

MATSUS Spring 2025 Conference (MATSUSSpring25)

Photophysics of metal halide perovskites: from fundamentals to emerging applications - #PeroLight

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chairs: Ivan Scheblykin and Yana Vaynzof

Conference Program

March 3rd - Day 1 (Monday)	
08:40 - 09:00	Opening MATSUS25 - Room Santa Cruz (Plenary)
	Plenary Session - Room Santa Cruz Chair: Hernán Míguez
09:00 - 09:45 Cruz-K1	<u>Maksym Kovalenko</u> (<i>Swiss Federal Institute of Technology Zurich (ETH Zurich), 8093 Zurich, Switzerland</i>) The first decade of colloidal perovskite quantum dots: Quo Vadis?
09:45 - 10:30 Cruz-K2	<u>Valeria Nicolosi</u> (<i>Trinity College Dublin, School of Chemistry, CRANN, AMBER, I-Form, Dublin 2, Ireland</i>) 2D nanomaterials inks for energy applications
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #PeroLight - Room Santa Cruz
	#PeroLight 1.2 Chair: Yana Vaynzof
11:25 - 11:55 1.2-12	<u>Laura Herz</u> (<i>University of Oxford, Department of Physics, Parks Road, Oxford OX1 3PU, U.K.</i>) Metal halide perovskites: probing interfaces, air-degradation and lattice anharmonicity
11:55 - 12:10 1.2-03	<u>Chris Dreessen</u> (<i>IMD3-Photovoltaics, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany</i>), Ye Yuan, Genghua Yan, Thomas Kirchartz The Many Lives of Charge Carriers: A Theoretical Expedition Through Perovskite Lifetimes
12:10 - 12:40 1.2-11	<u>Alexey Chernikov</u> (<i>Institute of Applied Physics and Würzburg-Dresden Cluster of Excellence ct.qmat, Technische Universität Dresden, Germany</i>) Exciton transport in 2D and chiral perovskites
12:40 - 12:55 1.2-01	Anja Barfüßer, Jochen Feldmann, <u>Quinten Akkerman</u> (<i>Chair for Photonics and Optoelectronics, Nano-Institute Munich and Department of Physics, Ludwig-Maximilians-Universität (LMU), Königinstr. 10, 80539 Munich, Germany</i>) Confined Excitons and Biexcitonic Optical Gain in CsPbBr ₃ Perovskite Quantum Dots
12:55 - 13:10 1.2-02	<u>Juan F. Galisteo-López</u> (<i>Multifunctional Optical Materials Group, Institute of Materials Science of Seville (CSIC-US), C/Américo Vespucio 49, 41092 Sevilla, Spain.</i>), David O. Tiede, Mauricio E. Calvo, Katherine A. Koch, Carlos Romero-Pérez, K. Burak Ucer, Ajay Ram Srimath Kandada, Hernán Míguez Effect of interconnectivity on the photophysics of perovskite QD networks
13:10 - 15:30	Lunch Break
	#PeroLight 1.3 Chair: Ivan Scheblykin
15:30 - 15:45 1.3-01	<u>Juan Ignacio Clemente</u> (<i>Departament de Química Física i Analítica, Universitat Jaume I, Av. Sos Baynat s/n, 12071 Castelló, Spain</i>), Jose Luis Movilla, Josep Planelles Non-Hydrogenic Nature of Excitonic Interactions in Lead Halide Perovskite Nanoplatelets and Nanocrystals
15:45 - 16:00 1.3-02	<u>Ines Amersdorffer</u> (<i>University of Munich (LMU)</i>), Thomas Hümmel, David Hunger Towards absorption measurements of single perovskite nanocrystals
16:00 - 16:30 1.3-11	<u>Masaru Kuno</u> (<i>Department of Chemistry, University of Notre Dame</i>) Photosegregation and photoremixing in mixed-halide perovskite thin films
16:30 - 16:45 1.3-03	<u>Matteo L. Zaffalon</u> (<i>Department of Materials Science, University of Milano-Bicocca, Milano, Italy</i>), Andrea Fratelli, Zhanzhao Li, Francesco Bruni, Ihor Cherniukh, Francesco Carulli, Francesco Meinardi, Maksym Kovalenko, Liberato Manna, Sergio Brovelli Ultrafast Superradiant Scintillation from Weakly Confined CsPbBr ₃ Nanocrystals
16:45 - 17:00 1.3-04	Shima Fasahat, Nadesh Fiuza Maneiro, Benedikt Schäfer, Kai Xu, Sergio Gómez-Graña, María Isabel Alonso, Lakshminarayana Polavarapu, <u>Alejandro R. Goñi</u> (<i>Institut de Ciència de Materials de Barcelona, ICMA-B-CSC, Campus UAB, 08193 Bellaterra, Spain</i>) Reversal of the Gap Temperature Dependence of CsPb(Br,Cl) ₃ Nanocrystals due to Anomalous Electron-Phonon Coupling
17:00 - 17:15 1.3-05	<u>Xiaope Zhou</u> (<i>University of Milano Bicocca</i>), Matteo L. Zaffalon, Andrea Fratelli, Francesca Cova, Francesca Rossi, Mengda He, Liang Li, Sergio Brovelli Fundamentals and Technological Points

March 4th - Day 2 (Tuesday)

	#PeroLight 2.1 Chair: Alexey Chernikov
09:00 - 09:30 2.1-11	<u>Samuel Stranks</u> (<i>Department of Chemical Engineering and Biotechnology, University of Cambridge, United Kingdom</i>) Photophysics of Halide Perovskite Junctions on Different Length Scales
09:30 - 10:00 2.1-12	<u>Julia Wiktor</u> (<i>Department of Physics, Chalmers University of Technology, Sweden</i>) Charge Localization in Halide Perovskites: Polarons, Bipolarons, and Self-Trapped Excitons
10:00 - 10:15 2.1-01	<u>Sudipta Seth</u> (<i>Department of Chemistry, KU Leuven, BE</i>), Boris Louis, Qingzhi An, Ran Ji, Yana Vaynzof, Johan Hofkens, Ivan Scherblykin In Operando Locally Resolved Photophysics of Perovskite Solar Cells by Noninvasive Correlative Microscopy
10:15 - 10:30 2.1-02	<u>David O. Tiede</u> (<i>Multifunctional Optical Materials Group, Institute of Materials Science of Seville (CSIC-US)</i>), Carlos Romero-Peréz, Thi Tuyen Ngo, Laura Calió, Mauricio E. Calvo, Juan F. Galisteo-López, Hernán Míguez Insights into Recombination Dynamics and Defect Nature through Derivative Representation of Time-resolved Photoluminescence
10:30 - 11:15	Coffee Break
	#PeroLight 2.2 Chair: Sascha Feldmann
11:15 - 11:30 2.2-01	<u>Maxim Simmonds</u> (<i>Department of Solution-Processed Materials and Devices, HySPRINT Innovation Lab, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Kekuléstraße 5, 12489 Berlin, Germany</i>), Eva Unger, Thomas Kirchartz On the Nature of Light Induced Defects in MAPI Thin Films: Long Pulses in TrPL
11:30 - 12:00 2.2-11	<u>Eline Hutter</u> (<i>Chemistry, Utrecht University, Debye Institute for Nanomaterials</i>) Tuning Optical and Mechanical Properties in Halide Double Perovskites through Mechanochemical Synthesis
12:00 - 12:30 2.2-12	<u>Ajay Ram Srimath Kandada</u> (<i>Department of Physics and Center for Functional Materials, Wake Forest University, Winston-Salem, NC 27109, United States</i>) Material Determinants for Exciton Polariton Condensation in Metal Halide Perovskites: Insights into Many-Body Dynamics and Lattice Dressing
12:30 - 12:45 2.2-02	<u>Ido Hadar</u> (<i>Institute of Chemistry, The Hebrew University of Jerusalem, 9190401, Jerusalem, Israel</i>) White Light Emission from Mixed Composition Low Dimensionality Halide Perovskites
12:45 - 13:00 2.2-03	<u>Franziska Muckel</u> (<i>Electroenergetic Functional Materials and CENIDE, University Duisburg-Essen</i>), Tamara Czerny The Role of Edge States for Charge Carrier Separation in n=1 2D Perovskites
13:00 - 15:30	Lunch Break
	#PeroLight 2.3 Chair: Julia Wiktor
15:30 - 16:00 2.3-11	<u>Paulina Plochocka</u> (<i>Laboratoire National des Champs Magnetiques Intenses, CNRS-UJF-UPS-INSA, Toulouse, France</i>) Excitonic landscape in 2D perovskites
16:00 - 16:30 2.3-12	<u>Sascha Feldmann</u> (<i>Laboratory for Energy Materials, EPFL</i>) Light emission from localization in halide perovskites - composition, doping, dimensionality
16:30 - 16:45 2.3-01	<u>Theresa Hettiger</u> (<i>Institute of Physical and Theoretical Chemistry, University of Tübingen, Germany</i>), Arup Sarkar, Jonas Hiller, Roshini Jayabalan, Marc Bröckel, Wolfgang Brütting, Denis Andrienko, Marcus Scheele Ligand-Driven Shifts in the Electronic Properties of CsPbBr ₃ Nanocrystals: Role of Cinnamic Acid Derivatives in Oxidation and Charge Injection
16:45 - 16:55	Closing #PeroLight
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

I-III-VI Colloidal Nanocrystals and Derivatives: From Synthesis to Applications - #ChalcoQD

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chair: Lukasz Klopotoski

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #ChalcoQD - Room Nervión I-II
	#ChalcoQD 1.2 Chair: Peter Reiss
11:25 - 11:55	<u>Vladimir Lesnyak</u> (<i>Physical Chemistry, TU Dresden, Zellescher Weg 19, 01069 Dresden, Germany</i>) From Binary Copper Chalcogenide to Multicomponent Semiconductor Nanocrystals via Cation Exchange
1.2-11	
11:55 - 12:10	<u>Julian Georg Mann</u> (<i>Chair for Photonics and Optoelectronics, Nano-Institute Munich and Department of Physics, Ludwig-Maximilians-University (LMU), Königinstr. 10, 80539 Munich, Germany</i>), Jochen Feldmann, Sushant Ghimire
1.2-01	Optical Properties of AgInS ₂ -based Quantum Dots
12:10 - 12:40	<u>Prasun Mandal</u> (<i>IISER Kolkata</i>)
1.2-12	Single Particle Spectroscopy and Ultrafast Dynamics in CuInS ₂ QD
12:55 - 15:30	Lunch Break
	#ChalcoQD 1.3 Chair: Paulina Plochocka
15:30 - 16:00	<u>Oleksandr Stroyuk</u> (<i>Forschungszentrum Jülich GmbH, Helmholtz Institute Erlangen-Nürnberg for Renewable Energy (HI-ERN), Immerwahrstraße 2, 91058 Erlangen, Germany</i>), Oleksandra Raievska
1.3-11	Optical Properties of Ternary and Quaternary QDs Synthesized via Aqueous Routes
16:00 - 16:30	<u>Andrés Burgos-Caminal</u> (<i>IMDEA Nanoscience</i>), Brener R. C. Vale, André F. V. Fonseca, Elisa P.P. Collet, Juan F. Hidalgo, María E. Corrales, Lázaro García, Tae-Kyu Choi, Tetsuo Katayama, Luke Watson, Víctor Vega-Mayoral, Saül Garcia-Orrit, Thomas J. Penfold, Juan Cabanillas-González, Luis Bañares, Shunsuke Nozawa, Ana F. Nogueira, Lázaro A. Padilha, Marco A. Schiavon, Wojciech Gawelda
1.3-12	Ultrafast and Steady-State X-Ray Investigation of CuInS ₂ Quantum Dots
16:30 - 16:45	<u>Kaifeng Wu</u> (<i>Dalian Institute of Chemical Physics, Chinese Academy of Sciences</i>)
1.3-01	Molecular triplet sensitization using low-toxicity CuInS(Se) ₂ nanocrystals for photon upconversion and solar synthesis
16:45 - 17:00	<u>Maksym Yarema</u> (<i>Swiss Federal Institute of Technology ETH Zurich</i>)
1.3-13	Indium-Rich I-III-VI Quantum Dots: The Many Benefits of Non-Stoichiometry

