

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
10:00 - 10:30	<u>Sohee Jeong</u> (<i>Department of Energy Science, Sungkyunkwan University</i>)
1.1-11	Unlocking the potential of short-wave Infrared absorbing InAs nanocrystals via synthesis
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>)
1.1-12	The Surface Chemistry of Colloidal Semiconductor Nanocrystals
11:00 - 11:30	Coffee Break
	Session 1.2
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
1.2-11	Strong anharmonicity, relaxational dynamics and impact of lattice polarizability on the optoelectronic properties of halide perovskites and their nanostructures
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
1.2-12	A deep learning approach for fast classification of quantum dots size from total scattering data
12:30 - 13:00	<u>Nuri Yazdani</u> (<i>Institute of Electronics (IfE), D-ITET, ETHZ</i>)
1.2-13	Electron Phonon Coupling in Lead Halide Perovskites: Impact of Dynamic Disorder and Phonon-Phonon Scattering
13:00 - 13:30	<u>Roman Krahne</u> (<i>Istituto Italiano Di Tecnologia</i>), Mehrdad Faraji, Alexander Schleusener, Miao-Ling Lin, Ping-Heng Tan
1.2-14	Directionality of Vibrations and Emission in Two-Dimensional Metal Halide Perovskites
13:30 - 15:00	Lunch Break
	Session 1.3
15:00 - 15:15	Zhaojun Zhang, Nils Lamers, Hanna Dierks, Ivan Scherblykin, <u>Jesper Wallentin</u> (<i>Lund University</i>)
1.3-01	Growth and Device Processing of Free-standing Perovskite Nanowires
15:15 - 15:30	<u>Ihor Cherniukh</u> (<i>Department of Chemistry and Applied Biosciences, Institute of Inorganic Chemistry, ETH Zürich, Zürich, Switzerland</i>), Kseniia Shcherbak, Chenglian Zhu, Andriy Stelmakh, Federica Bertolotti, Norberto Masciocchi, Antonietta Guagliardi, Gabriele Rainò, Maryna I. Bodnarchuk, Maksym V. Kovalenko
1.3-02	Rational Synthesis of CsPbBr ₃ Nanorods with Tunable Thickness and Aspect Ratio
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
1.3-03	Anharmonic electron-phonon coupling in layered and bulk polymorphous perovskites
15:45 - 16:00	<u>Offir Zachs</u> (<i>Department of Materials Science and Engineering, Technion-Israel Institute of Technology, Haifa 32000, Israel</i>), Saar Shaek, Ivano Eligio Castelli, Yehonadav Bekenstein
1.3-04	Structure-function effects of Na-K alloying in double perovskite nanocrystals
16:00 - 16:15	<u>Alexander Schleusener</u> (<i>Italian Institute of Technology (IIT)</i>), Mehrdad Faraji, Roman Krahne
1.3-05	Microcrystalline Two-Dimensional Layered Metal-Halide Perovskite Heterostructures
16:15 - 16:30	<u>Saar Shaek</u> (<i>Department of Materials Science and Engineering, Technion-Israel Institute of Technology, Haifa 32000, Israel</i>), Yehonadav Bekenstein, Ivano Castelli
1.3-06	How does Local Strain Affect Stokes Shifts in Halide Double Perovskite Nanocrystals?
16:30 - 18:00	Poster Session

November 14th - Day 2 (Tuesday) 2

Session 2.1

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

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>Zhiqiao Xia</u> (<i>State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou, China</i>)
2.2-14	Lanthanide ions at B sites' doping or alloying in metal halide perovskites toward emerging luminescence

