**SYMPOSIUM ED5**

Photoactive Nanoparticles and Nanostructures  
April 18 - April 21, 2017

**Symposium Organizers**  
Feng Bai, Henan University  
Ying-Bing Jiang, Angstrom Thin Film Technologies LLC  
Binsong Li, Tsinghua Innovation Center in Dongguan  
Dong Qin, Georgia Institute of Technology

**Symposium Support**  
Dongguan-RITS Innovation Center  
Henan University

**Proceedings Statement**  
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**SESSION ED5.1: Photocatalysis I**  
Session Chairs: Dong Qin and Yang Qin  
Tuesday Morning, April 18, 2017  
PCC North, 100 Level, Room 129 A

**10:30 AM **ED5.1.01  
Interfacial Self-Assembly of Hierarchically Structured Nanoparticles with Photocatalytic Activity  
*Hongyang Fan* \(^1, 2\); \(^1\) Sandia National Laboratories, United States; \(^2\) University of New Mexico, United States.

**11:00 AM **ED5.1.02  
Effects of Nano-Scale Surface Modifications on Photoelectrochemical Solar Fuel Production  
*Tsutomu Minegishi* \(^1\); \(^1\) The University of Tokyo, Japan; \(^1\) JST, Japan.

**11:30 AM **ED5.1.03  
Ferroelectric Field Tuned Photoelectrochemical Water Splitting Using Graphene as Electrode  
*Xiaobo Chen* \(^1\); \(^1\) University of Wisconsin-Madison, United States; \(^1\) Lanzhou University, China.

**11:45 AM **ED5.1.04  
Twin Defects Control the Shape of Ternary Silver Halide Nanocrystals for Photocatalytic Reactions  
*Bo Yin* \(^1\); \(^1\) Washington University in St. Louis, United States; \(^2\) Washington University in St. Louis, United States.

**SESSION ED5.2: Nanocrystal I**  
Session Chairs: Feng Bai and Zaicheng Sun  
Tuesday Afternoon, April 18, 2017  
PCC North, 100 Level, Room 129 A

**1:30 PM **ED5.2.01  
Gold Nanocages as Photothermal Transducers for Controlled Release and Sensing Applications  
*Younan Xia*; \(^1\) Georgia Institute of Technology, United States.

**2:00 PM **ED5.2.02  
Nanoscale Optical Interactions in Precise Assemblies  
*Paul S. Weiss*; \(^1\) University of California, Los Angeles, United States.

**2:30 PM **ED5.2.03  
Permanent Eximer Superstructures by Supramolecular Networking of Metal Quantum Clusters  
*Sergio Brovelli*; \(^1\) University of Milano Bicocca, Italy; \(^1\) University of Milano, Italy.

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**SESSION ED5.3: Poster Session I**  
Tuesday Afternoon, April 18, 2017  
Sheraton, Third Level, Phoenix Ballroom

**ED5.3.01**  
Solution-Based Self-Assembly and Nanoengineering of Multifunctional Nanoparticle Coatings  
*Karfu Bian*; \(^1\) Sandia National Laboratory, United States.

**ED5.3.02**  
Construction of Enhanced Photocurrent Generation Systems by Nanocomposite Layers of Silver Nanoparticles and Dyes  
*Katsuhiko Kanaizuka*; \(^1\) Yamagata University, Japan.

**ED5.3.03**  
Pyrolysis of Self-Assembled Iron Porphyrin on Carbon Black as Core/Shell Structured Electrocatalsysts for Highly Efficient Oxygen Reduction in both Alkaline and Acidic Medium  
*Yujing Song*; \(^1\) Dalian University of Technology, China.

**ED5.3.04**  
Graphene Quantum Dots in High Performance Organic Photovoltaic Devices  
*Zhiying Zhang* \(^1\); \(^1\) Guilin University of Electronics and Technology, China; \(^1\) Beijing Institute of Technology, China.

**ED5.3.05**  
Highly Stable Transparent Electrode Based on Copper Nanowire@Graphene Core@Shell Nanocoat  
*Yunmi Ahn*; \(^1\) Daegu Gyeongbuk Institute of Science and Technology, Korea (the Republic of).

**ED5.3.06**  
Low Dimensional Multilayered Nanocoatuears for Plasmonic Applications  
*Ezgi Abacioglu*; \(^1\) Middle East Technical University, Turkey.