March 4th - Day 2 (Tuesday)

	#ChalcoQD 2.1
	Chair: Lukasz Klopotoski
09:00 - 09:15 2.1-01	<u>Magdalena Duda</u> (<i>Institute of Physics Polish Academy of Sciences</i>), Pushkar Joshi, Anna Borodziuk, Kamil Sobczak, Bożena Sikora-Dobrowolska, Sebastian Maćkowski, Allison Dennis, Lukasz Klopotoski Multimodal nanothermometry with CuInS ₂ /ZnS quantum dots
09:15 - 09:45 2.1-11	<u>Marco Villa</u> (<i>Department of Chemistry "G. Ciamician", University of Bologna, Via Selmi 2, 40126, Bologna, Italy</i>) Applications of CuInS ₂ Quantum Dots in Luminescent Thermometry and Photoinduced Ligand Exchange
09:45 - 10:15 2.1-12	<u>Teresa Pellegrino</u> (<i>Italian Institute of Technology (IIT)</i>), Giulia E.P. Nucci, Nisarg Soni, Alessandro Di Girolamo, Ana Maria Panaite, Claudia De Mei Inorganic Nanocrystals for Radiotherapy and Radio-imaging: Exploiting New Radiolabeling Protocols Based on Cation Exchange Reactions
10:15 - 10:20 2.1-S1	<u>Tiffany Rogers</u> (<i>Royal Society of Chemistry</i>) Royal Society of Chemistry
10:20 - 10:30	Closing #ChalcoQD
10:30 - 11:15	Coffee Break
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Reliability and Circularity of Perovskite-Based Photovoltaics - #RECIPE25

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chairs: Maria Hadjipanayi, Markus Kohlstädt and Anurag Krishna

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #RECIPE25 - Room Arenal II - III
	#RECIPE25 1.2 Chair: Maria Hadjipanayi
11:25 - 11:55 1.2-I1	<u>Matthew Davies</u> (<i>SPECIFIC IKC, Materials Science and Engineering, Faculty of Science and Engineering, Swansea University</i>), Rodrigo Garcia-Rodriguez, Pavlina Kalyva, Tia Ansell, Karen Villalobos, Rhys Charles, Charlotte Thompson, Trystan Watson Towards Sustainable Perovskite Photovoltaics: Drivers, Challenges, and Opportunities
11:55 - 12:25 1.2-I2	<u>Emmanuel Kymakis</u> (<i>Department of Electrical Computer Engineering, Hellenic Mediterranean University (HMU), Heraklion 71410, Crete, Greece</i>) Long-Term Outdoor Performance of Perovskite Photovoltaics
12:25 - 12:40 1.2-O1	<u>Maria Hadjipanayi</u> (<i>FOSS Research Centre for Sustainable Energy, Department of Electrical and Computer Engineering, University of Cyprus, 75 Kallipoleos Str., Nicosia, 1678, Cyprus</i>), Andreas Livera, Neofytos Ilia, Vasiliki Paraskeva, Elias Peraticos, Matthew Norton, Aranzazu Aguirre, Anurag Krishna, Tom Aernouts COMPARATIVE ASSESSMENT OF MACHINE LEARNING MODELS FOR TIME-SERIES POWER OUTPUT PREDICTION OF PEROVSKITE MINI-MODULES
12:40 - 15:30	Lunch Break
	#RECIPE25 1.3 Chair: Markus Kohlstädt
15:30 - 16:00 1.3-I1	<u>Mark Khenkin</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany</i>), Ulas Erdil, Marko Remec, Quiterie Emery, Freya Leyland, Marko Topič, Steve Albrecht, Eugene A. Katz, Antonio Abate, Rutger Schlatmann, Carolin Ulbrich Outdoor-Validated Degradation Mechanisms in Perovskite Solar Cells
16:00 - 16:15 1.3-O1	<u>Aranzazu Aguirre</u> (<i>Imec, imo-imomec, Thin Film PV Technology, Thor Park 8320, 3600 Genk, Belgium</i>), Tamara Merckx, Santosh Ramesh, Yinghuan Kuang, Anurag Krishna, Vasiliki Paraskeva, Maria Hadjipanayi, Matthew Norton, Elias Peraticos, Tom Aernouts, Jef Poortmans Long-term Perovskite Module Outdoor Performance in Different Outdoor Regions
16:15 - 16:45 1.3-I2	<u>Eugene Katz</u> (<i>en-Gurion Solar Energy Center, Swiss Inst. for Dryland Environmental and Energy Research, The Jacob Blaustein Institutes for Desert Research (BIDR), Ben-Gurion University of the Negev, Sede Boker Campus, Midereshet Ben-Gurion 84990, Isra</i>) Effect of electrical bias on degradation and restoration of perovskite solar cells

March 4th - Day 2 (Tuesday)

#RECIPE25 2.1	
Chair: Maria Hadjipanayi	
09:00 - 09:30	<u>Senol Oez</u> (<i>Solaveni GmbH</i>)
2.1-11	Towards Sustainable Perovskite Photovoltaics: Green Halide Chemistry, Life Cycle Assessment, and Circular Economy Strategies
09:30 - 10:00	<u>Ian Marius Peters</u> (<i>Helmholtz-Institute Erlangen-Nuremberg for Renewable Energy (IET-2), Forschungszentrum Jülich</i>)
2.1-12	Circular Recycling of Perovskite Solar Cells
10:00 - 10:30	<u>Cordula Daniela Wessendorf</u> (<i>Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (ZSW)</i>), Senol Öz, Christoph
2.1-13	Bohr, Tim Ludwig, Mark Khenkin, Carolin Tina Ulbrich, Erik Ahlswede Recycling of Perovskite Mini-Modules and Stability Tests
10:30 - 11:15	Coffee Break
#RECIPE25 2.2	
Chair: Anurag Krishna	
11:15 - 11:45	<u>Seyedali Emami</u> (<i>LEPABE - Laboratory for Process Engineering, Environment, Biotechnology and Energy, Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal.</i>), Marta Pereira, Adelio Mendes
2.2-11	Hermetic encapsulation of perovskite solar cells through laser glass frit bonding
11:45 - 12:15	Marko Topič, Žan Ajdič, Fernando Solorio Soto, Marko Remec, Gašper Matič, Boštjan Glažar, Marko Jankovec, <u>Marko Jošt</u> (<i>University of Ljubljana, Faculty of Electrical Engineering, Tržaška 25, 1000 Ljubljana, Slovenia</i>)
2.2-12	Long-term stability testing of perovskite solar cells
12:15 - 12:30	<u>Amit Kumar</u> (<i>Department of Physics, University of Oxford, Clarendon Laboratory, Parks Road, Oxford, OX1 3PU, UK</i>), Manuel Kober-Czerny,
2.2-01	Philippe Holzhey, Esther Hung, Rahul Nambiar, Qimu Yuan, Fengning Yang, Jin Yao, Karl-Augustin Zaininger, Henry Snaith Towards Commercial Viability: High-Efficiency FAPb ₃ Solar Cells with Solvent Innovations and Stability Enhancements.
12:30 - 12:45	<u>Markus Kohlstädt</u> (<i>Fraunhofer Institute for Solar Energy Systems ISE, Germany</i>), Aranzazu Aguirre, Elias Peraticos, Vasiliki Paraskeva,
2.2-02	Matthew Savvas Harry Norton, Mathias List, Tamara Merckx, Hamed Javanbakht Lomeri, Eugene Katz, Maria Hadjipanayi Outdoor stability study of 4-terminal perovskite-silicon tandem modules and their single junction counterparts
12:45 - 12:55	Closing #RECIPE25
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Multifunctional microporous materials for advanced applications in materials science - #FunPorMat

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chairs: Pablo del Pino, Neus Feliu Torres and Beatriz Pelaz

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #FunPorMat - Room Prado
	#FunPorMat 1.2 Chair: Pablo del Pino
11:25 - 11:55 1.2-I1	<u>Sara Rojas</u> (<i>University of Granada, Department of Inorganic Chemistry</i>), Samuel Morales-Cámara, MCarmen Contreras, Pablo Salcedo-Abraria, Antonio Rodríguez-Diéguez Developing novel agrochemical-based MOFs: a multifunctional platform with herbicidal and antibacterial activity
11:55 - 12:25 1.2-I2	<u>Ester Polo</u> (<i>Universidad Santiago de Compostela / Centro Singular de Investigación en Química Biológica y Materiales Moleculares</i>) Engineered Biomimetic Nanocarriers: Advancing Intracellular Delivery of NanoMOFs
12:25 - 12:40 1.2-O1	<u>Neus Feliu</u> (<i>Universität Hamburg</i>), Wolfgang Parak Interaction of nano-colloids with cells for tuning delivery applications
12:40 - 12:55 1.2-O2	<u>Josef Kopp</u> (<i>Centro Singular de Investigación en Química Biológica e Materiais Moleculares (CIQUS) Departamento de Física de Partículas Universidade de Santiago de Compostela 15782 Santiago de Compostela, Spain</i>), Samuel Funes-Hernando, Manuel Ceballos, Beatriz Pelaz, Pablo del Pino The Green Synthesis of MNP@UiO-66 and MNP@UiO-66-NH ₂ Nanocomposites.
12:55 - 15:30	Lunch Break
	#FunPorMat 1.3 Chair: Neus Feliu Torres
15:30 - 16:00 1.3-I1	<u>Jorge Navarro</u> (<i>Universidad de Granada</i>) Metal-organic assemblies for the detoxification of highly harmful molecules
16:00 - 16:30 1.3-I2	<u>José Giner Planas</u> (<i>Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Campus de la UAB, Bellaterra, Spain, 08193</i>) (Multi)functional Metal-Organic Frameworks Incorporating Carborane Ligands: A Multivariate Approach
16:30 - 16:45 1.3-O1	<u>Parak Wolfgang</u> (<i>Universität Hamburg</i>), Neus Feliu Towards mapping the protein corona around endocytosed colloidal nanoparticles

March 4th - Day 2 (Tuesday)

