SYMPOSIUM ED6

Nanostructured Quantum-Confined States for Advanced Optoelectronics
April 18 - April 21, 2017

Symposium Organizers
Edward Sargent, Sargent Group, Electrical and Computer Engineering
Philipp Stadler, Institute for Physical Chemistry
Mykhailo Sytnyk, Friedrich-Alexander-Universität Erlangen-Nürnberg
Susanna Thon, Johns Hopkins University

Symposium Support
Lake Shore Cryotronics, Inc.

Proceedings Statement
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* Invited Paper

SESSION ED6.1: Frontiers 1D and 2D Quantum Materials
Session Chairs: Philipp Stadler and Susanna Thon
Tuesday Morning, April 18, 2017
PCC North, 100 Level, Room 132 C

10:30 AM *ED6.1.01
Dimensionality Matters—Dimensionality Effects on Optoelectronic Behavior of Semiconductor Nanocrystals Uri Banin; Hebrew University of Jerusalem, Israel.

11:00 AM ED6.1.02
The Extension of Confined-Yet-Coupled Design to 2D Semiconductors Tyler W. Farnsworth; University of North Carolina at Chapel Hill, United States.

11:15 AM ED6.1.03
Near-Infrared Emitting 2D Colloidal PbS Nanoplatelets with Lateral Size Control Ali Hossain Khan; Istituto Italiano di Tecnologia (IIT), Italy.

11:30 AM ED6.1.04
Nonadiabatic Dynamics in Semiconductor Nanomaterials Dmitri Kilin[1,2]; [1]University of South Dakota, United States; [2]North Dakota State University, United States.

SESSION ED6.2: Chemical Strategies in Quantum Materials
Session Chairs: Uri Banin and Mykhailo Sytnyk
Tuesday Afternoon, April 18, 2017
PCC North, 100 Level, Room 132 C

1:30 PM *ED6.2.01
Chemical Strategies for Nanocrystal Devices—Designing the Core and the Surface Dmitri V. Talapin; University of Chicago, United States.

2:00 PM *ED6.2.02
Designed Colloidal Synthesis, Assembly and Device Applications of Chalcogenide Nanostructures Taeghwan Hyeon[1,2]; [1]Seoul National University, Korea (the Republic of); [2]Institute for Basic Science (IBS), Korea (the Republic of).

2:30 PM ED6.2.03
Nonthermal Plasma Synthesis of Free-Standing Core/Shell Quantum Dots Katharine Hunter; University of Minnesota, United States.

2:45 PM ED6.2.04
Colloidal III-V Nanocrystals—New Syntheses and Defect Annealing Strategies Vishwas Srivastava; University of Chicago, United States.

3:00 PM BREAK

SESSION ED6.3: Quantum Photovoltaics
Session Chairs: Philipp Stadler and Dmitri Talapin
Tuesday Afternoon, April 18, 2017
PCC North, 100 Level, Room 132 C

3:30 PM *ED6.3.01
PbS QD Solar Cells—The Open Circuit Voltage Problem Maria Antonietta Loi; University of Groningen, Netherlands.

4:00 PM ED6.3.02
Highly-Efficient, Air-Stable, Blade-Coated Colloidal Quantum Dot Photovoltaics Fabricated under High Humidity Conditions Ahmad R. Kirmani; King Abdullah University of Science and Technology (KAUST), Saudi Arabia.

4:15 PM ED6.3.03
Lead Sulfide Quantum Dot Ink Solar Cells via Spray Deposition Hyekyoung Choi; Korea Institute of Machinery and Materials, Korea (the Republic of).

4:30 PM ED6.3.04
Investigation of ZnO/PbS Nanocrystal Interfaces for Photonic Device Applications Diogenes Placencia; Naval Research Laboratory, United States.

4:45 PM ED6.3.05
Development of Balanced Charge Transfer in Efficient Eco-Friendly Quantum Dot Sensitized Solar Cells Muhammad T. Sajjad; University of St Andrews, United Kingdom.

SESSION ED6.4: Poster Session I: Quantum Materials for Optoelectronic Devices
Session Chairs: Mykhailo Sytnyk and Susanna Thon
Tuesday Afternoon, April 18, 2017
8:00 PM - 10:00 PM
Sheraton, Third Level, Phoenix Ballroom

ED6.4.01
Enhancing the Color Rendering Index for White LED Lighting Using Quantum Dot Resins Min-Sang Lee; Nanoqnt Co.,Ltd., Korea (the Republic of).

