

International Conference on Emerging Light Emitting Materials (EMLEM23)

Peyia, Cyprus, 2023 November 13th - 15th

Conference organizers: Grigorios Itskos, Maksym Kovalenko and Maryna Bodnarchuk

Conference Program

November 13th - Day 1 (Monday) 1	
08:30 - 09:45	Registration
09:45 - 10:00	Opening
	Session 1.1 Chair: Andrey Rogach
10:00 - 10:30	<u>Sohee Jeong</u> (<i>Department of Energy Science, Sungkyunkwan University</i>) Unlocking the potential of short-wave Infrared absorbing InAs nanocrystals via synthesis
1.1-11	
10:30 - 11:00	<u>Ivan Infante</u> (<i>BCMaterials, Basque Center for Materials, Applications and Nanostructures, UPV/EHU Science Park, 48940 Leioa, Spain</i>) The Surface Chemistry of Colloidal Semiconductor Nanocrystals
1.1-12	
11:00 - 11:30	Coffee Break
	Session 1.2 Chair: Claudine Katan
11:30 - 12:00	<u>Jacky Even</u> (<i>Univ Rennes, INSA Rennes, CNRS, Institut FOTON - UMR 6082, F-35000 Rennes, France.</i>), marios zacharias, tan nguyen, simon thebaud, claudine katan Strong anharmonicity, relaxational dynamics and impact of lattice polarizability on the optoelectronic properties of halide perovskites and their nanostructures
1.2-11	
12:00 - 12:30	<u>Federica Bertolotti</u> (<i>Department of Science and High Technology and To.Sca.Lab., University of Insubria, via Valleggio 11, 22100 Como, Italy</i>), Lucia Allara, Norberto Masciocchi, Antonietta Guagliardi A deep learning approach for fast classification of quantum dots size from total scattering data
1.2-12	
12:30 - 13:00	<u>Nuri Yazdani</u> (<i>Institute of Electronics (IfE), D-ITET, ETHZ</i>) Electron Phonon Coupling in Lead Halide Perovskites: Impact of Dynamic Disorder and Phonon-Phonon Scattering
1.2-13	
13:00 - 13:30	<u>Roman Krahné</u> (<i>Istituto Italiano Di Tecnologia</i>), Mehrdad Faraji, Alexander Schleusener, Miao-Ling Lin, Ping-Heng Tan Directionality of Vibrations and Emission in Two-Dimensional Metal Halide Perovskites
1.2-14	
13:30 - 15:00	Lunch Break
	Session 1.3 Chair: Nuri Yazdani
15:00 - 15:30	Zhaojun Zhang, Nils Lamers, Hanna Dierks, Ivan Scheblykin, <u>Jesper Wallentin</u> (<i>Lund University</i>) Growth and Device Processing of Free-standing Perovskite Nanowires
1.3-11	
15:30 - 15:45	<u>Marios Zacharias</u> (<i>Univ Rennes, INSA Rennes, CNRS, Institut FOTON - UMR 6082, F-35000 Rennes, France.</i>), Jacky Even, George Volonakis, Feliciano Giustino Anharmonic electron-phonon coupling in layered and bulk polymorphous perovskites
1.3-01	
15:45 - 16:00	<u>Alexander Schleusener</u> (<i>Italian Institute of Technology (IIT)</i>), Mehrdad Faraji, Roman Krahné Microcrystalline Two-Dimensional Layered Metal-Halide Perovskite Heterostructures
1.3-02	
16:15 - 17:30	Poster Session