**ED5.3.07**  
Porphyrid-Based Composites Controllable Self-Assembly and Photodynamic Therapy Research  
*Jiefei Wang* \(^1\); \(^1\) Henan University, China; \(^2\) Key Laboratory for Special Functional Materials of the Ministry of Education, China.

**ED5.3.08**  
3D Core-Shell Porous Structures for Photoelectrochemical Water Splitting  
*Kiwon Kim*; \(^1\) Soong University, Korea (the Republic of).

**ED5.3.09**  
Enhanced Optical Stability of All-Inorganic Perovskite Nanocrystals Embedded in Polymer  
*Yuan Chih Chang*; \(^1\) National University of Tainan, Taiwan; \(^2\) National University of Tainan, Taiwan.
ED5.3.10 Synthesis and Characterization of Novel Copper-Manganese Based Oxides Chun-Yi Lu; National Tsing Hua University, Taiwan.

ED5.3.11 Hierarchical TiO$_2$-Based Nanostructures for Photoelectrochemical Water Splitting Luca Mascaretti; Politecnico di Milano, Italy.

ED5.3.12 Tunable-Photoluminescence 2D Materials Quantum Dots Bedanga Sapkota; Northeastern University, United States.

ED5.3.13 A Quantitative Analysis of the Reduction Pathways of a Salt Precursor in the Synthesis of Metal Nanocrystals Tung Han Yang$^{1,2}$; 1Georgia Institute of Technology and Emory University, United States; *National Tsing Hua University, Taiwan.

ED5.3.14 Optical Properties of Nano-Structured Semiconductors Fabricated by Ion Implantation Angelica Hernandez; CINVESTAV, Mexico.

ED5.3.15 Tip-Enhanced Photovoltaic Effects in Pd Substituted PZT Thin Films Shalini Kumar; University of Puerto Rico, United States.

ED5.3.16 A Systematic Study of the Effect of Cd$_n$ Shell Thickness on the Complex Index of Refraction of CdSe/Cds Core/Shell Nanocrystal Solids Mayank Puri; University of Minnesota, United States.

ED5.3.17 Development of Al$^{3+}$ and Fe$^{3+}$ Co-Doped TiO$_2$ Compact Films and their Application in Hybrid Solar Cells with a Mixed Tin-Lead Perovskite and Pb$_x$S$_{1-x}$ Photoabsorbing Nanoparticles Jose Garcia Cerrillo; UNAM, Mexico.

ED5.3.18 A Porphyrin Protein Maquette-Based Photovoltaic Device David L. Officer; University of Wollongong, Australia.

ED5.3.19 Nitrogen-Doped Carbon Nanodots for Photoacoustic Imaging and Photothermal Therapy Songseun Beack; POSTECH, Korea (the Republic of).

ED5.3.20 Development of a Filter Loaded with the Various and Nanocomposite Catalyst for the Optimum Indoor Air Purification via Photocatalytic Oxidation Arda Kucuksari; Istanbul Technical University, Turkey.

ED5.3.21 Microwave-Assisted Synthesis and Characterization of SnS Nanoparticles with Different Morphologies Evelyn B. Diaz-Cruz; UNAM, Mexico.

SESSION ED5.4: Solar Cell
Session Chairs: Ying-Bing Jiang and Yang Qin
Wednesday Morning, April 19, 2017
PCC North, 100 Level, Room 129 A

8:30 AM *ED5.4.01 Hot Carrier Transfer in Nanoparticles—Quantum Dots to Perovskites David S. Ginger; University of Washington, United States.

9:00 AM *ED5.4.02 Ultrasonic and Fast Monolayer WS$_2$ Phototransistors Realized by SnS Nanosheet Decoration Yongjun Tian; Yanshan University, China.

9:30 AM ED5.4.03 Bottom-Up Approaches for Precisely Nanostructuring Hybrid Organic/Inorganic Multi-Component Composites for Organic Photovoltaics Yang Qin; University of New Mexico, United States.

9:45 AM ED5.4.04 A Bio-Inspired and Self-Assembled Water Oxidation Photocathode Based on Moth-Eye Photonic Architecture Artur Braun; Empa-Swiss Federal Laboratories for Materials Science and Technology, Switzerland.

10:00 AM BREAK

SESSION ED5.5: Nanocrystal II
Session Chairs: Ying-Bing Jiang and Yang Qin
Wednesday Morning, April 19, 2017
PCC North, 100 Level, Room 129 A

10:30 AM *ED5.5.01 Rational Design of Photoactive Titania Nanostructures Yadong Yin; University of California, Riverside, United States.

