



European Materials Research Society

2025 Spring Meeting

May 26 – 30 | Strasbourg Convention Centre

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SYMPOSIUM P

Novel materials and devices for photon and ionizing radiation detection

Oral sessions : LONDRES 1 – GROUND FLOOR

Poster sessions : ETOILE – FIRST FLOOR

Symposium Organizers:

Andrea CIAVATTI, Department of Physics and Astronomy, University of Bologna, Italy

Francesca COVA, Department of Materials Science, University of Milano, Italy

Michele SESSOLO (Main organizer), Instituto de Ciencia Molecular, University of Valencia, Spain

A selection of the contributions to the symposium will be invited to submit a paper to a special issue in Journal of Materials Chemistry C (Royal Society of Chemistry). All submitted papers will undergo peer-review process.

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Monday May 26

P01 Oral session

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09:15	2820	Advances and Challenges of Perovskites as Materials for Imaging Sensors YAKUNIN Sergii (Invited)
09:45	992	Investigation of Anode contact on the Stability of Charge Collection Efficiency and Energy Resolution in Perovskite Radiation Detector HAO Yingying

Monday May 26

P02 Oral session

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10:30	2063	High efficiency polystyrene scintillators based on resurfaced CsPbBr ₃ perovskite nanocrystals CARULLI Francesco
10:45	1658	Low-Dimensional Lead-Free Rb-based Metal Halides for Radiation Detection CREAN Carol
11:00	1255	Scintillation performance of 2D lead halide perovskites SELLIN Paul (Invited)
11:30	457	Ultra-stable, Solution-Processable perovskite Quantum Dots Scintillator for X-Ray detector/imaging WANG Mingqing
11:45	2656	Towards Accurate Predictions of Optoelectronic and Transport Properties of Metal Halide Perovskites: The Role of Intrinsic Disorder ZACHARIAS Marios

Monday May 26

P03 Oral session

Chairperson(s): nan

[View session abstracts](#)

13:45	298	From UV to Near-Infrared light detection: next generation photodetectors for imaging and biometric applications GASPARINI Nicola (Invited)
14:15	1174	Utilizing polaritons for high responsivity organic narrowband infrared photodiodes DASKALAKIS Konstantinos

14:30	1881	Scalable Short-Wavelength Infrared Organic Photodetectors Based on Non-Fullerene Acceptors with Detection Above 1200 nm QIAO Zhuoran
14:45	1596	Mid-gap trap state mediated up-conversion and dark current in organic photodiodes SANDBERG Oskar (Invited)
15:15	2589	Achieving Fast and Efficient Photodetection in Photomultiplication type Organic Photodetectors SARWAR Awais
15:30	1699	Substrate-configuration p-i-n perovskite thin-film photodiodes DERENKO Serhii
15:45	80	The role of interfacial energy band offset in controlling the dark current of broadband perovskite-organic heterojunction photodetectors NODARI Davide

Monday May 26

PP01 Poster sesssion

[View session abstracts](#)

16:30	01_1003	Microstructure evolution of CdZnTe crystal irradiated by heavy ions and its effect on electrical and carrier transport properties LU Liang
16:30	02_1224	Fully vacuum deposited multi-cation perovskite photodiodes Silva-Mayo Alejandra
16:30	03_1259	Ferrocene Derivatives Enable Ultrasensitive Perovskite Photodetectors with Enhanced Reverse Bias Stability HONG Eunyoung
16:30	04_1435	Two-step Synthesized Gadolinium Oxysulfide for Scintillator Screens DARSHAN Vibhu
16:30	05_1436	Characterisation and performance of vapour-deposited lead halide perovskite films for radiation detection applications ZAHID Muzzamer
16:30	06_1703	Visible-blind Ultraviolet detector with large photon collection area based on Eu ³⁺ luminescent solar concentrators MOTTA Irene
16:30	07_1741	Development of Hydrogel-Based Optical Phantoms for Refractive Index Mapping: A Novel Approach for Cancer Diagnosis CZUBEK Jakub
16:30	08_1776	Limiting Halide Exchange and Doping Mn(II) in Vertex-Oriented Cube-Connected Patterned Lead Halide Perovskite Nanorods NASIPURI Diptam

