

nanoGe Fall Meeting19 (NGFM19)

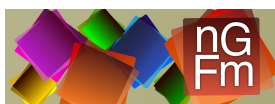
#NCFun19. Fundamental Processes in Semiconductor Nanocrystals

Berlin, Germany, 2019 November 7th - 8th

Conference Chairs: Ivan Infante and Jonathan Owen

Conference Program

November 7th - Day 5 (Thursday)	
NCFun 1.1 / Room B1 Chair: Ivan Infante Room: Breakout 1	
09:00 - 09:30 B1-11	<u>Brandi Cossairt</u> (<i>University of Washington, Department of Chemistry, Seattle, WA 98195-1700</i>) Understanding and Directing the Structure and Properties of Indium Phosphide Nanocrystals through Chemistry
09:30 - 10:00 B1-12	<u>Zeger Hens</u> (<i>Ghent University - BE</i>) Properties of the Bright Exciton in InP Quantum Dots
10:00 - 10:30 B1-13	<u>Sohee Jeong</u> (<i>Sungkyunkwan University, Republic of Korea</i>) III-V Colloidal Nanocrystals: Control over the Covalent Surfaces
10:30 - 11:00	Coffee Break
NCFun 1.2 / Room B1 Chair: Zeger Hens Room: Breakout 1	
11:00 - 11:30 B1-11	<u>Nathan Neale</u> (<i>Chemical and Nanoscale Sciences Center, National Renewable Energy Laboratory</i>), Michael Carroll, Rens Limpens, Lance Wheeler, Gregory Pach Surface Chemistry Effects on Quantum Confinement in Group IV Nanocrystals
11:30 - 12:00 B1-12	<u>Heather Kulik</u> (<i>Department of Chemical Engineering, Massachusetts Institute of Technology</i>) Electronic Structure Origins of Surface-Dependent Growth in III-V Quantum Dots
12:00 - 12:30 B1-O1	<u>Alina Schimpf</u> (<i>University of California San Diego</i>), Alexander Rachkov Synthesis of Monodisperse and Size-Tunable Colloidal Copper Phosphide Nanocrystals by Redox Disproportionation of Aminophosphine
12:30 - 14:00	Lunch
NCFun19 1.3 / Room B1 Chair: Jonathan Owen Room: Breakout 1	
14:00 - 14:30 B1-12	<u>Fabien Delpech</u> (<i>Laboratoire de Physique et Chimie des Nano-Objets (LPCNO), University of Toulouse - INSA - CNRS</i>) Controlling the Surface of Metal Phosphide Quantum Dots: Reaction Chemistry, Growth and Optical Properties
14:30 - 15:00 B1-11	<u>Arjan Houtepen</u> (<i>Delft University of Technology (TU Delft), The Netherlands</i>) Electrochemical Control over Semiconductor Nanomaterials: Doping and Surface Reduction
15:00 - 15:15 B1-O1	<u>Solrun Gudjonsdottir</u> (<i>Delft University of Technology (TU Delft), The Netherlands</i>), Ward van der Stam, Christel Koopman, Bob Kwakkenbos, Arjan Houtepen On the Stability of Permanent Electrochemical Doping of Quantum Dot, Fullerene and Conductive Polymer Films in Frozen Electrolytes for Use in Semiconductor Devices
15:15 - 15:30 B1-O2	<u>Felix Thiel</u> (<i>Institute of Physical Chemistry, University of Hamburg</i>), Cristina Palencia Ramirez, Horst Weller Cation Exchange Reactions in Nanorods: Vacancy-Mediated Diffusion in Cu-deficient Cu(2-x)S Nanorods during the Formation of a Ternary System
15:30 - 16:00	Coffee Break