11:00 AM ED5.5.02 Formation of Silicon Nanocrystals in Silica Films via Double Implantation James M. Gaudet; University of Western Ontario, Canada.

11:15 AM ED5.5.03 Enhancing Photocatalytic Performance by Tailor-Made Iron Oxide Nanoshells in Advanced Oxidation Process Wenjing Xu; University of California, Riverside, United States.

11:30 AM ED5.5.04 Morphology Dependence of Photocatalytic Methane Oxidation in Shape-Controlled BiVO$_4$ Microcrystals Wenlei Zhu; Washington University in St. Louis, United States.

11:45 AM ED5.5.05 Ultrathin Dielectrics as the Carrier Blocking Layer for Amorphous Selenium (a-Se) MISIM Photodetectors of High Signal Contrast Chengu-Yi Chang; National Chiao Tung University, Taiwan.

SESSION ED5.6: Photocatalysis and Nanostructures
Session Chairs: Yujiang Song and Jian Zhang
Wednesday Afternoon, April 19, 2017
PCC North, 100 Level, Room 129 A

1:30 PM *ED5.6.01 Interfacing Nanomaterials for Solar-to-Fuel Conversion Peidong Yang$^{1,2}$; *University of California, Berkeley, United States; Kavli Energy Nanosciences Institute, United States.

2:00 PM *ED5.6.02 Scattering-Enhanced Absorption in Catalysts Yugang Sun; Temple University, United States.

2:30 PM BREAK

SESSION ED5.7: Photocatalytic Polymer Materials
Session Chairs: Yujiang Song and Jian Zhang
Wednesday Afternoon, April 19, 2017
PCC North, 100 Level, Room 129 A

3:30 PM ED5.7.01 Enhanced Visible Light Photocatalytic Activity of BiVO$_4$ Photocathodes Produced By Magnetron Co-Sputtering Oswany Despabil-Rivera$^{1,2}$; *Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Mexico; *Posgrado en Ciencia e Ingeniería de Materiales, Universidad Nacional Autónoma de México, Mexico.

3:45 PM ED5.7.02 Photophysics of New Nanomaterials for Organic and Hybrid Solar Cells Alberto Privitera; University of Padova, Italy.

4:00 PM ED5.7.03 Interface Engineering in Organic and Hybrid Photovoltaic Cells with Photoactive Nanomaterials Jian Zhang; Guilin University of Electrical Technology, China.

4:30 PM ED5.7.04 Plasmonic Nanoprobes as Labelling Agents in Optical Nanoscopy Emilio Cortes; Imperial College London, United Kingdom.
4:45 PM ED5.7.05
Free Electron Photogeneration in Plasma-Synthesized ZnO Nanocrystals Benjamin Greenberg; University of Minnesota, United States.

SESSION ED5.8: Poster Session II
Wednesday Afternoon, April 19, 2017
8:00 PM - 10:00 PM
Sheraton, Third Level, Phoenix Ballroom

ED5.8.01 Stress-Induced Phase Transformation, Consolidation and Optical Coupling of Quantum Dots Kaifu Bian; Sandia National Laboratories, United States.

ED5.8.02 Effect of Plasma Modification on Surface Chemical Analysis and Photocatalytic Properties of Zinc Oxide Yu-Ting Chiang; National University of Tainan, Taiwan.

ED5.8.03 Synthesis and Photoelectrochemical Properties of Mesoporous Materials Embedded with Metallic Nanoparticles Nelly Coutou; University of Lyon, France.

ED5.8.04 Electrical and Optical Properties of Novel Tin-Nickel Based Oxide Yuving Chu; National Tsing Hua University, Taiwan.

ED5.8.05 Radiative Defects, Emission and Structure of ZnO Nanocrystals Obtained by Electrochemical Method Tetiana Torchynska; Instituto Politecnico Nacional, Mexico.

ED5.8.06 Enhanced Self-Enhanced Self-Cleaning Surface by Atomic Layer Deposition of Photocative TiO2 Nanocomposite Joseph Jiang1; 2; Angstrom Thin Film Technologies LLC, United States; 3Sandia National Labs, United States.

ED5.8.07 Spontaneous Self-Assembly of Silver Nanoparticles into Lamellar Structured Silver Nanoleaves Qianbin Wang; Chinese Academy of Sciences, China.