ED6.4.02
Solution-Processed Quantum Dot Light Emitting Diode Prepared with EHD-Jet Printing Woon-Seop Choi; Hoseo University, Korea (the Republic of).

ED6.4.03
The Mechanism of Energy Transfer and Parameters Affecting the Upconversion in a Hybrid Molecule-Nanocrystal System Melika Mahboub; University of California, Riverside, United States.

ED6.4.04
Temperature-Dependent Photoluminescence of Cesium Lead Halide Perovskite Quantum Dots Jiwon Bang; Korea Institute of Ceramic Engineering and Technology, Korea (the Republic of).

ED6.4.05
Synthesis of Manganese-Doped Zinc Oxide Quantum Dots Caner Durucan; METU, Turkey.

ED6.4.06
Fabrication of Blue, Green and Red Nanorod Light-Emitting Diodes as Planar-Surface Light Sources Yun Jae Eo; Kookmin University, Korea (the Republic of).

ED6.4.07
Optical Polarization in c-Plane Al-Rich AlN/$Al_xGa_{1-x}N$ Quantum Wells Talal Al Tahtamouni; Qatar University, Qatar.

ED6.4.08
Surface Chemistry and Doping of Colloidal Perovskite Nanocrystals Weon-kyu Koh; Samsung Advanced Institute of Technology, Korea (the Republic of).

ED6.4.09
Synthesis and Characterization of Quantum Confined Semiconductor Nanomaterials for Advanced Spin-/Opto-Electronics Jiwoong Yang[1, 2]; [1]Institute for Basic Science, Korea (the Republic of); [2]Seoul National University, Korea (the Republic of).

ED6.4.10
Raman Spectroscopy of Multi-Stacked Tandem Quantum Nanostructures Aniwat Tandaechanurat; International School of Engineering, Faculty of Engineering, Chulalongkorn University, Thailand.

ED6.4.11
Growth Control of Twin InSb/GaAs Nano-Stripes by Molecular Beam Epitaxy Jirayu Supasil; Chulalongkorn University, Thailand.

ED6.4.12
Quasi-1D Effects in Conducting and Conjugated Polymers Philipp Stadler; Johannes Kepler University Linz, Austria.

ED6.4.13
Molecular Beam Epitaxy Growth of $CuInSe_2$ Quantum Dots Kamal Abderrafi[1, 2]; [1] International Iberian Nanotechnology Laboratory, Portugal; [2]IMM-Instituto de Microelectrónica de Madrid (CNM-CSIC), Spain.

ED6.4.14
High Performance IR Photo-Detectors Based on PbS Nanocrystals with Epitaxialy Coherent 0D Perovskite Clusters Ligand Shell Mykhailo Sytnyk; Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany.

ED6.4.15
Understanding the Photoluminescence Mechanism of Carbon Dots Zhoufeng Jiang[1, 2]; [1]Bowling Green State University, United States; [2]Bowling Green State University, United States.

ED6.4.16
Solution-Processed Photovoltaic Devices Utilizing Semiconductor Excitonic Nanoshells (SENS) Natalia Razgoniaeva; Bowling Green State University, United States.

ED6.4.17
Effects of Structural and Electronic Disorder on Optical Properties of Colloidal InP Nanocrystals Eric M. Janke; University of Chicago, United States.

ED6.4.18
Chalcogenidometallates for New Solution-Processed II-VI Materials Margaret Hudson; The University of Chicago, United States.

ED6.4.19
Morphology Control of Indium Phosphide Colloidal Quantum Dots Using Reducing Agents Dongwoon Shin[1, 2]; [1]Korea University of Science and Technology (UST), Korea (the Republic of); [2]Korea Institute of Machinery and Materials (KIMM), Korea (the Republic of).

SESSION ED6.5: Quantum Materials Light Emission
Session Chairs: Maria Antonietta Loi and Susanna Thon
Wednesday Morning, April 19, 2017
PCC North, 100 Level, Room 132 C

8:00 AM *ED6.5.01
Recent Advances in Colloidal Quantum Dot Lasing—Towards Solution-Processible Laser Diodes Victor I. Klimov; Los Alamos National Laboratory, United States.

8:30 AM ED6.5.02
Highly Stable Alloying Core/Multishell CdSe@ZnS/ZnS Quantum Dots Heeyeop Chae; Sungkyunkwan University, Korea (the Republic of).

