

Materials for Sustainable Development Conference (MAT-SUS) (NFM22)

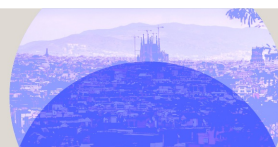
#NANOMAT - Advances on the Understanding and Synthesis of Nanomaterials for Photocatalysis and Optoelectronics

Barcelona, Spain, 2022 October 26th - 27th

Conference Chairs: Ludmilla Steier and Daniel Congreve

Conference Program

October 26th - Day 3 (Wednesday)	
08:55 - 09:00	Room A4 - Chair Introduction
	Session 1.1 Chair: Daniel Congreve
09:00 - 09:30	<u>Maksym Kovalenko</u> (<i>Empa - Swiss Federal Laboratories for Materials Science and Technology</i>) Highly luminescent lead halide perovskite nanocrystals: revisiting their synthesis and tailoring their surface chemistry
1.1-11	
09:30 - 10:00	<u>Giulia Fulvia Mancini</u> (<i>Laboratory for Ultrafast X-ray and Electron Microscopy (LUXEM), Department of Physics, University of Pavia</i>) Light and Thermal Activation: Decoupled Responses in CsPbBr ₃ Perovskites
1.1-12	
10:00 - 10:30	<u>Ernest Pastor</u> (<i>Institute of Advanced Materials INAM</i>) The role of disorder in photo-electrosynthesis
1.1-13	
10:30 - 11:15	Coffee Break
	Session 1.2 Chair: Ludmilla Steier
11:15 - 11:30	<u>Soranyel Gonzalez-Carrero</u> (<i>Department of Chemistry, Centre for Processable Electronics</i>), Jan Kosco, Teng Fei, Iain McCulloch, James R. Durrant Tracking the photogenerated charges on organic semiconductors nanoparticles photocatalyst
1.2-T1	
11:30 - 11:45	<u>Ana Gutiérrez Blanco</u> (<i>Institute of Advanced Materials (INAM), University Jaume I, Av. Vicent Sos Baynat, s/n, 12071, Castellón de la Plana, Spain.</i>), Christian Robles, Laura Montañés, Camilo Arturo Mesa, Víctor Sans, Sixto Giménez UP-SCALING THE SYNTHESIS OF BiVO ₄ NANOPARTICLES BY A SIMPLE CONTINUOUS-FLOW METHOD
1.2-T2	
11:45 - 12:00	<u>Junyi Cui</u> (<i>Department of Chemical Engineering Imperial College London</i>), Salvador Eslava, Matyas Daboczi, Yi-Chun Chin, Katia Pagano, Jifang Zhang, Mark A. Isaacs, Gwilherm Kerherve, Sixto Gimenez, Ji-Seon Kim 2D VA group materials as interlayers on photoanodes boosting solar water splitting by improving interfacial charge injection
1.2-T3	
12:00 - 12:05	<u>Hannah Kerr</u> (<i>Fundació scito</i>) Publishing at the Royal Society Chemistry: Tips from an Editor
1.2-51	
12:05 - 12:20	<u>Carles Ros</u> (<i>ICFO - Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology</i>), Catarina Ferreira, Francisco Bernal, Constanza Sansierra, Mingyu Zhang, Jordi Martorell Computational and Experimental Photonic Structures Light Management Optimization of BiVO ₄ /OPV Tandem PEC/PV Structures Adapted for H ₂ and CO ₂ R Solar Fuels.
1.2-T4	
12:20 - 12:35	<u>Simone Casadio</u> (<i>Institute of Science and Technology for Ceramics (ISTEC) of the National Research Council (CNR)</i>), Angela Gondolini, Nicola Sangiorgi, Alessandra Sanson BISMUTH-BASED AURIVILLIUS PHOTO-ELECTRODES FOR THE FERROELECTRIC-ENHANCED PHOTOELECTROCHEMICAL REDUCTION OF CO ₂
1.2-T5	
12:35 - 12:50	<u>Menny Shalom</u> (<i>Department of Chemistry, Ben Gurion University, Beer sheva, Israel</i>) Carbon Nitride Layers as Light-Harvesting Semiconductors for Photoelectrochemical Cells
1.2-T6	
12:50 - 15:25	Lunch
15:25 - 15:30	Room A4 - Chair Introduction
	Session 1.3 Chair: Daniel Congreve
15:30 - 15:45	<u>Sandra Patricia Gonzalez Lopez</u> (<i>KAUST Solar Center, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia.</i>), Julien Gorenflot, Patrick Murton, Maximilian Moser, Iain McCulloch, Frédéric Laquai Triplet-triplet annihilation up-conversion sensitizes metal oxide nanoparticles for photocatalytic reactions
1.3-T1	
15:45 - 16:00	<u>Daniel Grave</u> (<i>Ben-Gurion University of the Negev, Israel</i>) Non-unity photogeneration yield of mobile charge carriers in transition metal-oxide photoelectrode materials
1.3-T2	
16:00 - 16:30	<u>Sixto Giménez</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, 12006 Castelló, Spain</i>), Camilo Arturo Mesa, Roser Fernández-Cliement, Iván Mora-Seró, Andrés F. Gualdrón-Reyes Photoelectrochemical transformations with all-inorganic halide perovskites nanocrystals
1.3-11	
16:30 - 16:45	Joaquim Puigdollers, <u>Oriol Segura</u> (<i>Dept.Eng. Química. Universitat Politècnica Catalunya</i>), Eloi Ros, Cristobal Voz, Pablo Rafael Ortega, Magno Barcelos, Edoardo Maggi, Edgardo Saucedo, Jordi Llorca, Lluís Soler Photocatalytic systems based on selective interdigitated contacts of electrons and holes deposited on TiO ₂
1.3-T3	
19:30 - 22:00	Social Dinner