16:30	09_1821	High-resolution luminescence excitation spectroscopy in vacuum ultraviolet spectral range of rare-earth doped fluorides PANKRATOV Vladimir
16:30	10_1924	High-Performance Copper-Based Halide Scintillators for Advanced X-ray Imaging Applications CHEN Peter Chao-Yu
16:30	11_1959	Multilayer coatings based on mesoporous silicon, noble and rare-earth metals to increase the efficiency of silicon photodetectors and solar cells DAULETBKOVA Alma
16:30	12_2021	Facets-Directed Epitaxially Grown Lead Halide Perovskite-Sulfobromide Nanocrystal Heterostructures and Their Improved Photocatalytic Activity DAS Rajdeep
16:30	13_2073	Cu-doped CsPbI ₃ perovskite nanocrystals with enhanced structural stability and superior optical characteristics BOSE Shaona
16:30	14_217	Optical spectroscopy and surface properties of nanocrystalline ZnO thin films on interdigital electrodes REMES Zdenek
16:30	15_2231	Performance Analysis of a Fe-JLGAA FET-Based UV Sensor: Numerical Simulations and structure Optimization DJEFFAL Faycal
16:30	16_2326	Efficient Dark Current Suppression in Solution-Processed PbS Quantum dots-based Near-Infrared Photodetectors Through Remote Trap Passivation Kumar Parmod
16:30	17_242	Perovskites and the Search for New High-Z Materials for Ionising Radiation Detectors at Science Facilities BRADDOCK Isabel
16:30	18_2420	Narrow Band Bolometric Response from Ultra-Thin Gold Microwires SINGH Amrita
16:30	19_2648	Advanced Photoluminescence Characterization Techniques for Controlled Crystal Growth of Solution Processed Perovskite Thin Films HACENE Benjamin
16:30	20_3166	Influence of Spark Plasma Sintering parameters on structure and selected properties of Co-based alloys with high glass-forming ability Pilarczyk Wirginia
16:30	21_3173	High loading nanocomposites of cesium lead halide nanocrystals for radiation detection Král J.
16:30	22_488	Synthesis and Characterization of Ytterbium-doped Silicon Nanowires for High-performance Infrared Detection KHALIFA Marouan

16:30	23_521	Zwitterion based growth for strain management in FAPbBr ₃ single crystals for high performance and fast response direct radiation detection JAYARATHNE Ismalage Jayana Damsara
16:30	24_590	Effect of single and double pulse laser-induced breakdown spectroscopy towards steel alloy in different gaseous media BEN GOUIDER TRABELSI Amira

Tuesday May 27

P05 Oral session

[View session abstracts](#)

09:00	602	Nanoporous scintillators for radioactive gas detection DUJARDIN Christophe (Invited)
09:30	1801	Ultrafast core-to-core luminescence in BaF ₂ -LaF ₃ single crystals PANKRATOV Vladimir
09:45	3170	Er doped ZnO-based structures modified by CsPbBr ₃ using thermal plasma chemical approach BURYI Maksym

Tuesday May 27

P06 Oral session

[View session abstracts](#)

10:30	1498	Novel Ion Detection Strategy for Deterministic Implantation Using an Ultra-Thin Silicon Carbide Membrane Detector SANGREGORIO Enrico
10:45	1570	Benchmarking β-Ga ₂ O ₃ Schottky barrier diodes for space applications: Material stability and device robustness under γ-rays TIWARI Shivansh
11:00	164	Skin-Conformal Dosimeters for Precise Dose Mapping and Safer Radiation Therapy JURCHESCU Oana (Invited)
11:30	1283	Hybrid 2D Perovskite Thin Films for Fast Neutron Direct Detection FRATELLI Ilaria
11:45	748	Investigation on CsPbBr ₃ single-crystal radiation detectors: from energy resolution to extreme γ-ray radiation tolerance ZHANG Xin

Tuesday May 27

P07 Oral session

[View session abstracts](#)