#FunPorMat 2.1	
Chair: Beatriz Pelaz	
09:00 - 09:30	<u>Margarita Vázquez González</u> (<i>CINBIO, University of Vigo, Spain</i>)
2.1-11	Metal-Organic Framework Platforms: Combining Plasmonic Nanoparticles and Metal Centers into Hybrid Photocatalysts
09:30 - 10:00	<u>Manuel Souto</u> (<i>CIQUS, Centro Singular de Investigación en Química Bioloxica e Materiais Moleculares, Departamento de Química-Física, Universidade de Santiago de Compostela, 15782, Santiago de Compostela, Spain</i>)
2.1-12	Functional framework materials for energy storage: from mixed ionic-electronic conductors to organic electrodes
10:00 - 10:15	<u>Asad Mehmood</u> (<i>Division 3.6 - Electrochemical Energy Materials, Bundesanstalt für Materialforschung und -prüfung (BAM), Unter den Eichen 44-46, 12203 Berlin</i>), Simon Dietzmann, Jian Liang Low, Tim-Patrick Fellingner
2.1-01	ZIF-derived atomically dispersed non-precious metal catalysts for electrochemical energy applications
10:15 - 10:30	<u>Jikson Pulparayil Mathew</u> (<i>Department of Chemistry, University of Basel, Mattenstrasse 22, 4058 Basel, Switzerland</i>), Charlotte Simms,
2.1-02	David E. Salazar Marcano, Evert Dhaene, Tatjana N. Parac-Vogt, Jonathan De Roo Determination of the Experimental Minimal Formula of Metal-Organic Frameworks
10:30 - 11:15	Coffee Break
#FunPorMat 2.2	
Chair: Pablo del Pino	
11:15 - 11:45	<u>Carolina Carrillo-Carrion</u> (<i>Institute for Chemical Research, CSIC - University of Seville</i>)
2.2-11	Metal-Organic Frameworks designed for Biomedical Applications
11:45 - 12:00	<u>Manuel Ceballos</u> (<i>Current Address: Centro Singular de Investigación en Química Biolóxica e Materiais Moleculares (CIQUS), Universidade de Santiago de Compostela, 15782 Santiago de Compostela, Spain</i>), Samuel Funes-Hernando, Oleg Semyonov, Giulia Zampini, Manuela
2.2-02	Cedruán-Morales, Enrica Soprano, José Manuel Vila-Fungueiriño, Thomas Devic, Ester Polo, Beatriz Pelaz, Pablo del Pino Core-shell plasmonic nanoMOFs: synthetic methodologies and applications
12:00 - 12:15	<u>Ajmal Roshan Unniram Parambil</u> (<i>Institute of Chemistry and Bioanalytics, School of Life Sciences, University of Applied Sciences and Arts Northwestern Switzerland, 4132 Muttenz, Switzerland</i>), Rohan Pokratath, Muhammed Jibin Parammal, Evert Dhaene, Dietger Van den
2.2-03	Eynden, Sandor Balog, Alessandro Prescimone, Ivan Infante, Patrick Shahgaldian, Jonathan De Roo Atomically precise surface chemistry of zirconium and hafnium metal oxo clusters beyond carboxylate ligands
12:15 - 12:30	<u>Michael Wark</u> (<i>Institute of Chemistry, Carl von Ossietzky University Oldenburg, Carl-von-Ossietzky-Str. 9-11, 26129 Oldenburg, Germany</i>),
2.2-01	Danni Balkenhohl, Levi Laurenz Schlueschen, Jasmin Schmeling, Dereje Hailu Taffa Direct Room-Temperature Procedure for the Synthesis of Multimetal Metal Organic Framework Electrocatalyst Layers
12:30 - 15:30	Lunch Break
#FunPorMat 2.3	
Chair: Neus Feliu Torres	
15:30 - 16:00	Alechania Misturini, Eloy Gómez-Oliveira, Clara Chinchilla-Garzón, Neyvis Almora Barrios, Natalia M. Padial, <u>Carlos Martí-Gastaldo</u>
2.3-11	(<i>Functional Inorganic Materials team, Universidad de València, Instituto de Ciencia Molecular. c/Catedrático José Beltrán, 2 46980, Paterna, Spain</i>) Cluster Control of Structural and Compositional diversity in Titanium-Organic frameworks
16:00 - 16:30	<u>Mónica Giménez Marqués</u> (<i>Instituto de Ciencia Molecular, University of Valencia</i>)
2.3-12	Accessing new Metal-Organic Framework-based nanohybrids with compositional and architectural diversity
16:30 - 16:40	Closing #FunPorMat
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

The claim for sustainable materials in long lasting application - #EmergingPV

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chairs: Matteo Bonomo, Luigi Angelo Castriotta and Francesca De Rossi

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #EmergingPV - Room Triana
	#EmergingPV 1.2 Chair: Luigi Angelo Castriotta
11:25 - 11:55	<u>Juliana Panidi</u> (<i>School of Engineering, University of Edinburgh</i>)
1.2-11	Addressing the Sustainability in Organic Solar Cells
11:55 - 12:25	<u>Paola Vivo</u> (<i>Hybrid Solar Cells, Faculty of Engineering and Natural Sciences, Tampere University, Finland</i>)
1.2-12	Phictogen-based halides - towards sustainable indoor light-harvesting
12:25 - 12:40	<u>Daniel Augusto Machado de Alencar</u> (<i>Department of Chemistry, NIS Interdepartmental Centre and INSTM Reference Centre, Università degli Studi di Torino, Via G. Quarello 15A, 10135 - Turin, Italy</i>), Giulio Koch, Francesca De Rossi, Amanda Generosi, Giuseppe Ferraro, Matteo Bonomo, Samyuktha Noola, Giulia Pellis, Pierluigi Quagliotto, Barbara Paci, Francesca Brunetti, Claudia Barolo
1.2-01	Improving the Eco-friendliness of Perovskite Solar Cells: Prioritising Sustainability with Thoughtful Material Design, Innovative Synthesis and Green-optimized Processability
12:40 - 12:55	<u>Ignacio Ballesteros Garcia</u> (<i>Centre Interdisciplinaire de Nanoscience de Marseille (CINaM, UMR CNRS 7325)</i>), Donia Fredj, Carmen M Ruiz
1.2-02	Herrero, Hasan Alkhatib, Olivier Margeat, Sadok Ben Dkhil, Judikaël Le Rouzo, Jörg Ackermann Optimisation and stability of IOPV devices as a sustainable alternative in indoor environments for IoT applications
12:55 - 15:30	Lunch Break
	#EmergingPV 1.3 Chair: Francesca De Rossi
15:30 - 15:45	<u>Han-Ki Kim</u> (<i>School of Advanced Materials Science and Engineering, Sungkyunkwan University (SKKU)</i>)
1.3-01	Plasma damage free sputtering of top transparent electrodes for semi-transparent perovskite solar cells and tandem solar cells
15:45 - 16:15	<u>Esma Ugur</u> (<i>KAUST: King Abdullah University of Science and Technology</i>)
1.3-11	Phase Stable Perovskites for Tandem Solar Cells
16:15 - 16:45	<u>Erkan AYDIN</u> (<i>Ludwig-Maximilians-Universität München (LMU)</i>)
1.3-12	The role of interfaces in the stability of perovskite-silicon tandem solar cells: from Earth applications to space use
16:45 - 17:00	<u>Luigi Angelo Castriotta</u> (<i>1. CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, Tor Vergata University of Rome, via del Politecnico 1, 00133, Roma.</i>)
1.3-02	Emerging Photovoltaics: Current Trends and State of the Art
17:00 - 17:15	<u>Matteo Bonomo</u> (<i>Department of Chemistry, NIS Interdepartmental Centre and INSTM Reference Centre, University of Turin, Via Gioacchino Quarello 15/a, 10135 Turin, Italy</i>)
1.3-03	THERMOSETTING POLYURETHANE RESIN AS EFFECTIVE ENCAPSULANT FOR FLEXIBLE PEROVSKITE SOLAR CELLS

March 4th - Day 2 (Tuesday)

#EmergingPV 2.1	
Chair: Matteo Bonomo	
09:00 - 09:30 2.1-I1	<u>Clara Aranda Alonso</u> (<i>Center for Nanoscience and Sustainable Technologies (CNATS). Department of Physical, Chemical and Natural Systems, Universidad Pablo de Olavide, Sevilla, Spain</i>) Insights on Perovskite Single Crystals: Synthesis, Characterization and Applications
09:30 - 10:00 2.1-I2	<u>Yue Hu</u> (<i>School of Chemistry, University of Edinburgh</i>) Control crystallisation of perovskites in printable mesoscopic solar cells
10:00 - 10:15	
10:15 - 10:30 2.1-O1	<u>Elisa Fabbretti</u> (<i>Department of Materials Science, University of Milano-Bicocca, Milano, Italy</i>), Amin Hasan Husien, Rahul Patidar, Karen Valadez-Villalobos, James McGettrick, Andreia Amighini Alerhush, Ershad Parvazian, Matthew L. Davies, Trystan Watson, Giorgio Tseberlidis, Vanira Trifiletti, Simona Binetti Stabilising Perovskite Solar Cells with Earth-Abundant Chalcogenide Nanoparticles
10:30 - 11:15	Coffee Break
#EmergingPV 2.2	
Chair: Francesca De Rossi	
11:15 - 11:45 2.2-I1	<u>Monica Morales-Masis</u> (<i>MESA+ Institute, University of Twente, 7500 AE Enschede, The Netherlands</i>) Pulsed Laser Deposition for Monolithic Perovskite/Silicon Tandem Devices
11:45 - 12:15 2.2-I2	Yuancai Gong, Alex Jiménez-Arguijo, <u>Edgardo Saucedo</u> (<i>Emergning Thin Film PV Lab, MNT Group, Electronic Engineering Department, Universitat Politècnica de Catalunya (UPC)</i>) From narrow to wide bandgap kesterite via solution processing for innovative photovoltaic applications
12:15 - 12:45 2.2-I3	<u>Marina Freitag</u> (<i>Department of Chemistry, Newcastle University, Newcastle upon Tyne, UK</i>) Design and Application of Metal-Organic Liquids as Versatile Hole Transport Materials
12:45 - 13:00 2.2-O1	<u>Emilio J. Juárez-Perez</u> (<i>ARAID, Government of Aragon, 50018, Zaragoza, Spain</i>), Arturo Sanz Marco, Roberto Casas, Marta Haro Galvanostatic Power-Point Tracking: Advancing Operational Stability of High-Hysteresis Perovskite Solar Cells for Real-World Applications
13:00 - 15:30	Lunch Break
#EmergingPV 2.3	
Chair: Luigi Angelo Castriotta	
15:30 - 16:00 2.3-I1	<u>Roberto Speranza</u> (<i>Polytechnic of Turin, Department of Applied Science and Technology, Turin, 10129, Italy</i>), Serena Amenta, Pietro Zaccagnini, Mara Serrapede, Andrea Lamberti Green, low-toxic and sustainable materials for integrated energy harvesting and storage systems
16:00 - 16:30 2.3-I2	<u>Karl Leo</u> (<i>Integrated Center for Applied Photophysics and Photonic Materials, TU Dresden, Nöthnitzer Straße 61, 01187 Dresden, Germany</i>) High-Performance organic photodetectors
16:30 - 16:40	Closing #EmergingPV
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Unconventional Perovskites and Related Materials: From Synthesis to Applications - #U-PerSA

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chairs: Daniele Cortecchia and Teresa S. Ripolles

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #UPerSA - Room Giralda III
	#U-PerSA 1.2 Chair: Teresa S. Ripolles
11:25 - 11:55 1.2-I1	<u>Isabella Poli</u> (<i>Istituto Italiano di Tecnologia - IIT, Centre for Sustainable Future Technologies (CSFT), Via Livorno 60, Turin, 10144, Italy</i>), Annamaria Petrozza Sn-based perovskite thin films for solar cells
11:55 - 12:25 1.2-I2	<u>Jorge Pascual Mielgo</u> (<i>Polymat, University of the Basque Country UPV/EHU, 20018 Donostia-San Sebastian, Spain.</i>) Tin Halide Perovskite Crystallization for Thin Film Applications
12:25 - 12:40 1.2-O1	<u>Noemí Farinós Navajas</u> (<i>Instituto de Ciencia de los Materiales (ICMUV), Universitat de Valencia, 46980 Paterna, Spain</i>), Pablo Perez Boix, Teresa Ripolles Sanchis, Rafael Abargues López, Miriam Minguez Avellan Next-Generation Highly Transparent bisEDOT-Based Conducting Polymers as Tailorable HTLs for Perovskite Solar Cells
12:40 - 15:30	Lunch Break
	#U-PerSA 1.3 Chair: Daniele Cortecchia
15:30 - 16:00 1.3-I1	<u>Jeong Hui Kim</u> (<i>Purdue University</i>), Letian Dou Supramolecular Templating and Assembly of Two-dimensional Perovskite Nanowires and Nanolasers
16:00 - 16:30 1.3-I2	<u>Juan P. Martínez-Pastor</u> (<i>Institute of Materials Science of the University of Valencia (ICMUV)</i>) 2D Metal Halide Perovskites: from Fundamentals to Application as Photodevices
16:30 - 17:00 1.3-I3	<u>Rafael Abargues</u> (<i>Institute of Materials Science of the University of Valencia (ICMUV)</i>) Unconventional Routes for Perovskite Nanocrystals: In Situ Synthesis for Advanced Applications

March 4th - Day 2 (Tuesday)