8:45 AM ED6.5.03
Observation of Broadband Optical Gain Mediated by a Hot Electron-Hole Plasma in Quasi-2D CdSe Nanoplatelets Renu Tomar[1, 2]; [1]University of Gent, Belgium; [2]Center for Nano and Biophotonics, Belgium.

9:00 AM ED6.5.04
Improved Performance of Quantum Dot Light-Emitting Diodes by Ligand Exchange of Quantum Dots Heeyoung Jung; Seoul National University, Korea (the Republic of).

9:15 AM ED6.5.05
Thick-Shell Heterostructured Nanocrystals with Near-Unity Photoluminescence Quantum Yield and Suppressed Blinking Byeong Guk Jeong; Korea Advanced Institute of Science and Technology, Korea (the Republic of).

9:30 AM ED6.5.06
Preparation of Thermally Stable Silica-Coated Quantum Dots and Its Improved Performance in White Light Emitting Diodes Wen-Hsin Tsai; National Tsing Hua University, Taiwan.

9:45 AM ED6.5.07
AlN Nanostructure for Developing Efficient Ultraviolet Light Emitters Jianchang Yan; Institute of Semiconductors, Chinese Academy of Sciences, China.

10:00 AM BREAK

SESSION ED6.6: Quantum Photonics I
Session Chairs: Victor Klimov and Philipp Stadler
Wednesday Morning, April 19, 2017
PCC North, 100 Level, Room 132 C

10:30 AM *ED6.6.01
Controlling Optical Properties of Semiconductor Quantum Dots with Nanophotonics for Photovoltaics and Ultrathin Film Devices Vivian Ferry; University of Minnesota, United States.

11:00 AM ED6.6.02
Silicon Quantum Dots for Optoelectronic Devices Xiaodong Pi; State Key Laboratory of Silicon Materials, Zhejiang University, China.

11:15 AM ED6.6.03
Synthesis of CdSe/ZnS Core/Shell Nanoplatelets for Photonic Applications Anatolii Polovitsyn[1, 2]; [1]IIT, Italy; [2]University of Genova, Italy.

11:30 AM ED6.6.04
Quantum Dot Integrated Nanofibers for White LEDs Evren Mutlugun; Abdullah Gul University, Turkey.

11:45 AM ED6.6.05
Luminescent Solar Concentrators with High Power- and Cost-Efficiency Based on Ultra-Earth-Abundant Indirect Band Gap Silicon Quantum Dots Sergio Brovelli; University of Milano Bicocca, Italy.

SESSION ED6.7: Quantum Photonics II
Session Chairs: Vivian Ferry and Mykhailo Sytnyk
Wednesday Afternoon, April 19, 2017
PCC North, 100 Level, Room 132 C

1:30 PM *ED6.7.01
Mechanical Control of Excitonic States in Epitaxial Quantum Dots Armando Rastelli; Johannes Kepler University, Austria.

2:00 PM ED6.7.02
Optical Gain Measurements of Optically-Pumped AlN/GaN Quantum Well Structures for Deep-UV Emission Galen H. Harden; University of Notre Dame, United States.

2:15 PM ED6.7.03
Single Photon Emission by InP/ZnSe Quantum Dots Zeger Hens; Ghent University, Belgium.

2:30 PM BREAK

SESSION ED6.8: Quantum Materials—Surface and Trapping
Session Chairs: Armando Rastelli and Susanna Thon
Wednesday Afternoon, April 19, 2017
PCC North, 100 Level, Room 132 C

3:30 PM *ED6.8.01
Surface Engineering and Electron-Phonon Interactions in Colloidal Quantum Dots Vanessa Wood; ETH Zurich, Switzerland.

4:00 PM ED6.8.02
Hot Carrier Trapping in Core/Shell Quantum Dots Marcello Righetto; Università degli Studi di Padova, Italy.

4:15 PM ED6.8.03
Stable and Low-Threshold Gain of CdSe/CdS@CdS Core/Crown@Shell Colloidal Nanoplatelets Yusuf Kelestemur; Bilkent University, Turkey.

4:30 PM ED6.8.04
Electronic States in Mercury Chalcogenide Colloidal Quantum Dots Menglu Chen; University of Chicago, United States.

4:45 PM ED6.8.05
Investigation of Energy Transfer Mechanism between Nickel Oxide Thin Film and CdSe/ZnS Alloyed Nanocrystals Ramesh Vasan; University of Arkansas, United States.