13:30 - 15:00 Lunch Break

Session 2.3

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>Vinod Kumar</u> (<i>Indian Institute of Science Education and Research Bhopal</i>), K. V. Adarsh
2.3-02	Interfacial Charge Transfer in CsPbBr ₃ /Single-Wall Carbon Nanotube Hybrid: Insight into Charge-Carrier Dynamics and Enhanced Nonlinearity
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>), Jence Mulder, Jur de Wit, Arjan Houtepen, Freddy Rabouw
2.3-04	Energy diffusion to quenching surface sites in Er ³⁺ - and Yb ³⁺ -doped nanocrystals
16:00 - 16:15	<u>Sara Pescetelli</u> (<i>CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, University of Rome "Tor Vergata", via del Politecnico 1, 00133, Roma, Italy.</i>), Antonio Agresti, Hanna Pazniack, Francesco Bonaccorso, Emmanuel Kymakis, Aldo Di Carlo
2.3-05	2D materials based interface engineering enables the scaling-up of perovskite technology
16:15 - 16:30	<u>Sajid Saikia</u> (<i>Ph.D. student at Indian Institute of Science Education and Research (IISER) Pune</i>)
2.3-06	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	
10:00 - 10:30 3.1-11	<u>Libai Huang</u> (<i>Purdue University, West Lafayette, IN, 47907, USA</i>) Coherent and Environment-Assisted Quantum Transport of Excitons in Perovskite Nanocrystal Superlattices
10:30 - 11:00 3.1-12	<u>Yehonadav Bekenstein</u> (<i>Technion Israel Institute of Technology</i>) Is cathodoluminescence from superlattices of perovskite quantum dots a result of their collective excitations?
11:00 - 11:30	Coffee Break
Session 3.2	
11:30 - 12:00 3.2-11	<u>Andrey Rogach</u> (<i>Department of Materials Science and Engineering, City University of Hong Kong, Hong Kong SAR, P.R. China</i>) Improvements of perovskite nanocrystals for light-emitting applications
12:00 - 12:30 3.2-12	<u>Abhishek Kumar Srivastava</u> (<i>The Hong Kong University of Science and Technology</i>) Quantum rods LEDs for lighting and displays
12:30 - 13:00 3.2-13	<u>Sergio Brovelli</u> (<i>Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, 20125 Milano, Italy</i>) Advances in ultra-fast and radiation-hard lead halide perovskite nanocomposite scintillators
13:00 - 15:00	Lunch Break
Session 3.3	
15:00 - 15:15 3.3-01	<u>Etsuki Kobiyama</u> (<i>IBM Research Europe — Zurich, Säumerstrasse, 4, Rüschlikon, Switzerland</i>), Darius Urbonas, Maryna Bodnarchuk, Gabriele Rainò, Rainer Mahrt, Maksym Kovalenko, Thilo Stöferle Template-Assisted Assemblies of Perovskite Nanocrystals
15:15 - 15:30 3.3-02	<u>Ivo Tanghe</u> (<i>Photonics Research Group, Ghent University, Belgium</i>), Margarita Samoli, Isabella Wagner, Servet Ataberk Cayan, Kai Chen, 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 3.3-03	<u>Taras Sekh</u> (<i>Department of Chemistry and Applied Biosciences, ETH Zürich, Zürich, Switzerland</i>), Gabriele Rainò, Ihor Cherniukh, Etsuki 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 3.3-04	<u>Antonio Agresti</u> (<i>C.H.O.S.E. (Centre for Hybrid and Organic Solar Energy), Electronic Engineering Department, University of Rome Tor Vergata, Via del Politecnico 1, 00133, Rome, Italy</i>), Sara Pescetelli, Hanna Pazniak, Faustino Martelli, Daniele Catone, Stefano Turchini, Patrick O'Keeffe, Francesco Bonaccorso, Emmanuel Kymakis, Marina Foti, Aldo Di Carlo Fostering the development of perovskite-based photovoltaic devices by the use of 2D materials: from basic characterizations to the industrial application
16:00 - 16:15 3.3-05	<u>Andreas Manoli</u> (<i>Experimental Condensed Matter Physics Laboratory, Department of Physics, University of Cyprus, 1678 Nicosia, Cyprus</i>), 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
16:15 - 16:30 3.3-06	<u>Santu Kumar Bera</u> (<i>Indian Institute of Science Education and Research Bhopal</i>), K V Adarsh Facet Engineering for Amplified Spontaneous Emission in Metal Halide Perovskite Nanocrystals
16:30 - 16:35	Closing

Poster Contribution

006	Hanna Dierks, Zhaojun Zhang, Nils Lamers, Jesper Wallentin (<i>Lund University</i>) 3D X-ray microscopy using CsPbBr ₃ perovskite nanowire scintillators
-----	--