#U-PerSA 2.1	
Chair: Daniele Cortecchia	
09:00 - 09:30	<u>Yong-Young Noh</u> (<i>POSTECH</i>)
2.1-11	Development of high-performance p-type novel semiconductors for transistors
09:30 - 10:00	<u>Biwu Ma</u> (<i>Florida State University</i>)
2.1-12	Low Dimensional Organic Metal Halide Hybrids: From Synthetic Control to Device Integration
10:00 - 10:15	Emmanuel Reyes-Francis, Iván Mora-Seró, Beatriz Julián-López, <u>Silver-Hamill Turren-Cruz</u> (<i>Institute of Materials Science (ICMUV), University of Valencia</i>)
2.1-01	Enhancing Stability of Lead-Free Cesium Titanium Bromide Double Perovskites: Innovations in Cation Mixing and Microwave Synthesis for Optoelectronic Applications
10:15 - 10:30	<u>Gustavo de Miquel</u> (<i>University of Cordoba</i>)
2.1-02	Incorporation of 4,4'-Diaminostilbene as π -conjugated organic spacer in Quasi-2D Dion-Jacobson Metal Halide Perovskites for Photovoltaics
10:30 - 11:15	Coffee Break
#U-PerSA 2.2	
Chair: Teresa S. Ripolles	
11:15 - 11:45	Muhammad Danang Birowosuto, <u>Dominik Kowal</u> (<i>Łukasiewicz Research Network - PORT Polish Center for Technology Development</i>), Michal Makowski, Jan-Albert Zienkiewicz, Somnath Mahato
2.2-11	Advancing Perovskite Scintillators: Unlocking Practical Applications, Purcell-Enhanced Properties, and Future Horizons
11:45 - 12:15	<u>Shuzi Hayase</u> (<i>i-Powered Energy System Research Center (i-PERC), The University of Electro-Communications</i>)
2.2-12	Stability of Tin-based Perovskite Solar Cells
12:15 - 12:45	<u>Giulia Folpini</u> (<i>Istituto di Fotonica e Nanotecnologie (IFN-CNR)</i>), Lorenzo Gatto, Isabella Poli, Antonella Treglia, Daniele Meggiolaro, Federico Grandi, Michele Devetta, Caterina Vozzi, Filippo DeAngelis, Annamaria Petrozza, Eugenio Cinquanta
2.2-13	THz SPECTROSCOPY OF PEROVSKITES: INSIGHTS ON DOPING AND POLARONIC COUPLING
12:45 - 12:55	Closing #UPerSA
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Sustainable org semiconductors for light to current applications - #SusOrg

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chairs: Nicola Gasparini and Julianna Panidi

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #SusOrg - Room Giralda V
	#SusOrg 1.2 Chair: Nicola Gasparini
11:25 - 11:55 1.2-11	<u>Christoph J. Brabec</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>) Unveiling Long-term Stability for High-Efficiency Perovskite/Organic Tandem Solar Cells
11:55 - 12:25 1.2-12	<u>Thuc-Quyen Nguyen</u> (<i>Center for Polymers and Organic Solids, University of California Santa Barbara, CA, USA</i>) Shortwave Infrared Organic Photodetectors Processed from Green Solvents
12:25 - 12:55 1.2-13	<u>Eva Unger</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, HySPRINT Innovation Lab, Kekuléstraße 5, 12489 Berlin, Germany.</i>), Feray Ünlü, Alejandra Florez, Keely Dodd-Clements, Lennart Klaus Reb, Michael Götte, Senol Öz, Florian Mathies Green Inks for Scaled Processing of Perovskite Solar cells
12:55 - 15:30	Lunch Break
	#SusOrg 1.3 Chair: Julianna Panidi
15:30 - 16:00 1.3-11	<u>Thomas Anthopoulos</u> (<i>Photon Science Institute, University of Manchester, Oxford Road, Manchester M13 9PL, UK</i>) Organic photovoltaics with efficiencies exceeding 20%
16:00 - 16:05 1.3-51	<u>Celeste Brady</u> (<i>Royal Society of Chemistry</i>) Royal Society of Chemistry
16:05 - 16:35 1.3-12	Jenny Nelson, <u>Jolanda Muller</u> (<i>Department of Physics and Centre for Processable Electronics, Imperial College London, London SW7 2AZ, UK</i>) Relating chemical structure and processing to performance in sustainable organic semiconductor solar cells

March 4th - Day 2 (Tuesday)

#SusOrg 2.1	
Chair: Nicola Gasparini	
09:00 - 09:30 2.1-11	Karen Fischer, Jan Bruder, Jonas Armleder, Holger Röhm, <u>Alexander Colsmann</u> (<i>Karlsruhe Institute of Technology (KIT), Material Research Center for Energy Systems, Strasse am Forum 7, 76131 Karlsruhe</i>) Surfactant-free organic nanoparticle dispersions for light-harvesting applications
09:30 - 10:00 2.1-12	<u>Christos Chocho</u> s (<i>Institute of Chemical Biology, National Hellenic Research Foundation, Athens 11635, Greece</i>) New Shortwave Infrared Conjugated Polymers for High Performance Organic Photodetectors and Optical Bioimaging Applications
10:00 - 10:30 2.1-13	<u>Flurin Eisner</u> (<i>School of Materials Science and Engineering, Queen Mary University of London</i>) Bilayer and single-component organic-semiconductor based optoelectronic devices
10:30 - 11:15	Coffee Break
#SusOrg 2.2	
Chair: Julianna Panidi	
11:15 - 11:45 2.2-11	<u>Xabier Rodríguez-Martínez</u> (<i>University of A Coruña</i>) Investigating the microstructure and exploiting PTQ10 as donor polymer in sustainably-printed and versatile organic solar cells for indoor, outdoor and agrivoltaic applications
11:45 - 12:15 2.2-12	<u>Rachel Kilbride</u> (<i>School of Mathematics and Physical Sciences, University of Sheffield, Brook Hill, Sheffield, S3 7HF, United Kingdom</i>), Michael Weir, Hugo Bronstein, Akshay Rao, Neil Greenham, Richard Friend, Oleksandr Mykhaylyk, Richard Jones, Anthony Ryan, Daniel Toolan The Self-Assembly of Organic Semiconductor : Quantum Dot Blend Films for Photon-Multiplication
12:15 - 12:30 2.2-01	<u>Martina Rimmele</u> (<i>Department of Chemistry and Centre for Processable Electronics, Imperial College London W12 0BZ London, UK</i>), Nicola Gasparini, Martin Heeney Scalable donor polymers with low synthetic complexity for organic solar cells
12:30 - 12:45 2.2-02	<u>Filip Podjaski</u> (<i>Department of Chemistry and Centre for Processable Electronics, Imperial College London W12 0BZ London, UK</i>) Photo-physical insights to excitonic properties and light-driven ionics in organic based semiconductors for solar energy conversion
12:45 - 12:55	Closing #SusOrg
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Interlinking heterogeneous catalysts, mechanisms, and reactor concepts for dinitrogen reduction - #Nitroconversion

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chairs: Roland Marschall, Jennifer Strunk and Dirk Ziegenbalg

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #Nitroconversion - Room Magnolia
	#Nitroconversion 1.2 Chair: Roland Marschall
11:25 - 11:55	<u>Ilan Stephens</u> (<i>Imperial College London, Department of Materials, London SW7 2AZ, UK.</i>) Electrochemical Nitrogen Reduction: Exploring Lithium and Beyond
1.2-11	
11:55 - 12:25	<u>Egill Skúlason</u> (<i>Faculty of Industrial Engineering, Mechanical Engineering and Computer Science, University of Iceland, Reykjavík, Iceland</i>) Artificial Nitrogen Fixation - Integrating AI, DFT & Experiments
1.2-12	
12:25 - 12:40	<u>Carsten Streb</u> (<i>Johannes Gutenberg University Mainz</i>), Rongji Liu Single-site catalysts for electrocatalytic nitrogen activation
1.2-01	
12:40 - 12:55	<u>Daria Stepaniuk</u> (<i>Institute of Physical Chemistry, Justus Liebig University Gießen, Heinrich-Buff-Ring 17, 35392 Gießen Germany.</i>), Doreen Mollenhauer Computational Modelling of Nitroconversion for Efficient Low-Temperature Electrochemical Synthesis of Ammonia
1.2-02	
12:55 - 13:10	<u>Daniel Siegmund</u> (<i>Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT</i>), Ulf-Peter Apfel Modular Electrochemical Cell Design for Efficient Nitroconversion to Ammonia
1.2-03	
13:10 - 15:30	Lunch Break
	#Nitroconversion 1.3 Chair: Roland Marschall
15:30 - 16:00	<u>Karoliina Honkala</u> (<i>University of Jyväskylä, Finland</i>) Modeling electrocatalytic ammonia formation via constant potential DFT calculations
1.3-11	
16:00 - 16:15	<u>Paul Kuschmitz</u> (<i>German Aerospace Center, Cologne</i>), Alexandra Rose, Barbara Milow, Pascal Vöpel Aerogels and how to tailor them for photocatalysis
1.3-01	
16:15 - 16:30	Akbar Valei, Emad Omrani, <u>Dirk Ziegenbalg</u> (<i>Institute of Chemical Engineering, Ulm University</i>) Two-Reactor System for On-Demand Ammonia Synthesis: Integrating Photocharging of TiO ₂ Aerogels and N ₂ -Reduction in Taylor Flow
1.3-02	
16:30 - 16:45	<u>Timo Jacob</u> (<i>Ulm University, Institute of Electrochemistry, Ulm, Germany</i>), Julian Beßner, M. Christis, S. Saswati, I. Sharp, Y. Jiang, S. Zhang Deciphering the Electronic Properties and Catalytic Performance of CuFeO ₂ and CuBi ₂ O ₄
1.3-03	
16:45 - 17:00	Ian Sharp, <u>Maximilian Christis</u> (<i>Walter Schottky Institute, Technical University of Munich, Germany</i>), Xiang Li, Jasmin Zitzmann, Sophia Werny, Verena Streibel, Saswati Santra Investigation of Cu-based Oxide Semiconductors for Photoelectrochemical Ammonia Synthesis
1.3-04	
17:00 - 17:15	<u>Siyuan Zhang</u> (<i>Max Planck Institute for Sustainable Materials</i>), Yiqun Jiang, Ningyan Cheng, Maximilian Christis, Saswati Santra, Ian Sharp, Julian Bessner, Timo Jacob, Leonie Kanzler, Roland Marschall Operando measurements on the activity and stability of photoelectrodes
1.3-05	

March 4th - Day 2 (Tuesday)

