran, Japan
² Graduate School of Environmental Science, Hokkaido University, Sapporo, Japan
³ Catalysis Research Center, Hokkaido University, Sapporo, Japan

1:45 – 2:00 pm **Dehydrogenation of 1,2,3,4-Tetrahydroquinoline to Quinoline by Surface grafted TiO₂ Photocatalysts under Visible Light Illumination**
ST **Narmina O. Balayeva¹, Nan Zheng², Ralf Dillert¹ and Detlef W. Bahnemann^{1,3}**
¹ Leibniz University of Hannover, Hannover, Germany
² University of Arkansas, Fayetteville, AR, USA
³ Saint-Petersburg State University, Saint-Petersburg, Russia

Session 11: Hydrogen Production – II

2:00 – 2:25 pm **Titania And Hematite Nanostructured Photoanodes For Hydrogen Production Via Light Assisted Water Electrolysis**
IL **J. Krýsa**
University of Chemistry and Technology, Prague, Czech Republic

2:25 – 2:50 pm **Simultaneous Hydrogen Production Using a MoS₂ QD-decorated Hierarchical Assembly and ZnIn₂S₄ on Reduced Graphene Oxide Photocatalyst**
IL **Shuqu Zhang,¹ Longlu Wang,¹ Chengbin Liu,^{*1} Jinming Luo,^{*2} John Crittenden,² Xia Liu,³ Tao Cai,⁴ Jili Yuan,¹ Yong Pei,³ and Yutang Liu**
¹ State Key Laboratory of Chemo/Biosensing and Chemometrics, Hunan University, Changsha, P. R. China
² Georgia Institute of Technology, Atlanta, Georgia, United States
³ Xiangtan University, Xiangtan, China

⁴ College of Environmental Science and Engineering, Hunan University, Changsha, P. R. China

3:00 – 3:30 pm

Coffee Break

3:30 – 3:55 pm
IL

Enhanced Photoactivity Hydrogen Generation by Electron Tunneling Via Flip-Flop Hopping over Iodinated Graphitic Carbon Nitride

Gongxuan Lu*

Lanzhou Institute of Chemical Physics, Chinese Academy of Science, Lanzhou, China

3:55 – 4:10 pm
ST

Great enhancement of Photocatalytic and Photoelectrochemical Water Splitting Applications of Bismuth Vanadate with Maximized Interfacial Coupling with RGO

Tayyeb Soltani and Byeong-Kyu Lee*

¹University of Ulsan, Republic of Korea

Session 12: Visible Light Photocatalysis

4:10– 4:25 pm
ST

Immobilization of Artificial Light Harvesting System Imitated Plants on TiO₂ for Dye-Sensitized Solar Cells

Yuya Takekuma^{1, 2}, Tsuyoshi Ochiai^{2, 3, 4} and Morio Nagata¹

¹Tokyo University of Science, Tokyo, Japan

²Kanagawa Institute of industrial Science and TEChnology (KISTEC), Kanagawa, Japan

³Materials Analysis Group, Kawasaki Technical Support Division, KISTEC, Kanagawa, Japan

⁴Photocatalysis International Research Center, Tokyo University of Science, Noda City, Chiba, Japan

4:25 – 4:40 pm
ST

Photoelectrochemical H₂O₂ Production by Using Cubi₂O₄ Photocathode in Neutral Aqueous Media under Visible Light Irradiation

Sunao Kamimura^{1, 2}, Teruhisa Ohno¹, and Tomoyuki Tanaka¹

¹Kyushu Institute of Technology, Tobata, Kitakyushu, Japan

²PRESTO, Japan Science and Technology Agency, Saitama, Japan

4:40 – 4:55 pm
ST

Nanomaterials for Solar Water Purification at Rural Areas: State of the Art

Juan Rodríguez

Universidad Nacional de Ingeniería, Lima, Perú

- 4:55 – 5:10pm**
ST **Heterogeneous Photocatalytic Degradation of Glyphosate in TiO₂-Based CPC Reactor under Solar Irradiation**
Jaime Leal Navarro^{*1}, Fernando Puello Cantillo¹, Miguel Angel Mueses¹
Universidad de Cartagena, Cartagena, Colombia
- 5:10 – 5:25 pm**
ST **Boron-Doped-Diamond Electrodes for Dye-Sensitized Solar Cells**
Hana Krýsová¹, Jan Bartoň², Andrew Taylor³, Vincent Mortet³, Petr Cígler² and Ladislav Kavan¹
¹ J. Heyrovský Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic
² Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic
³Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czech Republic