October 27th - Day 4 (Thursday)

08:55 - 09:00	Room A4 - Chair Introduction
	Session 2.1 Chair: Daniel Congreve
09:00 - 09:15 2.1-T1	<u>Artsiom Antanovich</u> (<i>Physical Chemistry, TU Dresden</i>), Lan Yang, Nikolai Gaponik, Vladimir Lesnyak Continuous Composition Tunability of Alloyed CdSexS1-x Nanoplatelets for Bright Blue-Green Emission
09:15 - 09:30 2.1-T2	<u>Matyas Daboczi</u> (<i>Department of Chemical Engineering and Centre for Processable Electronics, Imperial College London</i>), Junyi Cui, Salvador Eslava Developing Solution-Processed All-Inorganic Perovskite Photoanodes with Improved Efficiency and Stability
09:30 - 09:45 2.1-T3	<u>Ferry Prins</u> (<i>Condensed Matter Physics Center (IFIMAC), Autonomous University of Madrid</i>) Understanding Anomalous Energy Transport in Semiconductor Nanomaterials
09:45 - 10:00 2.1-T4	<u>Noa Afik</u> (<i>Department of Chemistry, Ben Gurion University, Beer sheva, Israel</i>), Karam Shreth, Helena Fridman, Michael Volokh, Vladimir Ezersky, Taleb Mokari Synthesis of One-Dimensional Metal-Oxide Nanostructures Using a Solution-Liquid-Solid Growth Mechanism
10:00 - 10:15 2.1-T5	Vidmantas Jašinskis, Marius Franckevičius, Andrius Gelžinis, Jevgenij Chmeliov, <u>Vidmantas Gulbinas</u> (<i>Center for Physical Sciences and Technology, Vilnius, Lithuania</i>) Direct tracking of Charge Carrier Drift Across Mesoporous TiO2/perovskite Layer in Archetypical Perovskite Solar Cell.
10:15 - 10:30 2.1-T6	<u>Jordi Ferrer Orri</u> (<i>Cavendish Laboratory, University of Cambridge - UK</i>), Felix Kosasih, Gunnar Kusch, Giorgio Divitini, Rachel Oliver, Caterina Ducati, Samuel Stranks Cathodoluminescence to Elucidate the Nanostructure of Hybrid Halide Perovskites: Is It Possible?
10:30 - 11:15	Coffee Break
	Session 2.2 Chair: Ludmilla Steier
11:15 - 11:45 2.2-11	<u>David Tilley</u> (<i>Department of Chemistry, University of Zurich</i>) Chalcogenide Light Absorbers for Photoelectrochemical Water Splitting
11:45 - 12:15 2.2-12	<u>Joseph Luther</u> (<i>National Renewable Energy Laboratory</i>) Chirality Effects and Device Applications from Halide Perovskite Nanocrystals
12:15 - 12:45 2.2-13	<u>Carola Lampe</u> (<i>Ludwig Maximilians University (LMU) Munich, Nanospectroscopy Group, Nano-Institute Munich, Physics Department</i>) Halide Perovskite Nanoplatelets: Shaping a New Generation of Light Emitters
12:45 - 13:15 2.2-14	<u>Roc Matheu</u> (<i>Universitat de Barcelona</i>), A. Breidenbach, N. Wolf, Y. Lee, Z. Liu, L. Leppert, H.I Karunadasa, K. Fe, Y. Lin Charge Reservoirs in an Expanded Halide Perovskite Analog: Enhancing High-Pressure Conductivity through Redox-Active Molecules
13:15 - 13:20	Symposium Closing
17:15 - 17:30	General Closing
17:30 - 20:00	Poster Session