#Nitroconversion 2.1 Chair: Roland Marschall	
09:00 - 09:30 2.1-11	<u>Gordana Dukovic</u> (<i>University of Colorado Boulder, US</i>) Enzymatic N ₂ Reduction Driven by Photoexcited Nanocrystals
09:30 - 10:00 2.1-12	<u>Victor Mougel</u> (<i>ETH Zurich, Laboratory of Inorganic Chemistry, Department of Chemistry & Applied Biosciences, Vladimir-Prelog-Weg, 1, Zürich, CH</i>) Bio-Inspired Approaches to Electrochemical Nitrate Reduction
10:00 - 10:15 2.1-01	<u>Noemi Pirrone</u> (<i>Electrochemistry Group, Department of Applied Science and Technology, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129-Turin, Italy</i>), Sara Garcia Ballesteros, Anna Mangini, Simelys Hernández, Federico Bella Influence of Operational Parameters on the Electrochemical Nitrate Reduction Reaction to Ammonia
10:15 - 10:30 2.1-02	<u>Sara Garcia Ballesteros</u> (<i>Department of Applied Science and Technology, Politecnico di Torino, Italy</i>), Noemi Pirrone, Lorenzo Sibella, Anna Mangini, Federico Bella Enhancing green ammonia production from nitrogenous species electroreduction through electrolyte optimization
10:30 - 11:15	Coffee Break
#Nitroconversion 2.2 Chair: Jennifer Strunk	
11:15 - 11:30 2.2-04	<u>Jean Pierre Glauber</u> (<i>Leibniz-Institute for Solid State and Materials Research (IFW) Dresden, Helmholtzstrasse 20, 01069 Dresden, Germany</i>), Jorit Obenlueschloß, Ji Liu, Julian Lorenz, Sebastian Bragulla, Björn Müller, Michael Wark, Corinna Harms, Michael Nolan, Anjana Devi In pursuit of potential catalysts for NRR by chemical vapor phase deposition routes
11:30 - 11:45 2.2-05	<u>Julian Lorenz</u> (<i>Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Carl-von-Ossietzky-Str. 15, 26129 Oldenburg, Germany</i>), Sebastian Bragulla, Jean-Pierre Glauber, Imke Mönkeberg, Björn Müller, Ji Liu, Anjana Devi, Michael Wark, Michael Nolan, Corinna Harms Impact of the Electrode Morphology on the Nitrogen Reduction Reaction Catalyzed by Transition Metal Nitrides
11:45 - 12:00 2.2-01	Jacqueline Patzsch, Malte Schummer, Marcus Rose, <u>Jonathan Bloh</u> (<i>DECHEMA Research Institute</i>) Photocatalytic Dinitrogen Reduction under Elevated Temperature Conditions
12:00 - 12:15 2.2-02	<u>Krisztina Szekeres</u> (<i>Atmonia ehf.</i>), Valery Pershina, Ása Hanifpour, Marc Hidalgo, Helga Flosadóttir The Effect of Gas Pressure in Flow Electrocell with Gas Diffusion Electrodes for Nitrogen Reduction Reaction
12:15 - 12:30 2.2-03	<u>Anna Mangini</u> (<i>Department of Applied Science and Technology, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 - Turin, Italy</i>), Noemi Pirrone, Sara Garcia-Ballesteros, Federico Bella Nitrogen Electro-Reduction Through the Lithium-Mediated Pathway: Critical Aspects Towards Parameters Optimization
12:30 - 12:45 2.2-06	<u>Konstantin Schutjaew</u> (<i>HIPOLE Jena (Helmholtz Institute for Polymers in Energy Applications Jena), Lessingstrasse 12-14, 07743 Jena, Germany, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH</i>) Nitrogen Sorption and Electrochemical Ammonia Synthesis at the Carbon/Ionic Liquid Interface
12:45 - 13:00 2.2-07	<u>Giulia Giovilli</u> (<i>Dipartimento di Chimica, Università di Pavia</i>), Lorenzo Malavasi, Francesca Merlo, Antonella Profumo, Andrea Olivati, Annamaria Petrosza BiOBr-based Heterojunctions for the Photocatalytic Reduction of Nitrogen
13:00 - 15:30	Lunch Break
#Nitroconversion 2.3 Chair: Dirk Ziegenbalg	
15:30 - 16:00 2.3-11	<u>Martin Oschatz</u> (<i>Friedrich Schiller University Jena, Germany</i>), Konstantin Schutjaew Modification of the electrode-electrolyte interfaces of molecular carbon materials for adsorption and electrochemical conversion of dinitrogen and other small molecules
16:00 - 16:15 2.3-01	<u>Michael Wark</u> (<i>Institute of Chemistry, Carl von Ossietzky University Oldenburg, Carl-von-Ossietzky-Str. 9-11, 26129 Oldenburg, Germany</i>), Bjoern Mueller, Hanna Oldenburg, Julian Lorenz, Sebastian Bragulla, Imke Moenkeberg, Corinna Harms, Jean-Pierre Glauber, Jorit Obenlueschloß, Anjana Devi, Ji Liu, Michael Nolan Electrochemical Nitrogen Reduction: Advances in Vanadium Nitride Synthesis and Its Applications
16:15 - 16:30 2.3-02	<u>Paolo Giusto</u> (<i>Max Planck Institute of Colloids and Interfaces - Potsdam</i>) Carbon Nitride Thin Films for Energy Conversion
16:30 - 16:45 2.3-03	Merlin Gutgesell, Marcus Klahn, Abdelkarim Zaim, Julian Klein, Junhao Huang, Gerd Bacher, Jonathan Bloh, <u>Jennifer Strunk</u> (<i>Department of Chemistry, Technical University of Munich, 85748 Garching, Germany</i>) Design of Active Sites for Photocatalytic Nitrogen Oxidation Based on Knowledge from Classical Catalysis
16:45 - 17:00 2.3-04	<u>Abdelkarim Zaim</u> (<i>DECHEMA Research Institute</i>), Jonathan Z. Bloh Gas-solid photocatalytic oxidation of dinitrogen to nitrogen oxides
17:00 - 17:15 2.3-05	<u>Ása Hanifpour</u> (<i>Atmonia ehf, Árleyni 8, 112 Reykjavík</i>), Krisztina Júlia Szekeres, Marc Francis Villarojo Hidalgo, Valery Pershina, Helga Dögg Flosadóttir Characterization of Urea-Gel-Route Synthesized Catalyst Candidates Using TGA-MS
17:15 - 17:25	Closing #Nitroconversion
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Nano Exploration of MXenes 2025 - #NEMX25

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chairs: Michelle Browne, Rui Gusmão and Bahareh Khezri

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #NEMX25 - Room Azalea
	#NEMX25 1.2 Chair: Bahareh Khezri
11:25 - 11:55 1.2-11	<u>Husam Alshareef</u> (<i>Materials Science and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal 23955-6900, Saudi Arabia</i>) MXenes for Energy Harvesting Applications
11:55 - 12:25 1.2-12	<u>Volker Presser</u> (<i>INM - Leibniz Institute for New Materials</i>) MXene and hybrid electrodes for high performance energy storage
12:25 - 12:40 1.2-01	<u>Bastian Schmiedecke</u> (<i>Helmholtz Young Investigator Group Electrocatalysis: Synthesis to Devices, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Albert-Einstein-Str. 15, 12489 Berlin, Germany</i>), Michelle Browne, Bing Wu, Thorsten Schulz, Norbert Koch, Namrata Sharma, Tristan Petit, Valeria Nicolosi, Mehmet Görür, Yilmaz, Apostolos Koutsoukis, Aline Emerenciano, Danielle Dougl-Henry, Zdenek Sofer Enhancing the oxygen evolution reaction performance of CuCo based hydroxides with V2CTx MXene
12:40 - 12:55 1.2-02	<u>Mohsen Beladi Mousavi</u> (<i>Ludwig-Maximilians-Universität München, Faculty of physics, Königinstraße 10, 80539 Munich, Germany</i>), Franz Gröbmeyer, Christoph Gruber, Kyle Matthews, Kateryna Shevchuk, Alex Inman, John Wang, Yury Gogotsi, Emiliano Cortes Ion Transport Dynamics in Single MXene Nanoparticles Revealed by Interferometric Scattering Microscopy
12:55 - 15:30	Lunch Break
	#NEMX25 1.3 Chair: Rui Gusmão
15:30 - 16:00 1.3-11	<u>Zdenek Sofer</u> (<i>Department of Inorganic Chemistry, University of Chemistry and Technology, Prague, Technická 5, 166 28 Prague 6, Czech Republic</i>) MXene derivatives and nanostructures for energy storage
16:00 - 16:30 1.3-12	<u>Lorena Manzanares</u> (<i>Centrale Lille Institut</i>) Single-molecule biosensing with MXene energy transfer
16:30 - 17:00 1.3-13	<u>Hermenegildo García</u> (<i>Instituto Universitario de Tecnología Química (CSIC-UPV), Universitat Politècnica de Valencia, Av. De los Naranjos s/n, 46022 Valencia, Spain.</i>), Ana Primo MXenes as Catalysts of Organic Reactions

March 4th - Day 2 (Tuesday)

#NEMX25 2.1	
Chair: Michelle Browne	
09:30 - 10:00	<u>Ana Primo</u> (<i>Consejo Superior de Investigaciones Científicas (CSIC)</i>)
2.1-I1	MXenes dots as photocatalysts
10:00 - 10:30	<u>Tristan Petit</u> (<i>Nanoscale Solid-Liquid Interfaces, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Albert-Einstein Str. 15, 12489 Berlin, Germany</i>)
2.1-I2	Chemical Imaging of single Ti3C2Tx MXenes flakes
10:30 - 11:15	Coffee Break
#NEMX25 2.2	
Chair: Bahareh Khezri	
11:15 - 11:30	<u>Mehmet Turan Görürilmaz</u> (<i>Helmholtz Young Investigator Group Electrocatalysis: Synthesis to Devices, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Albert-Einstein-Str. 15, 12489 Berlin, Germany</i>), Aline Alencar Emerenciano, Michelle P. Browne
2.2-O1	The Effect of NiCo2O4/V2C as an Electrocatalyst for Oxygen Evolution Reaction in Alkaline Media
11:30 - 12:00	<u>Christina Birke</u> (<i>Arizona State University - School of Molecular Sciences</i>), Rose Snyder, Vaibhav Joshi
2.2-I1	Synthesis Science of V-MXenes
12:00 - 12:15	<u>Merve Buldu-Aktürk</u> (<i>Helmholtz Young Investigator Group Electrocatalysis: Synthesis to Devices, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Albert-Einstein-Str. 15, 12489 Berlin, Germany</i>), Thorsten Schultz, Namrata Sharma, Ursula Michalczik, Wei Zhang,
2.2-O2	Peter Bogdanoff, Yan Lu, Norbert Koch, Michelle P. Browne
	Optimizing Ru Stability in Bimetallic NiRu@Ti3C2Tx Catalysts for Oxygen Evolution: Role of MXene Content
12:15 - 12:30	<u>Bing Wu</u> (<i>University of Chemistry and Technology Prague</i>), Zdenek Sofer, Rui J.C.Gusmao
2.2-O3	Electrochemical Exfoliation of Layered Non-van der Waals TM2SC MAX into Two-dimensional MXenes
12:30 - 12:45	<u>Can Kaplan</u> (<i>Helmholtz-Zentrum Berlin (HZB), Hahn-Meitner-Platz 1, 14109 Berlin, Germany</i>), Thorsten Schulz, LeiQiang Qin, Ningjung
2.2-O4	Chen, Johanna Rosén, Michelle Brown
	Coupling CoFe-LDH with V2CTx MXene as high-performance Oxygen Evolution Catalysts
12:45 - 13:00	<u>Norbert H. Nickel</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, 12489 Berlin, Germany</i>)
2.2-O5	Hydrogen Bonding and Diffusion in Ti3C2 MXenes
13:00 - 15:30	Lunch Break
#NEMX25 2.3	
Chair: Rui Gusmão	
15:30 - 16:00	<u>João Coelho</u> (<i>Dpto. Física de La Materia Condensada, Universidad de Sevilla, Avda. Reina Mercedes SN, 41012, Seville, Spain</i>), Pedro
2.3-I1	Moreira, David Carvalho, Rodrigo Abreu, Sara Silvestre, Emanuel Carlos, Joana Vaz Pinto, Maria D. Alba, Joaquín Ramirez-Rico
	Powering Flexible Technologies with MXenes-Based Supercapacitors: Challenges and Opportunities
16:00 - 16:15	<u>Aline Alencar Emerenciano</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany</i>), Michelle Browne
2.3-O1	Investigation of Ti3C2Tx MXenes Role on Ni-based catalysts for the Oxygen Evolution Reaction
16:15 - 16:30	<u>Joyce Matoso</u> (<i>Department of Inorganic Chemistry, University of Chemistry and Technology in Prague, Technická 5, 166 28 Prague 6, Czech Republic</i>), Bing Wu, Nikolas Antonatos, Rui Gusmão, Zdeněk Sofer
2.3-O2	Nitrate Reduction to Ammonia: Structural Dependence of Electrocatalytic Activity on Mo2TIC2 MXenes
16:30 - 16:45	<u>Martin I. Broens</u> (<i>Université Grenoble Alpes, CNRS, Grenoble-INP, LMGP, Grenoble, France</i>), Nicolas Pernés, Stephane Cross, Thierry Ouisse,
2.3-O3	Hanna Pazniak
	Ti3C2Tx MXene for Application in Single-Junction Perovskite Solar Cells
16:45 - 16:55	Closing #NEMX25
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Sustainable energy materials and circularity - #SusMat