SESSION ED6.9: Quantum Materials—Synthesis and Theory
Session Chairs: Philipp Stadler and Vanessa Wood
Thursday Morning, April 20, 2017
PCC North, 100 Level, Room 132 C

8:15 AM *ED6.9.01
Effects of Nanogeometry on Carrier Multiplication in Lead Chalcogenide Materials for Photovoltaics Laurens Siebbeles; TU Delft, Netherlands.

8:45 AM ED6.9.02
High Density Formation of and Light Emission from Si Quantum Dots with Ge Core Seiichi Miyazaki; Nagoya University, Japan.

9:00 AM ED6.9.03
A Mechanism Describing the Formation of Highly Anisotropic, Quasi-2D Nanoplatelets from Isotropic Materials Florian D. Ott; ETH Zurich, Switzerland.

9:15 AM ED6.9.04
Synthesis and Characterization of PbS Quantum Dots with Size-Tunable Near-Infrared Emission Yi-Ching Yang; National Tsing Hua University, Taiwan.

9:30 AM ED6.9.05
Colloidal Synthesis of HgTe/CdTe Core/Shell Quantum Dots with Enhanced Thermal Stability Guohua Shen; The University of Chicago, United States.

9:45 AM ED6.9.06
Ligand-Induced Shape Transformation of PbSe Nanocrystals Joep Peters; University of Utrecht, Netherlands.

10:00 AM BREAK

SESSION ED6.10: Quantum Colloids—Tuning Size and Shape
Session Chairs: Laurens Siebbeles and Mykhailo Sytnyk
Thursday Morning, April 20, 2017
PCC North, 100 Level, Room 132 C

10:30 AM *ED6.10.01
Exploiting the Nanocrystal Library to Construct Electronic and Optoelectronic Devices Cherie R. Kagan; University of Pennsylvania, United States.

11:00 AM ED6.10.02
Aqueous HgTe Quantum Dot Based Phototransistors Enabling Room Temperature High Sensitivity Photodetection Beyond 2000 nm Spectral Range Ni Zhao; Chinese University of Hong Kong, Hong Kong.

11:15 AM ED6.10.03
Effects of Phenyldithiocarbamate Decomposition during Nanocrystal Ligand Exchange Levi Lystrom; North Dakota State University, United States.

11:30 AM ED6.10.04
Experimental Observation of Two-Dimensional Ostwald Ripening in Semiconductor Nanoplatelets Philippe N. Knuesel; ETH Zurich, Switzerland.

11:45 AM ED6.10.05
InAs Colloidal Quantum Dots Synthesis via Aminopnictogen Precursor Chemistry Valeriia Grigel; University of Gent, Belgium.

SESSION ED6.11: Quantum Solids and Superstructures
Session Chairs: Cherie Kagan and Susanna Thon
Thursday Afternoon, April 20, 2017
PCC North, 100 Level, Room 132 C

1:30 PM *ED6.11.01
Enhanced Energy Transfer and Doping in Semiconductor-Metal Nanocrystal Superlattices Matteo Cargnello; Stanford University, United States.

2:00 PM ED6.11.02
Charge Carrier Hopping Dynamics in Homogeneously Broadened PbS Quantum Dot Solids Rachel H. Gilmore; Massachusetts Institute of Technology, United States.

2:15 PM ED6.11.03
Ultrasensitive Color Detection from Monolayered Quantum Dots Buried in Amorphous-Oxide Transistors Kyung-Sang Cho; Samsung Advanced Institute of Technology, Korea (the Republic of).

2:30 PM ED6.11.04
Strongly Scale-Dependent Charge Transport Mechanisms for an Interconnected Random Network of Silicon Quantum Dots and Nanowires Serim Ilday; Bilkent University, Turkey.

2:45 PM BREAK

SESSION ED6.12: Hybrid and Organic Quantum Materials
Session Chairs: Matteo Cargnello and Philipp Stadler
Thursday Afternoon, April 20, 2017
PCC North, 100 Level, Room 132 C

3:15 PM *ED6.12.01
Hydrogen Bonded Organic Pigment Colloidal Nanocrystals Wolfgang Heiss; Friedrich Alexander Universität Erlangen Nürnberg, Germany.

3:45 PM ED6.12.02
Influence of Charge Traps in Bombyx Mori (Silkworm) Silk Derived Carbon Nanodots on Gas Interaction Anwesha Mukherjee; Indian Institute of Science, Bangalore, India.