	NCFun19 1.4 / Room B1 Chair: Heather Kulik Room: Breakout 1
16:00 - 16:15 B1-O1	<u>Anumol s</u> (<i>Solid State and Structural Chemistry Unit, Indian Institute of Science (IN)</i>), Biswajit Bhattacharyya, V. V. R. Kishore, Abhinav Kumar, Guru Pratheep Rajasekar, D. D. Sarma, Anshu Pandey Copper Iron Chalcogenide Nanocrystals: Spectroscopy and Devices
16:15 - 16:30 B1-O2	<u>Cristina Palencia Ramírez</u> (<i>Institute of Physical Chemistry, University of Hamburg</i>), Robert Seher, Jan Krohn, Felix Thiel, Felix Lehmkuhler, Horst Weller Formation Dynamics of Nanocrystals: In-situ Observation of the Growth of CdSe NCs Via Magic-sized Clusters Intermediates.
16:30 - 17:00 B1-I1	<u>Oleksandr Voznyy</u> (<i>University of Toronto</i>) Ab Initio Studies of Surface Chemistry and Exciton Fine Structure in Semiconductor Nanocrystals
17:00 - 19:00	Poster Session
November 8th - Day 6 (Friday)	
08:45 - 09:00	Announcement of the day / Plenum-Room B4
	Plenary Session 7 / Plenum Chair: Wolfgang Tress Room: Plenum
09:00 - 09:30 Plenum-K1	<u>Xiaoyang Zhu</u> (<i>Department of Chemistry, Columbia University, New York, New York 10027, United States</i>) Ferroelectric Polarons in Lead Halide Perovskites
	Plenary Session 8 / Room B4 Chair: Ivan Infante Room: Breakout 4
09:00 - 09:30 B4-K1	<u>Dmitri Talapin</u> (<i>Department of Chemistry, University of Chicago, Chicago, Illinois 60637, USA</i>) Self-organization of Electrostatically and Sterically Stabilized Colloidal Nanocrystals: The Roles of Topology, Image Charges and Non-classical Nucleation
	NCFun 2.1 / Room B4 Chair: Ivan Infante Room: Breakout 4
09:30 - 10:00 B4-I1	<u>Raquel Galian</u> (<i>Universidad de Valencia - ICMol (Institute of Molecular Science)</i>), Soranyel Gonzalez Carrero, Ignacio Rosa-Pardo, Julia Pérez-Prieto Critical Role of Ligands on the Photoluminescence and Morphology of Colloidal Perovskite Nanocrystals
10:00 - 10:30 B4-O1	<u>Anna Loiudice</u> (<i>Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland</i>), Seryio Saris, Raffaella Buonsanti Metal Oxide Shell to Study Nanoscale Phenomena in Perovskite Quantum Dots
10:30 - 11:00	Coffee Break
	NCFun19 2.2 / Room B1 Chair: Maryna Bodnarchuk Room: Breakout 1
11:00 - 11:15 B1-O1	<u>Valeria Mantella</u> (<i>Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland</i>), Silviya Ninova, Seryio Saris, Anna Loiudice, Ulrich Aschauer, Raffaella Buonsanti Synthesis and Size-dependent Optical Properties of Intermediate Band Gap Cu ₃ VS ₄ Nanocrystals
11:15 - 11:30 B1-O2	<u>Evert Dhaene</u> (<i>Ghent University - BE</i>), Jonas Billet, Ellie Bennett, Isabel Van Driessche, Jonathan De Roo The Trouble With 1-Octadecene: Polymerization During Nanocrystal Synthesis
11:30 - 12:00 B1-I1	<u>Iván Mora-Seró</u> (<i>Universitat Jaume I, Institute of Advanced Materials (INAM) - Spain</i>) Phase Segregation in Perovskite Nanoparticles and Applications of these Materials in Photocatalytic Processes
12:00 - 12:30	
12:30 - 14:00	Lunch

NCFun 2.3 / Room B1

Chair: Jonathan Owen
Room: Breakout 1

- 14:00 - 14:30 **B1-11** Maryna Bodnarchuk (*EMPA - Swiss Federal Laboratories for Materials Science and Technology*), Simon Boehme, Caterina Bernasconi, Maksym Kovalenko, Ivan Infante
Surface Chemistry of Colloidal Cesium Lead Halides Nanocrystals
- 14:30 - 15:00 **B1-12** Daniel Gamelin (*University of Washington, Department of Chemistry, Seattle, WA 98195-1700*)
Solar Quantum Cutting and Spectral Downconversion using Ytterbium-Doped Metal-Halide Perovskites
- 15:00 - 15:30 **B1-13** Liberato Manna (*Istituto Italiano di Tecnologia (IIT), Genova, Italy*)
Beyond Lead Halide Perovskite Nanocrystals

15:30 - 16:00 **Coffee Break**

CNFun 2.4 / Room B1

Chair: Iván Mora-Seró
Room: Breakout 1

- 16:00 - 16:15 **B1-O1** Marcello Righetto (*Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, Nanyang Technological University 637371 Singapore*), Swee Sien Lim, David Giovanni, Melvin Lim, Tze Chien Sum
Cooling and Trapping. A Complete Map of Hot Carrier Processes in Hybrid Perovskite Nanocrystals
- 16:15 - 16:30 **B1-O2** M. Yenal Yalcinkaya (*Department of Materials Science and Engineering, Izmir Institute of Technology, Turkey*), C. Meric Guvenc, Sercan Ozen, Hasan Sahin, Mustafa M. Demir
Enhanced stability and optical properties of Gd³⁺ doped CsPbI₃ nanocrystals