Sevilla, Spain, 2025 March 3rd - 4th

Conference Chairs: Tim-Patrick Fellingner and Cristina Pozo-Gonzalo

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #SUSMat - Room Carmona
	#SusMat 1.2 Chair: Tim-Patrick Fellingner
11:25 - 11:55	<u>Magda Titirici</u> (<i>Department of Chemical Engineering, Imperial College London, London SW7 2AZ, UK</i>)
1.2-11	Anode free Li and Na batteries
11:55 - 12:25	<u>Marta Sevilla</u> (<i>Instituto de Ciencia y Tecnología del Carbono (INCAR-CSIC)</i>), Noel Díez, Sara Payá, María Dolores Casal
1.2-12	Sustainable synthesis strategies towards S-doped disordered carbons for high-rate sodium storage
12:25 - 12:40	<u>Bowen Liu</u> (<i>School of Metallurgy and Materials, University of Birmingham, Birmingham B15 2TT, UK</i>), Tengfei Song, Lin Chen, Ashwin T.
1.2-01	Shekhar, Marta Mirolo, Valentin Vinci, Jakub Drnec, Joel Cornelio, Dongrui Xie, Elizabeth Driscoll, Peter R. Slater, Emma Kendrick
	One-step recovery for spent hard carbon
12:40 - 15:30	Lunch Break
	#SusMat 1.3 Chair: Cristina Pozo-Gonzalo
15:30 - 16:00	<u>Rosa Cuellar Franca</u> (<i>The University of Manchester</i>)
1.3-11	Advancing Sustainable Innovations Through the Integration of Sustainability Metrics in Early Design Stages
16:00 - 16:30	<u>Lathe Jones</u> (<i>CSIC-ISQCH, Spain</i>), Ylias Sabri, Xavier Mulet, Mohammad Al Kobaisi
1.3-12	Integrating End of Life (EoL) Solar Panel Waste into the Circular Economy
16:30 - 17:00	<u>Nicolas Schaeffer</u> (<i>CICECO - Aveiro Institute of Materials, Department of Chemistry, University of Aveiro, 3810-193, Aveiro, Portugal</i>)
1.3-13	A walk down the waste hierarchy pyramid for lithium-ion batteries

March 4th - Day 2 (Tuesday)

#SusMat 2.1	
Chair: Kerli Liivand	
09:00 - 09:30	<u>Emma Kendrick</u> (<i>School of Metallurgy and Materials, University of Birmingham, Edgbaston B15 2TT, UK</i>)
2.1-11	Advancing Sustainability in Battery Technologies: A Focus on Critical Materials and Battery Chemistry
09:30 - 10:00	<u>Menny Shalom</u> (<i>Department of Chemistry, Ben Gurion University, Beer-Sheva, 8410501 Israel</i>)
2.1-12	A rechargeable Zn-air battery with high energy efficiency enabled by a hydrogen peroxide bifunctional catalyst
10:00 - 10:30	<u>Guillermo Alvarez Ferrero</u> (<i>Humboldt-Universität zu Berlin, Institut für Chemie, Brook-Taylor-Str. 2, 12489 Berlin, Germany</i>), Gustav Avall,
2.1-13	Knut Janssen, Youhyun Son, Philipp Adelhelm
Solvent co-intercalation reactions for batteries and beyond	
10:30 - 11:15	Coffee Break
#SusMat 2.2	
Chair: Emma Kendrick	
11:15 - 11:30	<u>Asmin Askin</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, 14109, Berlin, Germany</i>), Senol Oez, Lukasz Pryzpis, Frank
2.2-01	Girgsdies, Martin Hager, Natalia Maticiu, Alejandra Florez Velasquez, Rico Meitzner, Eva Unger
Environmentally Friendly Up-cycling of Lead Iodide from Perovskite Solar Cells Using Functional Liquids	
11:30 - 12:00	<u>Kerli Liivand</u> (<i>National Institute of Chemical Physics and Biophysics</i>), Reio Praats, Mari Lundström, Benjamin P. Wilson, Ivar Kruusenberg
2.2-11	Valorization of Graphite from Spent Li-ion Battery Recycling Waste
12:00 - 12:15	<u>Álvaro Bonilla</u> (<i>Departamento Química Inorgánica e Ingeniería Química, Instituto Químico para la Energía y el Medioambiente (IQUEMA),</i>
2.2-02	<i>Universidad de Córdoba, Córdoba 14071, Spain</i>), Uxua Jiménez-Blasco, Juan Luis Gómez-Cámer, Eneko Garaio, José Ignacio Pérez-
Landazábal, Álvaro Caballero	
On the Combination of Magnetism and Sustainability in Metal-Sulfur Batteries	
12:15 - 12:30	<u>Lin Chen</u> (<i>School of Metallurgy and Materials, University of Birmingham, Edgbaston B15 2TT, UK</i>), Brij Kishore, Tengfei Song, Bowen Liu,
2.2-03	Yazid Lakhdar, Osaze Omoregbe, Peter Slater, Emma Kendrick
A 'COOL' ROUTE TO BATTERY ELECTRODE MATERIAL RECOVERY	
12:30 - 15:30	Lunch Break
#SusMat 2.3	
Chair: Rosa Marisa Cuellar-Franca	
15:30 - 16:00	<u>Nerea Casado</u> (<i>Polymat, University of the Basque Country UPV/EHU, 20018 Donostia-San Sebastian, Spain.</i>)
2.3-11	Polymer binders for more sustainable batteries
16:00 - 16:30	Khoi Trinh, Adrian Beda, <u>Camélia Ghimbeu</u> (<i>Université de Haute-Alsace, Institut de Science des Matériaux de Mulhouse (IS2M), CNRS, UMR</i>
2.3-12	<i>7361, F-68100 Mulhouse, France</i>)
Biosourced hard carbons and binders for recyclable Na-ion battery anodes	
16:30 - 16:40	Closing #SusMat
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Advances in Electrochemical Energy Storage Systems: Driving Towards a Sustainable Future - #SUSEES

Sevilla, Spain, 2025 March 3rd

Conference Chairs: Yoonchang Kim, Ungyu Paik and Kangli Wang

Conference Program

March 3rd - Day 1 (Monday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #SUSEES - Room Estepa
	#SUSEES 1.2 Chair: Deli Wang
11:25 - 11:55 1.2-11	<u>Min Zhou</u> (<i>State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, Hubei 430074, China.</i>), Kangli Wang, Kai Jiang Plasma Modification for the Construction and Regulation of Electrode/electrolyte Interface
11:55 - 12:25 1.2-12	<u>Xiaohui Ning</u> (<i>State Key Laboratory for Mechanical Behavior of Materials, School of Materials Science and Engineering, Xi'an Jiaotong University, Xi'an, Shaanxi, China</i>), Yan Zhou Rational Design of Positive Electrodes for Enhanced Electrochemical Performance in Liquid Metal Batteries
12:25 - 12:40 1.2-01	<u>Ana Herceg</u> (<i>Faculty of Chemistry and Chemical Technology, University of Ljubljana, Večna pot 113, 1000 Ljubljana, Slovenia</i>), Nik Maselj, Vasko Jovanovski, Nejc Hodnik, Primož Jovanovič Enhancing Electrocatalytic Interface of Platinum through Dicyanamide Functionalization
12:40 - 15:30	Lunch Break
	#SUSEES 1.3 Chair: Min Zhou
15:30 - 15:45 1.3-01	<u>Rodrigo López-Báez</u> (<i>KU Leuven</i>), Louis De Taeye, Philippe Vereecken Development of Experimental Model Systems for the Investigation of Electronic and Ionic Transport Through Active Cathode Interfaces in Li-ion Batteries
15:45 - 16:15 1.3-11	<u>Hansu Kim</u> (<i>Hanyang Univeristy</i>) High Performance SiO-Based Lithium Storage Materials by Dehydrogenation of Metal Hydrides
16:15 - 16:45 1.3-12	<u>Deli Wang</u> (<i>School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology</i>) Electrocatalysis on Structure Ordered Intermetallics
16:45 - 17:15 1.3-13	<u>Minghua Chen</u> (<i>School of Electrical and Electronic Engineering, Harbin university of science and technology</i>), Yixin Wu, Yang Wang, Yulong Liu, Yu Li Solid-State Battery Technology: From Research to Real-World Applications
17:15 - 17:30 1.3-02	<u>Dominic Spencer-Jolly</u> (<i>School of Metallurgy and Materials, University of Birmingham, Elms Road, Birmingham, B15 2SE, UK</i>) Voids and Dendrites at Lithium Anode/Solid Electrolyte Interfaces
17:30 - 17:40	Closing #SUSEES

MATSUS Spring 2025 Conference (MATSUSSpring25)

Lead-free perovskites: Fundamentals and device applications - #LeadFreePero

Sevilla, Spain, 2025 March 4th - 5th

Conference Chairs: Eline Hutter and Iván Mora-Seró

Conference Program

March 4th - Day 2 (Tuesday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #LeadFreePero - Room Nervión I-II
	#LeadFreePero 1.2 Chair: Iván Mora-Seró
11:25 - 11:55	<u>Rafael Jaramillo</u> (<i>Massachusetts Institute of Technology, Cambridge, MA, USA</i>)
1.2-I1	Exploring the diversity of phase and properties of complex chalcogenide semiconductors
11:55 - 12:10	<u>Davide Pratolongo</u> (<i>Bernal Institute, University of Limerick, Sreelane, Limerick, V94 T9PX, Ireland</i>), Niraj Patil, Manoj Palabathuni, Ankita
1.2-O1	Bora, Suvodeep Sen, Federico Locardi, Shalini Singh Sn2SbS2I3 rods synthesized by Hot-injection method
12:10 - 12:40	<u>Loredana Protesescu</u> (<i>Zernike Institute for Advanced Materials, University of Groningen, Netherlands</i>)
1.2-I2	Advancing Tin Halide Perovskite Nanocrystals: Synthesis, Stability, and Optoelectronic Potential
12:40 - 15:30	Lunch Break
	#LeadFreePero 1.3 Chair: Eline Hutter
15:30 - 16:00	<u>Paola Vivo</u> (<i>Hybrid Solar Cells, Faculty of Engineering and Natural Sciences, Tampere University, P.O. Box 541, Tampere, FI-33014 Finland</i>)
1.3-I1	Bismuth-based perovskite-inspired materials for photovoltaics and beyond
16:00 - 16:30	<u>Lorenzo Malavasi</u> (<i>Department of Chemistry and INSTM, University of Pavia, via Taramelli 16, Pavia, 27100, Italy</i>)
1.3-I2	Engineering Bismuth and Antimony Metal Halides for Optoelectronic and Photocatalytic Applications
16:30 - 16:45	<u>Vanira Trifiletti</u> (<i>Università degli Studi di Milano-Bicocca</i>), Matteo Massetti, Alberto Calloni, Sally Luong, Andrea Pianetti, Silvia Milita, Bob
1.3-O1	C. Schroeder, Gianlorenzo Bussetti, Simona Binetti, Simone Fabiano, Oliver Fenwick Sulphur doping impact on Bi-based perovskite-derivatives
16:45 - 17:00	<u>Jessica Persaud</u> (<i>Department of Chemical and Biomolecular Engineering, Rice University, Houston, TX 77005</i>), Aditya Mohite
1.3-O2	Tailoring Tin Perovskite Crystallization for Photovoltaic Applications
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26

March 5th - Day 3 (Wednesday)

#LeadFreePero 2.1

09:00 - 09:30 2.1-11	<u>Pablo P. Boix</u> (<i>Instituto de Tecnología Química, Universitat Politècnica de València - Consejo Superior de Investigaciones Científicas (UPV-CSIC), Avd. de los Naranjos s/n, Valencia 46022, Spain</i>) Enhancing Tin-Based Perovskite Performance and Stability through Crystallization Dynamics and Dimensional Modulation
09:30 - 09:45 2.1-01	<u>Miriam Minguez-Avellan</u> (<i>Instituto de Ciencia de los Materiales (ICMUV), Universitat de Valencia, 46980 Paterna, Spain</i>), Omar E. Solis, Noemí Farinós-Navajas, Pablo F. Betancur, Rafael Abargues, Teresa S. Ripolles, Pablo P. Boix Performance Fluctuations in Tin Perovskite Solar Cells
09:45 - 10:00 2.1-02	<u>Sergio Galve-Lahoz</u> (<i>Institute of Advanced Materials (INAM), University Jaume I, Av. Vicent Sos Baynat, s/n, 12071, Castellón de la Plana, Spain</i>), Jesús Sánchez-Díaz, Jorge Marco, Nihal Guenani, Jorge Simancas, Jhonatan Rodríguez-Pereira, Jesús Lucia-Tamudo, Sergio Díaz-Tendero, Juan P. Martínez-Pastor, Jorge Pascual, Iván Mora-Seró, Juan Luis Delgado Enhancing Tin Perovskite Solar Cells Performance through Innovative Fullerene Derivatives for Minimized Interfacial Voc Losses
10:00 - 10:30 2.1-12	<u>Robert Hoyer</u> (<i>Inorganic Chemistry Laboratory, Department of Chemistry, University of Oxford, South Parks Road, Oxford OX1 3QR, UK</i>) Charge-Carrier Transport in Perovskite-Inspired Materials, and Applications in X-ray Detection

