

Perovskite and Organic Semiconductors for Next-Generation Photodetectors and Space Application (NextPDs)

Dubrovnik, Croatia, 2024 June 10th - 11th

Conference organizers: Michele Sessolo, Beatrice Fraboni and Marisé Garcia-Batlle

Conference Program

June 10th - Day 1 (Monday) 1	
08:30 - 09:45	Registration
09:45 - 10:00	Opening
	Session 1A Chair: Beatrice Fraboni
10:00 - 10:30 1A-I1	<u>Francesca Brunetti</u> (<i>CHOSE, University of Rome "Tor Vergata", Italy.</i>) Neutron resilience of flexible perovskite solar cells by hole transport material engineering
10:30 - 11:00 1A-I2	<u>Joseph Luther</u> (<i>National Renewable Energy Laboratory, NREL, Golden, CO, USA.</i>) Unraveling radiation damage and healing mechanisms in halide perovskites using energy-tuned dual irradiation dosing
11:00 - 11:15 1A-O1	<u>Isabel Goncalves</u> (<i>Department of Physics, Politecnico di Milano, Milan (Italy)</i>), Annamaria Petrozza All-printed planar photoconductors for X-ray detection
11:15 - 11:45	Coffee Break
	Session 1B Chair: Francesca Brunetti
11:45 - 12:15 1B-I1	<u>Silke Traut</u> (<i>Technology, Dectris Ltd</i>) Advances in sensor materials for cutting-edge x-ray and electron detection
12:15 - 12:45 1B-I2	<u>Sergii Yakunin</u> (<i>Laboratory of Inorganic Chemistry, Department of Chemistry and Applied Biosciences, ETH Zürich, CH-8093 Zürich, Switzerland</i>), Kostiantyn Sakhatskyi, Maksym Kovalenko Ten years of rapid development of metal halide perovskites as ionizing detection materials.
12:45 - 13:00 1B-O1	<u>Marco Girolami</u> (<i>CNR-ISM, Consiglio Nazionale delle Ricerche, Istituto di Struttura della Materia, Sede Secondaria di Montelibretti, DiaTHEMA Lab, Strada Provinciale 35D, 9, 00010 Montelibretti, Roma, Italy</i>), Fabio Matteocci, Sara Pettinato, Valerio Serpente, Eleonora Bolli, Barbara Paci, Amanda Generosi, Stefano Salvatori, Aldo Di Carlo, Daniele M. Trucchi Metal-halide perovskite submicrometer-thick films for ultra-stable self-powered direct X-ray detectors
13:00 - 14:45	Lunch Break
	Session 1C Chair: Sergii Yakunin
14:45 - 15:15 1C-I1	<u>Lidon Gil Escriu</u> (<i>Instituto de Ciencia Molecular, ICMol, Universidad de Valencia</i>) Vacuum-deposited single junction perovskite solar cells for space applications
15:15 - 15:30 1C-O1	<u>Andreas Borsche</u> (<i>Institute of Materials for Electronics and Energy Technology (i-MEET), Department of Materials Science and Engineering, FAU, Martensstrasse 7, 91058 Erlangen, Germany</i>) Design Rules for Stable Organic Materials for Outer Space Solar Cell Applications
15:30 - 15:45 1C-O2	<u>Sergey Tsarev</u> (<i>ETH Zürich, Department of Chemistry and Applied Biosciences, Switzerland</i>), Yulia Kominko, Kyuik Cho, Lorenzo Ferraresi, Daria Pronyakova, Taekwang Jang, Maksym Kovalenko, Yakunin Sergii Minimizing the Impact of Ion Movement in Perovskite-Based Image Sensors
15:45 - 16:15 1C-O3	<u>Serhii Derenko</u> (<i>University of Valencia</i>), Lucía Martínez-Goyeneche, Alejandra Silva-Mayo, Daniel Tordera, Michele Sessolo Vacuum-deposited Vertical Perovskite Photoconductors
17:30 - 19:30	Downtown walking Tour

