

nanoGe Fall Meeting 2018 (FallMeeting18)

S3 Fundamental Processes in Semiconductor Nanocrystals

Torremolinos, Spain, 2018 October 22nd - 23rd

Conference Chairs: Tianquan Lian and Mischa Bonn

Conference Program

October 22nd - Day 1 (Monday)	
Plenary sessions 1 & 2	
09:00 - 09:30 2-K1	<u>Victor Klimov</u> (<i>Los Alamos National Laboratory, Los Alamos, New Mexico 87545, USA</i>) Colloidal Quantum Dot Lasing: Historical Perspective and Recent Progress
09:00 - 09:30 2-K2	<u>Yun Jeong Hwang</u> (<i>Korea Institute of Science and Technology (KIST)</i>), Byoun Koun Min, Hyeong-Suk Oh Electrochemical Conversion of CO ₂ toward Valuable Chemicals for Solar-to-Chemical Conversion Application
NCFun S3.1	
09:30 - 10:00 S3.1-I1	<u>Emily Weiss</u> (<i>Department of Chemistry, Northwestern University, Evanston, Illinois 60208, USA</i>), Yishu Jiang, Zhengyi Zhang, Kevin McClelland Interfacial Photophysical Processes for Quantum Dot-Photocatalyzed Reactions
10:00 - 10:30 S3.1-I2	<u>Uri Banin</u> (<i>Institute of Chemistry and the Center for Nanoscience and Nanotechnology, The Hebrew University of Jerusalem</i>) Hybrid Semiconductor-Metal Nanoparticles as Photocatalysts
10:30 - 11:00	Coffee Break
NCFun S3.2	
11:00 - 11:30 S3.2-I1	<u>Daniel Vanmaekelbergh</u> (<i>Universiteit Utrecht</i>), Freddy Rabouw, Federico Montanarella Delayed Exciton Emission in Low-Dimensional CdSe Nanocrystals
11:30 - 12:00 S3.2-I2	<u>Matthew Beard</u> (<i>National Renewable Energy Laboratory, Golden, Colorado, USA</i>) Multiple Exciton Generation in Semiconductor Nanocrystals
12:00 - 12:30 S3.2-O1	<u>Celso de Mello Donega</u> (<i>Universiteit Utrecht</i>), Chenghui Xia, Naomi Winckelmans, Hans Gerritsen, Sara Bals NIR-Emitting CuInS ₂ /ZnS Dot-in-Rod Colloidal Heteronanorods
12:30 - 14:30	Lunch
NCFun S3.3	
14:30 - 15:00 S3.3-O1	<u>L. Christiaan Post</u> (<i>Condensed Matter and Interfaces, Debye Institute for nanomaterials science, Utrecht University</i>), Tao Xu, Nathali A. Franchina Vergel, Yannick Lambert, Francois Vaurette, Ludovic Desplanque, Xavier Wallart, Bruno Grandidier, Christophe Delerue, Daniel A. M. Vanmaekelbergh Nano Perforation of InGaAs Quantum wells: a Lithography Route Towards III-V Semiconductors with Honeycomb Nanogeometry
15:00 - 15:30 S3.3-O2	Florian Enders, Peng Zeng, Trevor A. Smith, Jannika Lauth, Laurens D. A. Siebbeles, Arne Budweg, Daniele Brida, <u>Klaus Boldt</u> (<i>University of Konstanz</i>) Charge Localisation at Strained, Axial Heterojunctions in 1D Semiconductor Nanocrystals
15:30 - 16:00 S3.3-O3	<u>Omri Bar-Elli</u> (<i>Department of Physics of Complex Systems, Weizmann Institute of Science, Rehovot 76100, Israel</i>), Dan Steinitz, Gaoling Yang, Ron Tenne, Anastasia Ludwig, Yung Kuo, Antoine Triller, Shimon Weiss, Dan Oron Detecting Short Voltage Pulses Using Single Quantum Dots Designed for Action Potential Sensing
16:00 - 16:30 S3.3-I1	<u>Christian Klink</u> (<i>Institute of Physical Chemistry, University of Hamburg</i>) Two-Dimensional Nanostructures: Synthesis and Optoelectronic Transport

16:30 - 17:00 Lilac Amirav (*Schulich Faculty of Chemistry, Technion – Israel Institute of Technology*)
S3.3-I2 Sculpting Photocatalysts on the Nano Scale

October 23rd - Day 2 (Tuesday)

NCFun S3.4

09:00 - 09:30 Dan Oron (*Department of Physics of Complex Systems, Weizmann Institute of Science, Rehovot 76100, Israel*)
S3.4-I1 Luminescence Upconversion in Designer Semiconductor Nanocrystals

09:30 - 10:00 Enrique Canovas (*IMDEA Nanoscience*), Hai Wang, Mischa Bonn
S3.4-I2 Hot Electron Transfer Efficiency at Quantum Dot-Oxide Interfaces

10:00 - 10:30 Christophe Delerue (*IEMN, UMR-CNRS 8520, Villeneuve d'Ascq, France*)
S3.4-I3 Theory of Localized Surface Plasmon Resonance in Doped Semiconductor Nanocrystals

10:30 - 11:00 **Coffee Break**

NCFun S3.5

11:00 - 11:30 Richard Schaller (*Department of Chemistry, Northwestern University, Evanston, IL 60208, USA*)
S3.5-I1 Ultrafast Structural Studies of Semiconductor Nanocrystals: Transient Disorder and Recrystallization

11:30 - 12:00

12:00 - 12:30

12:30 - 14:30 **Lunch**

NCFun S3.6

14:30 - 15:00

15:00 - 15:30 Gordana Dukovic (*University of Colorado Boulder, US*)

S3.6-I1 Excited State Processes in Semiconductor Nanocrystals and their relationships with Light-Driven Multi-Electron Catalysis

15:30 - 16:00 Majed CHERGUI (*Ecole Polytechnique Fédérale de Lausanne, Suisse*)

S3.6-I2 Charge Carrier and Phonon Dynamics in Transition Metal Oxide and in Lead-Halide Perovskite Nanoparticles

17:30 - 19:00 **Poster Session**

Poster Contribution

146 Maria Wächtler (*Leibniz Institute of Photonic Technology*), Lilac Amirav
Impact of composition and size of the metal tip on charge separation and hydrogen evolution in metal-tipped CdSe@CdS nanorods