Coffee Break

#LeadFreePero 2.2

Chair: Iván Mora-Seró

11:15 - 11:30 2.2-01	<u>ASHWATH KUDLU</u> (<i>Indian Institute of Science Education and Research Tirupati</i>), JANARDAN KUNDU Unravelling the Structure-Luminescence Relationship in Two Dimensional Antimony (III) Doped Cadmium (II) Halide Hybrids
11:30 - 12:00 2.2-11	<u>Raquel Galian</u> (<i>Institute of Molecular Science, University of Valencia, c/Catedrático José Beltrán Martínez 2, 46980 Paterna, Valencia, Spain</i>), Paulina Gwóźdź, Nadia Pareja, Alejandro Cortés-Villena, Ewa Drożdż, Agnieszka Łącz, Julia Pérez-Prieto, Eduardo Palomares Lead-free perovskites and related materials for photocatalytic applications
12:00 - 12:15 2.2-02	<u>Pushkar Joshi</u> (<i>Institute of Physics Polish Academy of Sciences</i>), Vasyl Stasiv, Kamil Sobczak, Małgorzata Zinkiewicz, Yaroslav Zhydachevskyy, Mateusz Goryca, Sebastian Maćkowski, Łukasz Kłopotowski Temperature and Magnetic Field-Dependent Photoluminescence Dynamics of Lead-Free Double Perovskite Nanocrystals
12:15 - 12:45 2.2-12	Yuedong Shi, Zihao Zhu, <u>Qixi Mi</u> (<i>School of Physical Science and Technology, ShanghaiTech University, Shanghai 201210</i>) Lead-free Perovskite Solar Cells of 16% Efficiency by Defect Suppression and Energy Level Alignment
12:45 - 13:00 2.2-03	<u>Christos Tyrpenou</u> (<i>Univ Rennes, ENSCR, INSA Rennes, CNRS, ISCR (Institut des Sciences Chimiques de Rennes) - UMR 6226, F-35000 Rennes, France</i>), G. Krishnamurthy Grandhi, Mikaël Kepenekian, Paola Vivo, George Volonakis Substitutional Engineering of Halide Double Salts: Material Design of Ag-In-I Ternary Compounds

Closing #LeadFreePero

Lunch Break

MATSUS Spring 2025 Conference (MATSUSSpring25)

Advancements in Memristor Technology: From Materials to Devices and Applications - #MemTech

Sevilla, Spain, 2025 March 4th - 5th

Conference Chairs: Valeria Bragaglia, Wooseok Choi and Juan Bautista Roldan

Conference Program

March 4th - Day 2 (Tuesday)	
13:15 - 15:20	Lunch Break
15:20 - 15:30	Opening #MemTech - Room Arenal II - III
	#MemTech 1.3 Chair: Wooseok Choi
15:30 - 16:00	<u>Juan Bisquert</u> (<i>Instituto de Tecnología Química ITQ (UPV-CSIC), Av. dels Tarongers, 46022, València, Spain.</i>)
1.3-I1	Memristor synapses in time and frequency domain
16:00 - 16:15	<u>Valeria Bragaglia</u> (<i>Science of Quantum and Information Technologies, IBM Research Europe — Zurich</i>)
1.3-O1	Brain-inspired computing with VO ₂ -based Oscillators and Analog ReRAMs
16:15 - 16:30	Antonio Cantudo, Francisco Jimenez-Molinos, Marco Antonio Villena, Mireia B. González, Francesca Campabadal, <u>Juan B. Roldan</u>
1.3-O2	(<i>Departamento de Electrónica y Tecnología de Computadores, Universidad de Granada, Spain.</i>) Resistive switching in Al ₂ O ₃ and HfO ₂ memristors, characterization, modeling and simulation
16:30 - 16:45	<u>Nils Kopperberg</u> (<i>Institut für Werkstoffe der Elektrotechnik II, RWTH Aachen University, Aachen, Germany</i>), Daniel Genua Noguera,
1.3-O3	Stephan Menzel 3D KMC Modelling of Doping Effects on the Reliability of Resistive Switching in VCM ReRAM Devices
16:45 - 17:15	<u>Simanta Lahkar</u> (<i>NanoComputing Research Lab, Integrated Circuits Group, Department of Electrical Engineering, Eindhoven University of</i>
1.3-I2	<i>Technology, Eindhoven, 5612AZ, The Netherlands</i>), Aida Todri-Saniai Insights into the Precise Atomistic Mechanisms Underlying the Forming Process in Bilayer Metal Oxide Resistive RAMs
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26
17:45 - 19:15	Poster Session

March 5th - Day 3 (Wednesday)

#MemTech 2.1

Chair: Juan Bautista Roldan

09:00 - 09:30	<u>María Teresa Serrano-gotarredona</u> (<i>Instituto Microelectrónica de Sevilla, CSIC-US</i>)
2.1-I1	CMOS-Memristive Spiking Neural Networks (SNN) computing architectures
09:30 - 10:00	Luca Fehlings, Paolo Gibertini, Fernando M. Quintana, <u>Erika Covi</u> (<i>Zernike Institute for Advanced Materials, University of Groningen, Nijenborgh 3, Groningen, 9747AG, The Netherlands</i>)
2.1-I2	Emerging memory technologies for neuromorphic edge computing
10:00 - 10:30	<u>Sabina Spiga</u> (<i>Consiglio Nazionale delle Ricerche (CNR), Istituto per la Microelettronica e Microsistemi (IMM)</i>), Mrinmoy Dutta, Manuel Escudero, Stefano Brivio
2.1-I3	Volatile and non-volatile memristive devices for future computing

10:30 - 11:15 Coffee Break

#MemTech 2.2

Chair: Valeria Bragaglia

11:15 - 11:30	<u>Wooseok Choi</u> (<i>SQIT, IBM Research Europe — Zurich</i>)
2.2-O1	Resistive Memory Technology for Deep Neural Network Accelerator Hardware
11:30 - 12:00	<u>Jiyong Woo</u> (<i>Kyungpook National University</i>)
2.2-I1	Three-terminal neuromorphic synaptic devices leveraging electrochemical reactions and ferroelectric switching dynamics
12:00 - 12:30	<u>Asal Kiazadeh</u> (<i>CENIMAT/3N, NOVA University Lisbon, Caparica, Portugal.</i>)
2.2-I2	Flexible Electronics on Amorphous Oxide Semiconductor Devices: TFTs and RRAMs
12:30 - 12:45	<u>So-Yeon Kim</u> (<i>Instituto de Tecnología Química (ITQ), Universitat Politècnica de València- Consejo Superior de Investigaciones Científicas (UPV-CSIC). 46022 València, Spain</i>), Heyi Zhang, Jenifer Rubio-Magnieto
2.2-O2	Operating Mechanism Principles and Advancements of Memristors Based on Halide Perovskites

12:45 - 15:30 Lunch Break

#MemTech 2.3

Chair: Wooseok Choi

15:30 - 16:00	<u>Miguel Muñoz Rojo</u> (<i>Instituto de Ciencia de Materiales de Madrid, ICMM-CSIC, C/Sor Juana Inés de la Cruz, 3, 28049 Madrid, Spain</i>)
2.3-I1	Nanoscale thermal mapping of electronic devices
16:00 - 16:15	<u>Antonio Guerrero</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, 12006 Castellón de La Plana, Spain</i>)
2.3-O1	Buffer layer modification for low energy consumption in halide perovskites memristors
16:15 - 16:30	<u>Chandra Prakash</u> (<i>Research Scholar, Physics Department, IIT Jodhpur</i>), Ambesh Dixit
2.3-O2	Thermally oxidized Cu/CuO/FTO RRAM device for synaptic application beyond von-Neumann architecture

16:30 - 16:40 Closing #MemTech

MATSUS Spring 2025 Conference (MATSUSSpring25)

III-V Quantum Dots and Beyond: Pioneering Core-only and Core-Shell Structures for Future Applications - #III-VQD

Sevilla, Spain, 2025 March 4th - 6th

Conference Chairs: Ivan Infante and Liberato Manna

Conference Program

March 4th - Day 2 (Tuesday)	
13:10 - 15:20	Lunch
15:20 - 15:30	Opening #IIIVQDS - Room Giralda III
	#III-VQD 1.3 Chair: Ivan Infante
15:30 - 16:00 1.3-I1	<u>Jonathan Owen</u> (<i>Department of Chemistry, Columbia University, New York, New York 10027, United States</i>), Antony Peng, Jessica Geisenhoff Synthesis of colloidal InP and GaP nanocrystals
16:00 - 16:30 1.3-I2	<u>Sohee Jeong</u> (<i>Department of Energy Science, Sungkyunkwan University, Suwon, South Korea</i>) Advancing III-V Nanocrystals: Achieving Facet Homogeneity
16:30 - 17:00 1.3-I3	Oleksandra Yeromina, Anna Stepanova, Ranjana Yadav, Avijit Saha, Majed Ibrahim, Céline Rivaux, Wai Li Ling, Stéphanie Pouget, Bérangère Hyot, <u>Peter Reiss</u> (<i>Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG-SyMMES, 38000 Grenoble, France</i>) Synthesis of Visible & Near-Infrared Active III-V Quantum Dots
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26

March 5th - Day 3 (Wednesday)

#III-VQD 2.1	
Chair: Liberato Manna	
09:00 - 09:30 2.1-11	<u>Zeger Hens</u> (<i>Physics and Chemistry of Nanostructures group (PCN), Ghent University, Krijgslaan 281, Gent 9000, Belgium</i>), Norrick De Vlamynck, Jordi Llusar, Ivan Infante Relating Geometry and Electronic Structure in III-V Quantum Dots
09:30 - 09:45 2.1-01	<u>Jaqueline O. Rocha</u> (<i>Physics and Chemistry of Nanostructures Group, Ghent University, 9000 Ghent, Belgium</i>), Tom Laureyns, Jan Matthys, Yuhao Deng, Pieter Geiregat, Bruno Grandidier, Zeger Hens Relating material properties and device performance in In(As,P) Quantum Dot Infrared Detectors
09:45 - 10:00 2.1-02	<u>Yun Hai</u> (<i>Zernike Institute for Advanced Materials, University of Groningen, Nijenborgh 3, Groningen, 9747AG, The Netherlands</i>), Loredana Protesescu The Colloidal Synthesis and Surface Chemistry of III-V (InP, InSb) Quantum Dots
10:00 - 10:30 2.1-12	<u>Lutfan Sinatra</u> (<i>Quantum Solutions</i>), Khursand Yorov, Alexander Bessonov, Marat Lutfullin Development of Colloidal Quantum Dots for SWIR Sensor
10:30 - 11:15 Coffee Break	
#III-VQD 2.2	
Chair: Ivan Infante	
11:15 - 11:45 2.2-11	<u>Oleksandr Voznyy</u> (<i>University of Toronto</i>) Improving the monodispersity and removing oxidation in In-based III-V quantum dots
11:45 - 12:00 2.2-01	<u>Carlotta Seno</u> (<i>Department of Chemistry, University of Basel, Mattenstrasse 22, 4058 Basel, Switzerland</i>), Nico Reichholf, Francesco Salutari, Maria Chiara Spadaro, Yurii P. Ivanov, Giorgio Divitini, Alexander Gogos, Inge K. Herrmann, Jordi Arbiol, Philippe F. Smet, Jonathan De Roo Epitaxial Core/Shell Nanocrystals of (Europium-Doped) Zirconia and Hafnia
12:00 - 12:30 2.2-12	<u>Himchan Cho</u> (<i>Korea Advanced Institute of Science and Technology (KAIST)</i>) Highly Luminescent Indium Phosphide Magic-Sized Clusters via Kinetically Controlled Surface Fluorination
12:30 - 13:00 2.2-13	<u>Soren Sandeno</u> (<i>Department of Chemistry, University of Washington, Seattle, WA, 98195-1700, USA</i>), Brandi Cossairt, Emma Coester, Sebastian Krajewski, Werner Kaminsky Structure, Conversion, and Composition of III-V Nanoclusters
13:00 - 15:30 Lunch Break	
#III-VQD 2.3	
Chair: Liberato Manna	
15:30 - 15:45 2.3-01	<u>Andriy Stelmakh</u> (<i>Laboratory of Inorganic Chemistry, Department of Chemistry and Applied Biosciences, ETH Zürich, Vladimir Prelog Weg 1, CH-8093 Zürich, Switzerland</i>), Georgios Marnieros, Hansjörg Grützmaher, Maksym Kovalenko Acyolphosphine Route to Colloidal InP Quantum Dots
15:45 - 16:15 2.3-11	<u>Luca De Trizio</u> (<i>Chemistry Facility, Istituto Italiano di Tecnologia, Via Morego 30, 16163 Genova, Italy</i>) Advancing the Photoluminescence of Amino-As InAs Quantum Dots
16:15 - 16:45 2.3-12	<u>Irina Skvortsova</u> (<i>EMAT, University Antwerpen, Belgium</i>), Annick De Backer, Rafikul Ali Saha, Tom Braeckeveld, Nikolaos Livakas, Bapi Pradhan, Maarten Roeffaers, Veronique Van Speybroeck, Liberato Manna, Sandra Van Aert, Johan Hofkens, Sara Bals In situ low-dose transmission electron microscopy imaging and data quantification for metal halide perovskites
16:45 - 16:55 Closing #III-VQD	