ED5.8.08 Remarkably Enhanced Photocatalytic Activity in Bi1-xBaxFeO3 Prepared by Sol-Gel Method J.R. Cheng; Shanghai University, China.

ED5.8.09 Electrochemical Reduction of Hydrogen Carbonate Using Porous Diodes Yevedzo E. Chipangura; College of St. Scholastica, United States.

ED5.8.10 Visible-Light Nanoscale Photoconductivity of Grain Boundaries in Self-Supported ZnO Platelets Nastaran Faraj; University of New South Wales, Australia.

ED5.8.11 Visible Light Emission from Implanted III-V Semiconductors Angelica Hernandez; CINVESTAV, Mexico.

ED5.8.12 Photocatalytic Performance and Electronic Structures of SnO2 Nanoparticles Modified by Transition Metal Doping Hangil Lee; Sookmyung Women’s University, Korea (the Republic of).

ED5.8.13 Near Infrared Laser Triggered NO Generators for Reversal of Multidrug-Resistant Cancer Ranran Guo1; 2; Fudan University, China; 3State Key Laboratory of Molecular Engineering of Polymers, China.

ED5.8.14 The Coupling between Two Heterogeneous InAs Quantum Dot Families and Its Effect into Optical Properties Subhananda Chakrabarti; IIT Bombay, India.

ED5.8.15 Magnetically Rewritable and Thermally Reversible-Showing Photonic Crystal Paper Huiru Ma1; 2; Wuhan University of Technology, China; 3Wuhan University of Technology, China.

ED5.8.16 Surface-Coated Responsive Polymer Superparamagnetic Nanoparticles for Photonic Crystal Sensors Ke Chen1; 2; Wuhan University of Technology, China; 3Wuhan University of Technology, China.

ED5.8.17 1D Flexible Photonic Nanochains-Based Magnetically Responsive Photonic Crystals Yun Liu; Wuhan University of Technology, China.

ED5.8.18 Self-Oriented Magnetochromatic Photonic Crystal Balls Yali Tan; Wuhan University of Technology, China.

8:30 AM ED5.9.01 Gallium Oxycarbonate Containing Composites for Biointerface Studies Albena Ivanisevic; North Carolina State University, United States.

9:00 AM ED5.9.02 Controlled Synthesis of Electrocatalysts by Using Photo- and Electro-Aactive Porphyrin Yujie Song; Dalian University of Technology, China.

9:30 AM ED5.9.03 Relations between Morphology and Photoluminescence Properties in Single Colloidal Nanoplatelets Zhongjian Hu; Los Alamos National Laboratory, United States.

9:45 AM ED5.9.04 Fluorescence Enhancement in Quantum Dot Coupled Plasmonic Nanocup Structures Akshit Peer1; 2; Iowa State University, United States; 3Ames Laboratory, United States.

10:00 AM BREAK

SESSION ED5.10: Photocatalysis II
Session Chairs: Yujie Song and Xinhe Zheng
Thursday Morning, April 20, 2017
PCC North, 100 Level, Room 129 A

10:30 AM ED5.10.01 Engineering of Semiconducting Heteronanostructures for Solar Energy Conversion Shu-Hong Ye; University of Science and Technology of China, China.

11:00 AM ED5.10.02 Tailoring Titania Nanostructures for Solar Cell Applications Peter Muller-Buschbaum; Technical University of Munich, Germany.

11:30 AM ED5.10.03 Hierarchical Micropost Array for Enhancement of Photoactive TiO2 for Catalytic Microreactor Applications Duncan Z. Ashby; University of California, Riverside, United States.

11:45 AM ED5.10.04 Controlled Synthesis of Metal-Semiconductor Hybrid Plasmonic Nanocrystals and Their Photothermal Applications Hang Jiang; Chinese Academy of Sciences, China.
1:30 PM *ED5.11.01
Design and Synthesis of New Non-Blinking Structure, Composition and Shape-Controlled Quantum Dots Jennifer Hollingsworth; Los Alamos National Laboratory, United States.

2:00 PM *ED5.11.02
Syntheses of Nanoparticles and Nanowires Using Charged Nanoparticles Spontaneously Generated in the Gas Phase during Chemical Vapor Deposition Nong-Moon Hwang; Seoul National University, Korea (the Republic of).

