

Online nanoGe Fall Meeting 20 (OnlineNFM20)

#NCFun20. Fundamental Processes in Semiconductor Nanocrystals

2020 October 20th - 21st

Conference Chairs: Matthew Beard, Iwan Moreels and Hilmi Volkan Demir

Conference Program

October 20th - Day 1 (Tuesday)	
09:00 - 09:05	NCFun Opening nanoGe
09:05 - 09:15	NCFun Session Introduction 1.1 - Iwan Moreels
	NCFun 1.1 Chair: Iwan Moreels
09:15 - 09:35 1.1-11	<u>Raffaella Buonsanti</u> (<i>EPFL École Polytechnique Fédérale de Lausanne, Department of Chemical Sciences and Engineering, Switzerland</i>) Metal oxide shells to study nanoscale phenomena in quantum dots
09:35 - 09:55 1.1-12	<u>Gabriele Raino</u> (<i>ETH Zurich, Laboratory of Inorganic Chemistry, Department of Chemistry & Applied Biosciences</i>), Franziska Krieg, Maryna I. Bodnarchuk, Maksym Kovalenko Exciton and multi-excitons recombination dynamics in perovskite CsPbBr ₃ QDs unveiled by single QD optical spectroscopy
09:55 - 10:15 1.1-13	<u>Ivan Infante</u> (<i>Istituto Italiano di Tecnologia (IIT)</i>) Green Emission in 0D Cs ₄ PbBr ₆ Nanocrystals: Disentangling the Enigma
10:15 - 10:35	Discussion
10:35 - 12:00	NCFun Break
12:00 - 12:05	NCFun Opening nanoGe
	NCFun 1.2 Chair: Iwan Moreels
12:05 - 12:15 1.2-T1	<u>Ben Carwithen</u> (<i>Molecular Sciences Research Hub and Centre for Processable Electronics, Imperial College London</i>), Thomas Hopper, Franziska Krieg, Federico Montanarella, Maryna Bodnarchuk, Maksym Kovalenko, Artem Bakulin Size, Shape and Substance - What Controls Carrier Cooling in Perovskite Nanomaterials
12:15 - 12:25 1.2-T2	<u>Prachi Rastogi</u> (<i>Sorbonne Université, CNRS, Institut des NanoSciences de Paris, INSP, France</i>), Audrey Chu, Grégory Vincent, Emmanuel Lhuillier Infrared Detection in Perovskite Nanocrystals via PbS Nanocrystals Doping
12:25 - 12:35 1.2-T3	<u>Alessio Di Giacomo</u> (<i>UGent</i>), Carmelita Rodà, Ali Hossain Khan, Iwan Moreels Synthesis of Size-Controlled, Bright Blue CdSe Nanoplatelets
12:35 - 12:45 1.2-T4	<u>Klaus Boldt</u> (<i>Department of Chemistry & Zukunftskolleg, Box 710, University of Konstanz, 78457 Konstanz, Germany</i>), Stuart Bartlett, Nicholas Kirkwood, Bernt Johannessen Quantification of Material Gradients in Nanocrystals
12:35 - 12:45 1.2-T5	<u>Seán R. Kavanagh</u> (<i>Department of Chemistry, University College London</i>), Robert G. Palgrave, David O. Scanlon, Aron Walsh Enhanced Optical Absorption via Mixed-Valent Doping of Vacancy-Ordered A ₃ B ₂ X ₉ Triple Perovskites
12:45 - 13:15	Discussion
13:15 - 13:20	NCFun Short Break
13:20 - 13:30	NCFun Session Introduction 1.3 - Matthew Beard

NCFun 1.3

Chair: Matthew Beard

13:30 - 13:50 1.3-I1	<u>Tianguan Lian</u> (<i>Department of Chemistry, Emory University, 1515 Dickey Drive NE, Atlanta, Georgia 30322, USA</i>) Rational Design of Quantum Dot/Mediator Interfaces for Efficient Triplet- Annihilation-Based Photon Upconversion Systems
13:50 - 14:10 1.3-I2	<u>Sean Roberts</u> (<i>Department of Chemistry, University of Texas At Austin, Austin, TX, United States</i>), Emily Raulerson, Inki Lee, Danielle Cadena, Pan Xia, Devin Coleman, Carter Gerke, Mohammed Javed, Svetlana Kilina, Lorenzo Mangolini, Ming Lee Tang Designing Semiconductor Interfaces for Triplet Energy Transfer
14:10 - 14:30 1.3-I3	<u>Gordana Dukovic</u> (<i>University of Colorado Boulder</i>) Trapped-hole diffusion in semiconductor nanocrystals
14:30 - 14:50	Discussion
14:50 - 16:30	ePoster Session

October 21st - Day 2 (Wednesday)

13:00 - 13:05	NCFun Opening nanoGe
13:05 - 13:15	NCFun Session Introduction 2.1 - Matthew Beard
	NCFun 2.1 Chair: Matthew Beard
13:15 - 13:35 2.1-I1	<u>Todd Krauss</u> (<i>Department of Chemistry, University of Rochester</i>), Abigail Freyer, Peter Sercel, Zhentao Hou, Benjamin Savitzky, Lena Kourkoutis, Alexander Efros Explaining the Unusual Photophysics of Semiconductor Nanocrystals Doped Via Cation Exchange
13:35 - 13:55 2.1-I2	<u>Emily Weiss</u> (<i>Department of Chemistry, Northwestern University, United States</i>) N-heterocyclic Carbenes: The Next Generation of Exciton Delocalizing Ligands
13:55 - 14:15 2.1-I3	<u>Joseph Luther</u> (<i>National Renewable Energy Laboratory, US</i>), Taylor Moot, Bryon Larson, Desislava Dikova Beyond Strain: Controlling the Surface Chemistry of CsPbI ₃ Nanocrystal Films for Improved Stability against Ambient Reactive Oxygen Species
14:15 - 14:35 2.1-I4	<u>Jennifer Hollingsworth</u> (<i>Center for Integrated Nanotechnologies, Los Alamos National Laboratory</i>) The Life and Death of a Quantum Dot
14:35 - 14:55	Discussion
14:55 - 15:00	NCFun Closing

Poster Contribution

220	<u>Maximilian Jansen</u> (<i>ETH Zurich, Department of Information Technology and Electrical Engineering</i>), Nuri Yazdani, Fanni Juranyi, Olesya Yarema, Maksym Yarema, Sebastian Volk, Weyde Lin, Tilo Seydel, Vanessa Wood Neutron scattering on nanocrystal solids: Interparticle vibrations and ligand dynamics
229	<u>Andriy Stelmakh</u> (<i>ETH Zurich, Laboratory of Inorganic Chemistry, Department of Chemistry & Applied Biosciences</i>), Andriy Baumketner, Maksym Kovalenko Binding of Ammonium Ligands to the Surface of CsPbBr ₃ : a Mechanistic View
244	<u>Danja Fischli</u> (<i>University of Konstanz, Germany</i>), Sebastian Sutter, Florian Enders, Klaus Boldt Mechanisms for Regioselective Synthesis of Anisotropic Nano-Heterostructures