June 11th - Day 2 (Tuesday) 2

Session 2A	
Chair: Michele Sessolo	
10:00 - 10:30 2A-I1	<u>Sergio Brovelli</u> (<i>Department of Materials Science, University of Milano-Bicocca, Milan (Italy)</i>) Lead halide perovskite nanocrystals as future scintillators: progress and challenges
10:30 - 11:00 2A-I2	<u>Ian Sellers</u> (<i>University at Buffalo</i>) Metal Halide Perovskite Solar Cells for Emerging Space Applications
11:00 - 11:15 2A-O1	<u>Kostiantyn Sakhatzkyi</u> (<i>Laboratory of Inorganic Chemistry, Department of Chemistry and Applied Biosciences, ETH Zürich, CH-8093 Zürich, Switzerland</i>), Ying Zhou, Gebhard Matt, Jingjing Zhao, Jinsong Huang, Sergii Yakunin, Maksym Kovalenko On characterizing X-ray detectors for low-dose imaging
11:15 - 11:45 Coffee Break	
Session 2C	
Chair: Ian Sellers	
11:45 - 12:15 2C-I1	<u>Claus Zimmermann</u> (<i>Airbus DS</i>) Environmental challenges in space PV
12:15 - 12:45 2C-I2	<u>Eric Gros-Daillon</u> (<i>Univ. Grenoble Alpes, CEA, LETI, FR-38000 Grenoble, France</i>), Sylvain Rey, Freychet Guillaume, Vaxelaire Nicolas, Jakob Ihrenberger, Lédée Lédée, Patrice Gergaud, Stéphanie Lombard, Louis Grenet Unveiling Ionic Migration Pathways in Thick CsPbBr ₃ under Electric Field: Insights from Grazing Incidence X-ray Fluorescence
12:45 - 13:00 2C-O1	<u>Javier Enrique Sebastian Alonso</u> (<i>University of Valencia - Instituto de Ciencia Molecular (ICMoL), Department of Inorganic Chemistry, C/ Catedrático José Beltrán 2, 46980 Paterna, Spain</i>) Lightweight Dry Processed Flexible FA0.7MA0.3PbI ₃ based PSCs on Bifacial and Substrate Configuration for Low Orbit Applications
13:00 - 14:45 Lunch Break	
Session 2C	
Chair: Eric Gros-Daillon	
14:45 - 15:15 2C-I1	<u>Miguel Anaya</u> (<i>Semiconductor Materials for Sustainability Lab Condensed Matter Physics Department University of Seville</i>) Porous networks for robust X-ray detection
15:15 - 15:30 2C-O1	<u>Lucía Martínez-Goyeneche</u> (<i>Institute of Molecular Science (ICMoL), University of Valencia, c/Catedrático José Beltrán 2, Paterna, 46980 Valencia, Spain.</i>), Riccardo Ollearo, Camilla Bordoni, Andrea Ciavatti, Albert J.J.M. Van Breemen, Gerwin H. Gelinck, Beatrice Fraboni, Daniel Tordera, Michele Sessolo Vacuum-deposited perovskite photodiodes for visible and X-ray detection
15:30 - 15:45 2C-O2	<u>Vishnu Anilkumar</u> (<i>Institute of Physical Chemistry, Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland</i>), Daniel Prochowicz Metal-Doped MAPbBr ₃ Single Crystal Photodiode for Self-Powered Photodetection
15:45 - 16:15 Coffee Break	
Session 2D	
Chair: Miguel Anaya	
16:15 - 16:45 2D-I1	<u>Laura Basiricò</u> (<i>Department of Physics and Astronomy, University of Bologna, Via Bertini Pichat 6/2, 40127 Bologna (IT.)</i>) Perovskite flexible films for protons and X-rays direct detection and beam monitoring
16:45 - 17:00 2D-O1	<u>Jonah Messinger</u> (<i>Department of Physics, Cavendish Laboratory, University of Cambridge, Cambridge CB3 0HE, U.K.</i>), Ganbaatar Tumen-Ulzii, Weidong Xu, Yorrick Boeije, Yang Lu, Tom Selby, Sam Stranks Quantum Cutting Perovskite Scintillator for an Indirect X-Ray-Voltaic Device
17:00 - 17:15 Closing	
20:30 - 22:00 Social Dinner	