Poster Contribution

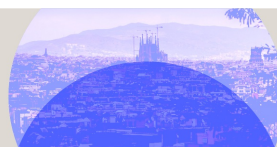
266	<u>elham khorashadizade</u> (<i>Pasargad Institute for Advanced Innovative Solutions (PIAIS), Tehran, Iran 1991633361</i>), Shiva Mohajernia, Seyedsina Hejazi, A. Z Moshfegh, Patrik Schmuki A comparative study on the influence of surface and bulk oxygen vacancy defects on photocatalytic activities of TiO2 nanotubes
267	Magno Barcelos, Eloi Ros, Edoardo Maggi, Cristobal Voz, Pablo Rafael Ortega, Teresa Andreu, <u>Joaquim Puigdollers</u> (<i>Universitat Politècnica de Catalunya (UPC), Barcelona Center for Multiscale Science & Engineering, Av Eduard Maristany 10-14, Barcelona 08019, Catalonia, Spain.</i>), Edgardo Saucedo Interfacial dipole layer as a mediator of high-performance c-Si based photoelectrodes for photoelectrochemical water splitting
268	<u>Carolina Pulignani</u> (<i>Department of Chemistry, University of Cambridge, UK</i>), Camilo A. Mesa, Samue A. J. Hillman, Taylor Uekert, Sixto Giménez, James Durrant, Erwin Reisner Rational Design of Carbon Nitride Photoelectrodes with High Activity Toward Organic Oxidations
273	<u>Leepsa Mishra</u> (<i>Indian Institute of Technology Patna, India</i>), Manas Kumar Sarangi Concentration-Dependent Optoelectronics of Perovskite Microcrystals
276	<u>Noa Afik</u> (<i>The chemistry department, Ben Gurion University</i>), Karam Shreth, Helena Fridman, Michael Volokh, Taleb Mokari Synthesis and Electrochromic Properties of Tungsten Molybdenum Oxide Ultrathin Alloyed Nanowires
285	<u>Hye Min Oh</u> (<i>Department of Physics, Kunsan National University, Kunsan, South Korea</i>), Kyung-Koo Lee, Hyojung Kim Exciton Behavior in Monolayer WS2 by Laser Irradiation
304	<u>Christian Robles</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, Av. Sos Baynat, s/n, 12071 Castelló, Spain</i>), Ana Gutiérrez, Laura Montañés, Camilo Mesa, Beatriz Julián, Victor Sans, Sixto Giménez Synthesis of BiVO4 Nanoparticles Through a Continuous Flow System for Up-Scalable Photoelectrochemical Devices
305	<u>Mohini Mishra</u> (<i>Bernal Institute, University of Limerick</i>), Fernando Otero, Niraj Nitish Patil, Vasily Lebedeva, Maria Zubair, Nilotpal Kapuria, Shalini Singh, Kevin M. Ryan Composition control and formation pathway of CZTGS and CZGS nanorods using colloidal synthesis with in-situ partial cation-exchange route.
306	<u>Maria Zubair</u> (<i>Bernal Institute, University of Limerick</i>), Syed Abdul Ahad, Ibrahim Amiin, Mohini Mishra, Shalini Singh, Kevin Ryan Solution Grown- Ternary Alkali Metal Based Mixed Ionic-Electronic Semiconductor: Role of Temperature, Ligand and Precursor
314	<u>Laura Montañés</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, Avenida de Vicent Sos Baynat, s/n, 12071, Castelló de la Plana, Spain</i>), Camilo A. Mesa, Ana Gutiérrez-Blanco, Beatriz Julián-López, Sixto Giménez Exposed Area Dependent PEC Performance of BiVO4 Photoanodes for Solar Water Splitting
316	<u>Dong Jin Kim</u> (<i>School of Architecture, Civil, Environmental and Energy Engineering, Kyungpook National University</i>), Hyunwoong Park Light source-dependent charge separation mechanism of heterostructure photocatalysts for dye wastewater treatment
318	<u>Jiyeon Park</u> (<i>School of Architectural, Civil, Environmental, and Energy Engineering, Kyungpook National University</i>), Hyunwoong Park Photo-charged inorganic catalysts membrane filter for water pollutant remediation redox reactions in the absence of light



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322 Simona Streckaite (*Department of Molecular Compound Physics, Center for Physical Sciences and Technology, Sauletekio Ave. 3, Vilnius, LT-10257, Lithuania*), Marius Franckevicius, Vidmantas Gulbinas
Energy Transfer Processes in Ytterbium Doped Lead Halide Perovskites