November 14th - Day 2 (Tuesday) 2

Session 2.1	
Chair: Jacky Even	
10:00 - 10:30	<u>Brahim Lounis</u> (<i>University of Bordeaux, Institut d'Optique & CNRS, France</i>)
2.1-11	Lead-halide perovskite nanocrystals: Exciton properties and Single photon emission
10:30 - 11:00	<u>Daniel Gamelin</u> (<i>Department of Chemistry, University of Washington, Seattle, WA, 98195-1700, USA</i>), Kimo Pressler, Thom Snoeren, Kelly Walsh
2.1-12	Doping and Nanostructuring Two-Dimensional Magnets
11:00 - 11:30 Coffee Break	
Session 2.2	
Chair: Daniel Gamelin	
11:30 - 12:00	<u>Gerd Bacher</u> (<i>Werkstoffe der Elektrotechnik and CENIDE, University Duisburg-Essen</i>)
2.2-11	Exciton Fine Structure in Lead Halide Perovskite Nanocrystals
12:00 - 12:30	<u>Giulia Fulvia Mancini</u> (<i>University of Pavia</i>)
2.2-12	Charge, lattice and spin interplay in the ultrafast response of photoexcited spinel Co ₃ O ₄
12:30 - 13:00	<u>Sascha Feldmann</u> (<i>Harvard University</i>)
2.2-13	Tracking spin and charge in time and space in halide perovskites
13:00 - 13:30	<u>Erik Kirstein</u> (<i>Experimentelle Physik 2, Technische Universität Dortmund, Dortmund 44221, Germany</i>)
2.2-14	How spin physics helps to understand the band structure of lead halide perovskites
13:30 - 15:00 Lunch Break	
Session 2.3	
Chair: Ivan Infante	
15:00 - 15:15	<u>Jordi Llusar</u> (<i>BCMaterials, Basque Center for Materials, Applications and Nanostructures, UPV/EHU Science Park, 48940 Leioa, Spain</i>), Ivan Infante
2.3-01	Atomistic Models and Surface Effects in II-VI and III-V Core-Shell Quantum Dots
15:15 - 15:30	<u>Saar Shaek</u> (<i>Department of Materials Science and Engineering, Technion-Israel Institute of Technology, Haifa 32000, Israel</i>), Yehonadav Bekenstein, Ivano Castelli
2.3-02	How does Local Strain Affect Stokes Shifts in Halide Double Perovskite Nanocrystals?
15:30 - 15:45	<u>Panagiotis Rodosthenous</u> (<i>University of Leeds</i>), Marco Califano, Francisco M. Gómez-Campos, Erik S. Skibinsky-Gitlin, Salvador Rodríguez-Bolívar
2.3-03	Theoretical Studies on the Transport Properties of 2D InAs Colloidal QD Films
15:45 - 16:00	<u>Sander Vonk</u> (<i>Debye Institute for Nanomaterials Science and Institute for Theoretical Physics, University of Utrecht</i>), Tim Prins, Tong Wang, Luca Giordano, Pieter Schiettecatte, Thomas Hopper, Artem Bakulin, Zeger Hens, Pieter Geiregat, Freddy Rabouw
2.3-04	Hot-Carrier Trapping Limits Gain in InP-based Quantum Dots
16:00 - 16:15	<u>Sajid Saikia</u> (<i>Ph.D. student at Indian Institute of Science Education and Research (IISER) Pune</i>)
2.3-05	A Broad Dual Emitter by Codoping Cr ³⁺ (d→d) and Bi ³⁺ (s→p) in Cs ₂ Ag _{0.6} Na _{0.4} InCl ₆ Halide Double Perovskite.
20:00 - 22:30 Social Dinner	