2:30 PM ED5.11.03
Reversible, Tunable, Electric Field-Driven Aggregation and Assembly of Silver Nanocrystals Yixuan Yu; Lawrence Livermore National Laboratory, United States.

2:45 PM ED5.11.04
Interface Chemistry of Colloidal Quantum Dots in Photonic Applications Weon-Kyu Koh; Samsung Advanced Institute of Technology, Korea (the Republic of).

3:00 PM BREAK

SESSION ED5.12: Carbon Dots
Session Chairs: Feng Bai and Zaicheng Sun Thursday Afternoon, April 20, 2017
PCC North, 100 Level, Room 129 A

3:30 PM *ED5.12.01
Construction of Theraonstic Agent Based on Fluorescent Carbon Dots Zhaicheng Sun; Beijing University of Technology, China.

4:00 PM *ED5.12.02
Metal/Semiconductor Hetero-Nanocrystals—Surface/Interface Control and Photocatalysis Applications Jiajiao Zhang; Beijing Institute of Technology, China.

4:30 PM ED5.12.03
Optical Properties of Metal-Semiconductor Janus Nanoparticles Templated on Genetically and Morphologically Manipulated Bacteriophage Joshua M. Plank; University of California, Riverside, United States.

4:45 PM ED5.12.04
Nucleation and Growth of CdS Quantum Dots by SAXS, WAXS and MD Andreas Mayerl; University of Erlangen-Nuremberg, Germany.

SESSION ED5.13: Poster Session III Thursday Afternoon, April 20, 2017 8:00 PM - 10:00 PM Sheraton, Third Level, Phoenix Ballroom

ED5.13.01
Pressure-Directed Folding and Unfolding Self-Assembly of New Classes of Multi-Dimensional Nanostructures Kaifu Bian; Sandia National Laboratory, United States.

ED5.13.02
PEALD-Grown AlN Films with Sharp Interface and Good Uniformity on Silicon Substrates Xinhe Zheng; University of S&T Beijing, China.

ED5.13.03
Synthesis and Applications of Photoactive o-Ag$_2$WO$_4$ Nanorods Ivo M. Pinatti; Federal University of Sao Carlos, Brazil.

ED5.13.04
Fabrication and Characterization of Platinum Coated with Solution Processed Graphene Yinghe Zhang; Helmholtz Association of German Research Centre, Germany.

ED5.13.05
Hybrid Silicon Honeycomb/Polymer Solar Cells with Enhanced Efficiency Using Surface Etching Ruayvan Liu; Soochow University, China; Georgia Institute of Technology, United States.

ED5.13.06
Block Copolymer Templated Nanostructured Metal Oxides through Atomic Layer Deposition Charles Fan; Albuquerque Academy, United States.

ED5.13.07
Nitrodopamine-PEG Grafted Iron Oxide Nanocubes for Magnetic Resonance Imaging Probe Bikok Thana; University of Puerto Rico, United States; ‘Molecular Sciences Research Center, United States.

ED5.13.08
Path Programmable Droplet Manipulations on a Light-Responsive Surface Surjith Kumar; University of Alberta, Canada.

ED5.13.09
Selective Area Atomic Layer Deposition of Platinum on Patterned Peeling Graphene Weijer Lu; Chinese Academy of Sciences, China.

ED5.13.10
Heterovalent-Doped Quantum Dots—Synthesis, Doped Impurities Control and Their Dispersion in Bulk Polymer for LSC Applications Jiajiao Zhang; Beijing Institute of Technology, China.

ED5.13.11
Synthesis of Nanostructures with Controllable Plasmonic Resonance by Deposition of Metals onto Porous Silicon Hanna V. Bandarenka; Belarusian State University of Informatics and Radioelectronics, Belarus.

ED5.13.12
New Absorbent Semi-Conductor Spinel Oxide $\text{M}_2\text{CO}_3\cdot\text{MnO}_4$ Nanoparticles and Films with Tunable Band Gap for Photovoltaic Applications Sophie Guillemin-Fritsch; Toulouse Midi-Pyrénées, France; ‘CNRS, France.

ED5.13.13
Porphyric Controllable Self-Assembly and Photocatalytic Structure-Activity Relationship Study Yona Zhong; Henan University, China; ‘Key Laboratory for Special Functional Materials of the Ministry of Education, China.

ED5.13.14
Evidence for Small Polaron Formation Leading to Intrinsic Photoexcited Charge Trapping in $\alpha$-Fe$_2$O$_3$ Scott K. Cushing; University of California, Berkeley, United States; ‘Lawrence Berkeley National Laboratory, United States.