Thursday, November 16, 2017

Session 13: Photocatalyst Synthesis – III

- 8:30 – 8:55 am**
IL **Interest of Gas Phase Processes for the Synthesis of Materials Activated under Light: Example in Photocatalysis and Photovoltaic**
N. Herlin Boime¹, S. Ngo², S. Bouhadoun^{1,2}, R. Belchi¹⁻³, A. Habert¹, F. Dapozze², J. Bouclé³ and C. Guillard²
¹NIMBE, CEA, CNRS, Université Paris-Saclay, Gif-sur-Yvette France
²IRCELYON, CNRS-Université Claude Bernard Lyon 1, Villeurbanne Cedex, France
³Univ. Limoges, CNRS, XLIM, UMR 7252, Limoges, France
- 8:55 – 9:20 am**
IL **Design And Synthesis Of Tailoring Titanate Nanotubular Materials For Photocatalytic Applications**
Olinda C. Monteiro
Universidade de Lisboa, Lisboa, Portugal
- 9:20 – 9:35am**
ST **Ag₃PO₄ Based Photocatalysts for Efficient Visible-Light Induced Photocatalytic Degradation of Pollutants**
Henry Agbe, Nadeem Raza, and Vasant Ramachandran Kumar
University of Cambridge, Cambridge, United Kingdom

- 9:35 -9:50am**
ST **Composite Photocatalysts TiO₂-Active Carbon and Their Application in Air Treatment**
M. Baudys^{1,2} and J. Krýsa²
¹Technopark Kralupy, University of Chemistry and Technology Prague, Czech Republic
²Department of Inorganic Technology, University of Chemistry and Technology, Prague, Czech Republic
- 9:50 – 10:05 am**
ST **TiO₂ and ZnO Based Materials for Environmental Photocatalysis**
Roberto J. Candal
Universidad Nacional de San Martín, San Martín, Provincia de Buenos Aires, Argentina
- 10:05 – 10:30 am** **Coffee Break**
- 10:30 – 10:45 am**
ST **Toward Smart Textile: New Coatings for Photocatalytic Decontamination**
Pauline Barrois^{1,2*} Olivier Félix,² Gero Decher² and Valérie Keller¹
¹Institut de Chimie et des Procédés pour l’Energie, l’Environnement et la Santé, Strasbourg, France
²Institut Charles Sadron, Strasbourg, France
- 10:45 – 11:00 am**
ST **Analysis of the Functional Semiconducting Materials Based on the Bismuth Vanadate with Anchored Organic Dye Molecules**
Karolina Ordon^{1,2}, Małgorzata Makowska-Janusik¹and Abdelhadi Kassiba²
¹ Jan Dlugosz University in Czestochowa, Czestochowa, Poland
² University du Maine in Le Mans, Le Mans, France
- 11:30 – 1:30 pm** **Lunch & Closing Remarks**

Posters

Facile Synthesis of Nitrogen- and Boron- Codoped TiO₂ with Enhanced Photocatalytic Properties for Wastewater Treatment/Reuse applications

Wael H. M. Abdelraheem^{1,2}, Meghshyam K. Patil^{1,3}, Ying Huang¹, Mallikarjuna N. Nadagouda⁴ and Dionysios D. Dionysiou^{1*}

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 Clearness 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. Abdullah¹, 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

Ayşe 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 Akmeahmet Balcıoğlu

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-Gómez^{1,2} and Miguel-Ángel Gómez-García^{1,2}

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)

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Singlet Oxygenation of Domoic Acid as a Potential Remediation Strategy

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Two- or Four-Electron Oxygen Reduction Using Semiconductor Oxide Cathode

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Fabrication of Cu_2MSnS_4 (M = Zn, Fe) Electrode by a Spray Pyrolysis Deposition Method and Evaluation of Photoelectrochemical Property

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Photoelectrochemical Reduction of Nitrobenzene to Aniline by Using $\text{Cu}_2\text{ZnSnS}_4$ Photocathode and a Significant Effect of Surface Modification by N-Type Buffer Layer Deposition

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