November 15th - Day 3 (Wednesday) 3

Session 3.1	
Chair: Sascha Feldmann	
10:00 - 10:30	<u>Libai Huang</u> (<i>Purdue University, West Lafayette, IN, 47907, USA</i>)
3.1-11	Coherent and Environment-Assisted Quantum Transport of Excitons in Perovskite Nanocrystal Superlattices
10:30 - 10:45	<u>Ihor Cherniukh</u> (<i>Department of Chemistry and Applied Biosciences, Institute of Inorganic Chemistry, ETH Zürich, Zürich, Switzerland</i>),
3.1-01	Kseniia Shcherbak, Chenglian Zhu, Andriy Stelmakh, Federica Bertolotti, Norberto Masciocchi, Antonietta Guagliardi, Gabriele Rainò, Maryna I. Bodnarchuk, Maksym V. Kovalenko
	Rational Synthesis of CsPbBr ₃ Nanorods with Tunable Thickness and Aspect Ratio
10:45 - 10:55	Flash Talk
10:55 - 11:00	Flash Talk
11:00 - 11:30	Coffee Break
Session 3.2	
Chair: Gerd Bacher	
11:30 - 12:00	<u>Andrey Rogach</u> (<i>Department of Materials Science and Engineering, City University of Hong Kong, Hong Kong SAR, P.R. China</i>)
3.2-11	Improvements of perovskite nanocrystals for light-emitting applications
12:00 - 12:30	Abhishek Kumar Srivastava, <u>Valerii Vashchenko</u> (<i>The Hong Kong University of Science and Technology</i> .)
3.2-12	Quantum rods LEDs for lighting and displays
12:30 - 13:00	<u>Sergio Brovelli</u> (<i>Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, 20125 Milano, Italy</i>)
3.2-13	Advances in ultra-fast and radiation-hard lead halide perovskite nanocomposite scintillators
13:00 - 13:30	<u>Ilya Akimov</u> (<i>Experimentelle Physik 2, Technische Universität Dortmund, Dortmund 44221, Germany</i>)
3.2-14	Coherent optical spectroscopy in perovskites semiconductors
13:30 - 15:00	Lunch Break
Session 3.3	
Chair: Yehonadav Bekenstein	
15:00 - 15:15	<u>Etsuki Kobiyama</u> (<i>IBM Research Europe — Zurich, Säumerstrasse, 4, Rüschlikon, Switzerland</i>), Darius Urbonas, Maryna Bodnarchuk,
3.3-01	Gabriele Rainò, Rainer Mahrt, Maksym Kovalenko, Thilo Stöferle
	Template-Assisted Assemblies of Perovskite Nanocrystals
15:15 - 15:30	<u>Ivo Tanghe</u> (<i>Photonics Research Group, Ghent University, Belgium</i>), Margarita Samoli, Isabella Wagner, Servet Ataberk Cayan, Kai Chen,
3.3-02	Justin Hodgkiss, Iwan Moreels, Dries Van Thourhout, Zeger Hens, Pieter Geiregat
	Bulk Colloidal Nanocrystals as Gain Material in Photonic Crystal Surface Emitting Lasers across the Green-Red Spectrum
15:30 - 15:45	<u>Taras Sekh</u> (<i>Department of Chemistry and Applied Biosciences, ETH Zürich, Zürich, Switzerland</i>), Gabriele Rainò, Ihor Cherniukh, Etsuki
3.3-03	Kobiyama, Modestos Athanasiou, Andreas Manoli, Thomas Sheehan, Federica Bertolotti, William Tisdale, Thilo Stöferle, Rolf Erni, Norberto Masciocchi, Antonietta Guagliardi, Grigorios Itskos, Maryna Bodnarchuk, Maksym Kovalenko
	All-Perovskite Multicomponent Nanocrystal Superlattices
15:45 - 16:00	<u>Andreas Manoli</u> (<i>Experimental Condensed Matter Physics Laboratory, Department of Physics, University of Cyprus, 1678 Nicosia, Cyprus</i>),
3.3-04	Modestos Athanasiou, Marios Sergides, Taras Sekh, Etsuki Kobiyama, Rainer F. Mahrt, Maryna I. Bodnarchuk, Thilo Stöferle, Maksym V. Kovalenko, Andreas Othonos, Grigorios Itskos
	Optical Properties of Binary Nanocrystal Superlattices Produced by Assemblies of Strongly and Weakly Confined CsPbBr ₃ Perovskite Nanocrystals
16:00 - 16:15	Closing