ED5.13.15
Novel Route for the Preparation of Bi$_2$O$_3$ Nanostructures with Photocatalytic Activity Karen Valencia García; Universidad Nacional Autonoma de Mexico, Mexico; ‘Universidad Nacional Autonoma de Mexico, Mexico.

ED5.13.16
Silver@Anatase TiO$_2$-Coated Light-Diffusing Polymer Optical Fibres by Atmospheric-Pressure Plasma-Enhanced CVD for Antibiotic Degradation and Water Decontamination Kamal Baba; Luxembourg Institute of Science and Technology (LIST), Luxembourg.

ED5.13.17
Earth Abundant Zn-Sn Based Oxide Ferroelectric Nanostructures as Effective Solar Cell Materials Anuja Datta; Department of Materials Science, University of Cambridge, United Kingdom.

ED5.13.18
Characterization of Titanium Dioxide Thin Films Prepared by Dip-Coating Method Followed with Hydrothermal Treatment Zhen-Yu Lin; National University of Tainan, Taiwan.

ED5.13.19
Photoluminescent Silicon Nanoparticles—Synthesis, Stabilization, Size-Dependent Properties and Applications beyond Optoelectronics Chexi Qian; University of Toronto, Canada.
ED5.13.20
Electrodeposition of Single-Crystalline ZnO Nanorods on Graphene for Tin Oxide-Free Photoanodes Claudia C. Villarreal,1; 2 University of California, Riverside, United States; 1 Instituto Tecnologico de Costa Rica, Costa Rica.

ED5.13.21
Engineering Gold Nanoconstructs for Photovactivatable Controlled Release of Antibiotics Jingyi Chen; University of Arkansas, United States.

ED5.13.22
Enhanced Efficiency of Self-Organized TiO2 Nanotubes Films due to Secondary Materials—Towards Applications Miles Kerhal; University of Pardubice, Czech Republic.

ED5.13.23
Photoelectric Properties of Visible Light Photodetectors Based on Crystalline Selenium Jye-Yow Liao; National Chiao-Tung University, Taiwan.

ED5.13.24
Formation of Doped and Undoped ZnO Nanostructures by Liquid Phase Deposition Vitaly Bondarenko; Belarusian State University of Informatics and Radioelectronics, Belarus.

ED5.13.25
Enhancing Light Absorption in CZTS Solar Cell Using Plasmonics Back Scattering Nanostructures Omar A. Abdelraouf; The American University in Cairo, Egypt.

ED5.13.26
Nanovectors Based on Glycosylated Materials for Targeting Anticancer Drug Jose Andrei Sarabia-Sainz; University of Sonora, Mexico.

ED5.13.27
Real-Time Characterization of Nanoparticle Interactions using MPS- SPR Annika Jokinen; BioNavis Ltd., Finland.

ED5.13.28
Morphological and Structural Study of Nanostructured SnS Obtained by a Liquid-Gas Reaction in a Closed System Omar A. Castello; Universidad Nacional Autónoma de México, Mexico.

ED5.13.29
Superarboelectrode with Metal@Metal-Oxide Powder Catalyst for Oxygen Evolution Reaction Jinling He; Henan University, China.

ED5.13.30
Effect of Deposition Parameters on ZnO Nano-Islands Using Thermal Atomic Layer Deposition Nazek El-Atab; Masdar Institute of Science and Technology, United Arab Emirates.

ED5.13.31
Confinement Barrier Induced Enhancement in Thermal Stability of the Optical Response of InAs/InGaAs/GaAs Submonolayer Quantum Dot Heterostructures Subhananda Chakrabarti; IIT Bombay, India.

ED5.13.32
Photothermal and Combination Cancer Therapy—Consideration about the Biodegradation and Therapeutic Efficiency Linlin Li; Chinese Academy of Sciences, China.

SESSION ED5.14: Photocatalysis III
Session Chairs: Hongyou Fan, Ying-Bing Jiang and Yang Qin
Friday, April 21, 2017
PCC North, 100 Level, Room 129 A

8:00 AM *ED5.14.01
Artificial Photosynthesis Using Powdered Metal Oxide and Sulfide Materials Akihiko Kudo; Tokyo University of Science, Japan; Tokyo University of Science, Japan.