13:30	341	Perovskite semiconductors for radiation sensing and imaging NIE Wanyi (Invited)
14:00	2299	Advancing Lead-Free Perovskites for Stable Broad-Range Photodetection DEBROYE Elke
14:15	1690	The role of grain boundaries in the photodetection properties of 2d hybrid halide perovskite films BORDONI Camilla
14:30	2102	Analogous Spacers, Significant Differences: Understanding Ruddlesden-Popper and Dion-Jacobson Phase Metal Halide Perovskites for Optoelectronics YADAV Abhishek
14:45	887	Development on the Schottky electrode and leakage current suppression for CsPbBr ₃ radiation detectors XU Yadong (Invited)
15:15	2545	High-quality FAPbBr ₃ perovskite single crystal for spectroscopic radiation detection Tumen-Ulzii Ganbaatar
15:30	1659	Using Remnant Sensitivity to Probe the Bias-induced Internal Electric Field in MAPbBr ₃ Single Crystals LÉDÉE Ferdinand
15:45	1771	1D CsCu ₂ I ₃ and 0D Cs ₃ Cu ₂ I ₅ wide-bandgap perovskite single crystals: optical and scintillation properties . Bhavika

Tuesday May 27

P08 Oral session

[View session abstracts](#)

16:30	601	Fully-organic flexible detectors for real-time dose monitoring during radio/proton therapy FRABONI Beatrice (Invited)
17:00	303	Green and Stable Perovskite-Inspired Compressed X-ray Detectors with High Performance MASLYANCHUK Olena
17:15	1648	Polymer-perovskite composites as stable and flexible X-ray detectors REINDERS Joost

17:30	2577	Strategies for achieving high-gain organic photodetectors BENDUHN Johannes (Invited)
18:00	295	Unravelling the working mechanism of trap assisted charge tunnelling injection in photomultiplication organic photodetectors HOUOT Marie
18:15	840	Efficient self-powered, broadband, lateral photodetectors with bulk nano-heterojunction colloidal quantum dots ensemble PRADHAN Santanu
18:30	476	Controlled Ligand-Free Growth of Free-Standing CsPbBr ₃ Perovskite Nanowires HUANG Ziyun

Wednesday May 28

P09 Oral session

Chairperson(s): nan

[View session abstracts](#)

09:00	2686	Tailoring the ultrafast coincidence time resolution in novel highly luminous metascintillators VILLA Irene (Invited)
09:30	1781	3D-Printed Plastic Scintillators for Radiological Decontamination ANAND Vivek
09:45	3087	Optical characterization of polymeric resin within the 3dSPARK project IMBERT Léonard

Wednesday May 28

P10 Oral session

[View session abstracts](#)

10:30	2485	On-Chip Integration of Blue and Green CsPbX ₃ Nanoplates via Ion Engineering KHAN Sana
10:45	2314	Sensitized triplet-triplet annihilation in nanostructured polymeric scintillators allows for gamma/neutrons pulse shape discrimination Pollice Luca
11:00	991	New device architectures for organic infrared sensors VANDEWAL Koen (Invited)
11:45	2048	Exploring Charge Generation in Single-Component Vacuum-Deposited Organic Photodetectors WOLANSKY Jakob

Wednesday May 28

P11 Oral session

[View session abstracts](#)

13:30	1066	Exciton luminescence mechanisms for advancing ionizing radiation detectors: from ultrafast gamma-spectroscopy to high-resolution 3D dose imaging TURTOS Rosana (Invited)
14:00	808	Non-linear Quenching and Light Yield of CdSe/CdS core/crown Nanoplatelet Films at High Excitation Densities JESSEN Simon
14:15	1078	NIR-emitting scintillation of YAG:Yb optical ceramics as testing platforms for medical bioimaging RONCHI Alessandra
14:30	874	Scalable Polycrystalline BiOI Wafers and Thick films for Sensitive X-ray Detection GHOSH Joydip
14:45	596	Scintillators for synchrotron applications PAUWELS Kristof (Invited)
15:15	2979	Towards ultra-fast and stable 3D-printed plastic perovskite scintillators GIURI Antonella