4:00 PM ED6.12.03
Ultrafast Energy Transfer from Lead Chalcogenide Nanocrystals to Functionalized Acenes MingLee Tang; University of California, Riverside, United States.

4:15 PM ED6.12.04
Ultrafast Transient Absorption Spectroscopy as a Tool for Probing Efficient Charge Carrier Transfer and Dynamics in Resonantly Coupled Organic-Inorganic Nanostructures Jannika Lauth; Delft University of Technology, Netherlands.

4:30 PM ED6.12.05
Sample-Transmitted Excitation Photoluminescence (STEP) Technique for Quantifying the Energy Flow on Nanoscale Mikhail Zamkov; Bowling Green State University, United States.

SESSION ED6.13: Poster Session II: Quantum Materials
for Optoelectronic Devices
Session Chairs: Mykhailo Sytnyk and Susanna Thon
Thursday Afternoon, April 20, 2017
8:00 PM - 10:00 PM
Sheraton, Third Level, Phoenix Ballroom

ED6.13.01
Photoluminescent UV Curable Polymer-Quantum Dot Composite as Luminescent Down-Shifting Layer for Photovoltaics Romain Cauchois; DSM Ahead R&D, Netherlands.

ED6.13.02
Stacking InAs Quantum Dots Over ErAs Semimetal Nanoparticles on GaAs(001) Using Molecular Beam Epitaxy Krishnamurthy Mahalingam; Air Force Research Laboratory, United States.

ED6.13.03
Light Emitting Mechanisms Dependent on Silicon Nitride Stoichiometry in Si-Rich-SiN_x Films Grown by PECVD Tetyana Torchynska; Instituto Politecnico Nacional, Mexico.

ED6.13.04
Distinctive Extrinsic Atom Effects on the Structural, Optical and Electronic Properties of $Bi_2S_{3-x}Se_x$ Solid Solutions Ajara A. Rahman; University of Utah, United States.

ED6.13.05
Circular Dichroism of Organolead Halide Perovskite Induced by Chiral Organic Cations Jihoon Ahn; Yonsei University, Korea (the Republic of).

ED6.13.06
Synthesis of Highly Luminescent Blue Emitting $Cd_{1-x}Zn_xS$/ZnS Quantum Dots and Their Application in Light-Emitting Diodes Pin Ru Chen; National Tsing Hua University, Taiwan.

ED6.13.07
On-Chip Integrated Quantum-Dot Silicon-Nitride Microdisk Lasers Zeger Hens; Ghent University, Belgium.

ED6.13.08
Interconnected Network of Quantum Dots for the Enhancement of Color Conversion Efficiency Changmin Lee; Sungkyunkwan University, Korea (the Republic of).

ED6.13.09
FRET in Colloidal Nanoplatelet Stacks as a Markov Chain Onur Erdem; Bilkent University, Turkey.

ED6.13.10
Single- and Multi-Exciton Dynamics in Cesium-Lead-Halide Perovskite Quantum Dots—Implications for Light-Harvesting and Light-Emitting Applications Istvan Robel; Los Alamos National Laboratory, United States.

ED6.13.11
Study of Quantum Dot Light Conversion Film Ying-Ju Chen; National Tsing Hua University, Taiwan.

ED6.13.12
Saturated Energy Transfer among InP/ZnS Quantum Dot Solids Evren Mutlugun; Abdullah Gul University, Turkey.

ED6.13.13
Hybrid System of Quasi-0D and Quasi-2D Semiconductor Nanocrystals for Ultra-Efficient Energy Transfer Murat Olutas[1, 2]; [1]Bilkent University, Turkey; [2]Abant Izzet Baysal University, Turkey.

ED6.13.14
Structural and Optical Properties of Molecular Beam Epitaxy Grown InAsBi Arvind J. Shalindar[1, 2]; [1]Arizona State University, United States; [2]Arizona State University, United States.

ED6.13.15
Strategies for Efficient Harvesting of Solar Energy Using Quantum Dot and Dye Sensitized Devices Ajinkya Puntambekar; Rensselaer Polytechnic Institute, United States.

ED6.13.16
Commercial Prospects for Using Quantum Dots in Solid-State Lighting Hunter McDaniel; UbiQD, LLC, United States.

ED6.13.17
Solution Processed MoO_2 and ZnO Heterojunction Electrical and Optical Characteristics Hemant Kumar; IIT (BHU), India.