8:30 AM *ED5.14.02
Composition-Performance Correlation of Catalytically Functionalized SrTiO3 in Overall Water Splitting Guido Mul; University of Twente, Netherlands.

9:00 AM ED5.14.03
Soft-Templating Strategies for Anisotropic Au Nanomaterials and Hollow Multi-Au@SiO2 Nanosystems Hyojung Yoo; 1 Hallym University, Korea (the Republic of); 2 University of Pennsylvania, United States.

9:15 AM ED5.14.04
Rapid Water Disinfection Using Vertically Aligned MoS2 Nanofilms and Visible Light Chong Liu; Stanford University, United States.

9:30 AM BREAK

10:00 AM ED5.14.05
Colloidal Synthesis towards High Quality Luminescent Giant Quantum Dots Amita Joshi; Los Alamos National Lab, United States.

10:15 AM ED5.14.06
All-Optical Switching of Doped Semiconductor Nanocrystals Benjamin T. Diroll; Argonne National Laboratory, United States.

SESSION ED5.15: Photoelectric Conversion
Session Chairs: Ying-Bing Jiang, Chong Liu and Yang Qin
Friday, April 21, 2017
PCC North, 100 Level, Room 129 A

10:30 AM *ED5.15.01
Low-Dimensional Inorganic Optoelectronic Nanomaterials and Micro/ Nano Devices Tianyou Zhai; Huazhong University of Science and Technology, China.

11:00 AM ED5.15.02
Tuning the Energy Transfer Process in Mn2+-Doped Lead Halide Perovskite Nanocrystals Jeffrey M. Pietryga; Los Alamos National Laboratory, United States.

11:15 AM ED5.15.03
Electrical Properties of Nanocrystalline Li-Doped SnO2 and Its Applications in CO2 Reduction Allen Chaparadza; The College of St. Scholastica, United States.

11:30 AM ED5.15.04
On the Possibility of Using Sintering to Synthesize Materials with Low Structural Defects for Opto-Electronic Applications Amit Samanta; Lawrence Livermore National Laboratory, United States.

SESSION ED5.16: Organic Solar Cell
Session Chairs: Binsong Li and Zaicheng Sun
Friday, April 21, 2017
PCC North, 100 Level, Room 129 A

1:00 PM ED5.16.01
A Combined Experimental and Theoretical Study Into the Performance of Vanadium Dioxide Nano-Composites for Energy Saving Applications Christian Sol; University College London, United Kingdom.

1:45 PM ED5.16.02
Multicomponent Metal Oxide Mesocrystals—Synthesis, Characterisation and Application in Photocatalysis Darinka Prince; 1 ETH Zurich, Switzerland; 2 Imperial College London, United Kingdom.

2:00 PM ED5.16.03
Population Inversion in Electrically Pumped Colloidal Quantum Dots with a Continuously Graded Layer Jaehoon Lim; Los Alamos National Laboratory, United States.

2:15 PM ED5.16.04
Liquid-Phase Laser Ablation for the Controlled Synthesis of Graphene Quantum Dots Rosemary L. Easterday; University of Kentucky, United States.

2:30 PM ED5.16.05
Thin Film Hf/TiO2-Silicon Tandem Cell Structures Helmut Karl; University of Augsburg, Germany.

2:45 PM ED5.16.06
NIR Quantum Dot Luminescent Solar Concentrators Hunter McDaniel; UbiQD, LLC, United States.
SESSION ED5.17: Photocatalysis IV  
Session Chairs: Binsong Li and Zaicheng Sun  
Friday Afternoon, April 21, 2017  
PCC North, 100 Level, Room 129 A

3:30 PM ED5.17.01
Monitoring the Formation of Conductive PbS Nanocrystal Superlattices at the Liquid/Air Interface in Real Time by X-Ray Scattering Marcus Scheele; University of Tubingen, Germany.

3:45 PM ED5.17.02
Plasmonic Nanohemisphere Monolayers Cagri O. Topal; Oklahoma State University, United States.

4:00 PM ED5.17.03
TiO$_2$ Film as Visible-Light Active Photocatalyst by Designing the Multilayer Structure with WO$_3$ Film Junjun Jia; Aoyama Gakuin University, Japan.

4:15 PM ED5.17.04
Spatially Resolved Charge Distribution and Its Impact on Plasmonic Property of Doped Metal Oxide Nanocrystals Omid Zandi; University of Texas at Austin, United States.