ED6.13.18
Mg Doping Effects on Optical and Electrical Properties of Solution-Processed ZnO Quantum Dots Based Thin Film Devices Yogesh Kumar; IIT (BHU), India.

ED6.13.19
Fabrication of Color-by-Blue White-Light-Emitting Diodes Using Cesium Lead Halide Perovskite Quantum Dots Hee Chang Yoon; Kookimin University, Korea (the Republic of).

SESSION ED6.14: Perovskite Quantum Materials
Session Chairs: Wolfgang Heiss and Mykhailo Sytnyk
Friday Morning, April 21, 2017
PCC North, 100 Level, Room 132 C

8:45 AM *ED6.14.01
Solar Cells of Perovskite Quantum Dots—Stable Cubic $CsPbI_3$ Films for High-Efficiency Photovoltaics Joseph Luther; National Renewable Energy Laboratory, United States.

9:15 AM ED6.14.02
Improvement of Stability of Methylammoium Lead Halide Nanocrystals via Star-Like Triblock Copolymer Template-Assisted Strategy Yanjie He; Georgia Institute of Technology, United States.

9:30 AM ED6.14.04
Perovskite Nanocrystals as a Color Converter for Visible Light Communication Ibrahim Dursun; KAUST Solar Center, Saudi Arabia.

9:45 AM ED6.14.05
Control of Morphology, Photoluminescence and Stability of Colloidal Methylammonium Lead Bromide Nanocrystals by Oleylamine Capping Molecules Wei-Heng Shih; Drexel University, United States.

10:00 AM BREAK

SESSION ED6.15: Quantum Devices and Plasmonics
Session Chairs: Joseph Luther and Philipp Stadler
Friday Morning, April 21, 2017
PCC North, 100 Level, Room 132 C

10:30 AM *ED6.15.01
From Ultrathin Perovskite Solar Cells to Photonic Sources with Solid-State Nanopore Confinement Martin Kaltenbrunner; Johannes Kepler University, Austria.

11:00 AM ED6.15.02
Near Field Coupling of Localized Surface Plasmon Resonance in Metal Oxide Nanocrystals Ankit Agrawal; The University of Texas at Austin, United States.

11:15 AM ED6.15.03
Ultrasmall Mode Volumes in Plasmonic Cavities of Nanoparticle-on-a-Mirror Structures Shengxi Huang; Massachusetts Institute of Technology, United States.

11:30 AM ED6.15.04
High-Efficiency Germanium Quantum Dot Photodetectors—Noise Performance and Operating Temperature Effects Stylianos Siontas; Brown University, United States.

11:45 AM ED6.15.05
Antimonide-Based Membranes—Synthesis, Integration and Strain-Engineering Seyedeh Marziyeh Zamiri; University of New Mexico, United States.

SESSION ED6.16: Quantum Optical Devices
Session Chair: Susanna Thon
Friday Afternoon, April 21, 2017
PCC North, 100 Level, Room 132 C

1:30 PM *ED6.16.01
Optical Fiber Antennae with Quantum Dots for Gas Sensing Huan Liu; Huazhong University of Science and Technology, China.

2:00 PM ED6.16.02
Quantum Dot Light Emitting Diode Fabricate by Transfer Printing Kuo-Yang Lai; National Tsing Hua University, Taiwan.

2:15 PM ED6.16.03
An All-Solution-Based High-Gain Hybrid CMOS-Like Quantum Dot/Carbon Nanotube Inverter Artem Shulga; University of Groningen, Netherlands.

2:30 PM ED6.16.04
Infrared Photodiodes Based on Lead-Sulfide Quantum Dots David Cheyns; imec, Belgium.

2:45 PM BREAK

SESSION ED6.17: Quantum Materials for Catalysis
Session Chairs: Huan Liu and Mykhailo Sytnyk
Friday Afternoon, April 21, 2017
PCC North, 100 Level, Room 132 C

3:15 PM *ED6.17.01
Structured Solid-State Materials in Energy Conversion—Multi-Component and Anisotropic Nanostructures Thomas J. Kempa; Johns Hopkins University, United States.

3:45 PM ED6.17.02
Utilizing Auger-Induced Electron Emission in Quantum Dots toward High-Efficiency, Tunable, Robust Photocathodes Istvan Robel; Los Alamos National Laboratory, United States.

4:00 PM ED6.17.03
Synthesis and Properties of Si-Based Alloyed Quantum Dots Atta ul Haq; Ulster University, United Kingdom.