March 6th - Day 4 (Thursday)

17:30 - 19:00

Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Understanding success of OSCs: stability and efficiency - #SuccessOPV

Sevilla, Spain, 2025 March 4th - 5th

Conference Chairs: Tracey Clarke, Vida Engmann and Safa Shoaee

Conference Program

March 4th - Day 2 (Tuesday)	
12:40 - 15:20	Lunch Break
15:20 - 15:30	Opening #SuccessOPV - Room Giralda V
	#SuccessOPV 1.3 Chair: Tracey Clarke
15:30 - 16:00	<u>Dieter Neher</u> (<i>Soft Matter Physics and Optoelectronics, Institute of Physics and Astronomy, University of Potsdam, Potsdam, Germany</i>)
1.3-11	On the Ultimate Limits of the Efficiency of Organic Solar Cells
16:00 - 16:15	<u>Keren Ai</u> (<i>Department of Chemistry and Centre for Processable Electronics, Imperial College London W12 0BZ London, UK</i>)
1.3-01	Crystallinity-Driven Charge Generation in Low-Cost Conjugated Polymer Donors for Organic Solar Cells
16:15 - 16:45	<u>Christoph J. Brabec</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>)
1.3-12	A hybrid workflow to discover tailored materials for emerging PV
16:45 - 17:00	<u>Emma Spooner</u> (<i>Photon Science Institute, University of Manchester, Oxford Road, Manchester M13 9PL, UK</i>), Rachel Kilbride, Daniel Toolan, Matthew Halsall, Iain Crowe
1.3-02	In-Situ Morphological Analysis of Blade Coated Semi-transparent Organic Solar Cells
17:00 - 17:15	<u>Suraj Prasad</u> (<i>Department of Engineering and Physics, Karlstad University, 65188 Karlstad, Sweden.</i>), Moyses Araujo, Ellen Moons
1.3-03	The role of third-component PC70BM to improve the photostability of PTQ10:Y6 based ternary organic solar cells
17:15 - 17:30	<u>David Burrueco-Subirà</u> (<i>Leitat Technological Center</i>), Thibault Combroux, Pierre Albrand, Jeremy Pruvost, Helene Marec, Mariana Titica,
1.3-04	Michele Manca Semi-Transparent Organic Photovoltaic Modules coupled with a Photobioreactor for Microalgae Cultivation in COCPIT project for Sustainable Advanced Fuels Production
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26

March 5th - Day 3 (Wednesday)

#SuccessOPV 2.1	
Chair: Vida Engmann	
09:00 - 09:30	<u>Mariano Campoy-Quiles</u> (<i>Institut de Ciència de Materials de Barcelona (ICMAB), CSIC, Campus UAB Bellaterra, Spain</i>)
2.1-I1	Comparing binaries and ternaries blends in organic Rainbow multijunction cells
09:30 - 10:00	<u>Ji-Seon Kim</u> (<i>Department of Physics & Centre for Processable Electronics, Imperial College London, UK</i>)
2.1-I2	Key Molecular Perspectives for High Stability in Organic Photovoltaics
10:00 - 10:30	<u>Thuc-Quyen Nguyen</u> (<i>Center for Polymers and Organic Solids, University of California Santa Barbara, CA, USA</i>)
2.1-I3	Understanding Bulk Heterojunction Organic Solar Cell Stability
Coffee Break	
#SuccessOPV 2.2	
Chair: Ronald Österbacka	
11:15 - 11:45	<u>Morten Madsen</u> (<i>University of Southern Denmark, Mads Clausen Institute, Center for Advanced Photovoltaics and Thin Film Energy Devices (SDU CAPE) Sønderborg 6400, Denmark</i>)
2.2-I1	Hybrid interfaces in R2R scalable organic and tandem photovoltaics
11:45 - 12:15	<u>Hugo Bronstein</u> (<i>Department of Chemistry, University of Cambridge</i>)
2.2-I2	UNDERSTANDING AND CONTROL OVER INTERMOLECULAR INTERACTIONS IN OPTOELECTRONICS
12:15 - 12:45	<u>Ellen Moons</u> (<i>Department of Engineering and Physics, Karlstad University, 65188 Karlstad, Sweden</i>), Leticia Christopholi, Suraj Prasad, Cleber Marchiori, Leif K.E. Ericsson, Andrea Muntean, Moyses Araujo
2.2-I3	Molecular orientation, photophysics and photodegradation of Y-type electron acceptors: small molecules and copolymers
12:45 - 13:00	<u>Desmond MacLeod-Carey</u> (<i>Universidad Autónoma de Chile, Facultad de Ingeniería, Instituto de Ciencias Aplicadas, Inorganic Chemistry and Molecular Materials Laboratory, Santiago, Chile.</i>), Matías Rioja Ponce, Matías Zelada Astudillo, Francisca Alvear-Guerra, Alvaro Muñoz-Castro, Felipe Angel
2.2-O1	An Organic Photovoltaic Cell using a Novel Unsymmetrical Squaraine Dye
13:00 - 13:15	<u>Atul Shukla, Manasi Pranav</u> (<i>Institute of Physics and Astronomy, University of Potsdam, Karl-Liebknecht-Str. 24-25, 14476 Potsdam-Golm, Germany</i>), Guorui He, Davide Mascione, Yonglin Cao, Yufei Gong, Drew Riley, Julian Steele, Alexander Ehm, Ardan Armin, Safa Shoaee, Dietrich Zahn, Yongfang Li, Lei Meng, Felix Lang, Dieter Neher
2.2-O2	What's Keeping Narrow-Bandgap Derivatives from Surpassing Parent Y6 in Solar Performance?
Lunch Break	
#SuccessOPV 2.3	
Chair: Hugo Bronstein	
15:30 - 16:00	<u>Natalie Banerji</u> (<i>Department of Chemistry, Biochemistry and Pharmaceutical Sciences (DCBP), University of Bern, 3012 Bern, Switzerland</i>)
2.3-I1	Charge Generation in Non-Fullerene Acceptors
16:00 - 16:30	<u>Ronald Österbacka</u> (<i>Physics, Faculty of Science and Engineering, Åbo Akademi University, Turku Finland</i>)
2.3-I2	Understanding charge-transport layers for improved efficiency and lifetime in organic solar-cells
16:30 - 16:40	Closing #SuccessOPV

MATSUS Spring 2025 Conference (MATSUSSpring25)

Advances in Li-Metal All-Solid-State Batteries: Processing, Manufacturing, and Integration - #AdvanceSSB

Sevilla, Spain, 2025 March 4th - 5th

Conference Chair: Juan Carlos Gonzalez-Rosillo

Conference Program

March 4th - Day 2 (Tuesday)	
08:50 - 09:00	Opening #AdvanceSSB - Room Estepa
	#AdvanceSSB 1.1 Chair: Juan Carlos Gonzalez-Rosillo
09:00 - 09:15 1.1-01	<u>Lisa Gerson</u> (<i>Laboratoire d'Innovation pour les Technologies des Energies Nouvelles et les nanomatériaux CEA, LITEN, F38054 Grenoble, France</i>), Manon Berthault, Jean-François Colin Development and Electrochemical Performance of Reference Prototypes for All-Solid-State Batteries
09:15 - 09:45 1.1-11	<u>Chun Huang</u> (<i>Imperial College London, Department of Materials, London SW7 2AZ, UK.</i>) Novel processing and 3D correlative imaging of electrodes for batteries
09:45 - 10:00 1.1-02	<u>Daiana Ferreira</u> (<i>IREC: Catalonia Institute for Energy Research</i>), Antonio Gianfranco Sabato, Juan Carlos Gonzalez-Rosillo, Olha Skurikhina, Kevin Castelló Lux, Marc Nuñez Eroles, Alex Morata, Marc Torrell, Albert Tarancon Innovative production processes for NASICON-based all-solid-state lithium-metal batteries
10:00 - 10:30 1.1-12	<u>Daniel Rettenwander</u> (<i>Department of Materials Science and Engineering, NTNU Norwegian University of Science and Technology, Trondheim, Norway</i>) Impact of Particle Size Distribution and Densification on the Development of Solid-State Pouch Cells
10:30 - 11:15	Coffee Break
	#AdvanceSSB 1.2 Chair: Chun Ann Huang
11:15 - 11:45 1.2-11	<u>Arianna Pesce</u> (<i>Center for Cooperative Research on Alternative Energy (CIC EnergiGUNE), Basque Research and Technology Alliance (BRTA), Alava Technology Park, Albert Einstein 48, 01510 Vitoria-Gasteiz, Spain.</i>), Pedram Ghorbanzade, Nico Zamperlin, Pierre Lannelongue, Ander Orue, Pedro López-Aranguren Role of Interfaces in All Solid-State Batteries, how Different Chemistries Interact with Lithium Metal
11:45 - 12:00 1.2-01	<u>Vikash Gajraj</u> (<i>Catalonia Institute for Energy Research, Jardins de les Dones de Negre 1, 2^a p., 08930, Barcelona, Spain</i>), Kevin Castelló Lux, Daiana Ferreira, Olha Skurikhina, Antonio Gianfranco Sabato, Juan Carlos Gonzalez-Rosillo, Alex Morata, Albert Tarancon Improved interface stability in NASICON-type solid Electrolytes with oxide and oxide-metal interlayers
12:00 - 12:30 1.2-12	<u>Nuria Vicente Agut</u> (<i>Universitat Jaume I, Chemical Engineering Department</i>) Developing Cold Sintered Li1-XAlxTi2-X(PO4)3 Electrolytes for All-Solid-State Batteries with a Deep Understanding of the Determining Kinetic Mechanisms
12:30 - 13:00 1.2-13	<u>Ainara aguadero</u> (<i>Instituto de Ciencia de Materiales de Madrid, ICMM-CSIC, C/Sor Juana Inés de la Cruz, 3, 28049 Madrid, Spain</i>) Enabling scalable processing of halides with high Li conduction
13:00 - 15:30	Lunch Break
	#AdvanceSSB 1.3 Chair: Ainara Aguadero
15:30 - 15:45 1.3-01	<u>Sergio Ferrer-Nicomedes</u> (<i>Universitat Jaume I, Chemical Engineering Department</i>), Andrés Mormeneo-Segarra, Nuria Vicente-Agut, Antonio Barba-Juan, Germà Garcia-Belmonte Cold Sintering of Li1.3Al0.3Ti1.7(PO4)3-based Composite Solid Electrolytes for Safer and Greener All-Solid-State Lithium Batteries
15:45 - 16:15 1.3-11	<u>Frédéric Le Cras</u> (<i>Université Grenoble Alpes, CEA, LITEN, Grenoble F-38054, France</i>), William Berthou, Maxime Legallais, Annie-Kim Landry, Rafael Bianchini Nuernberg, Brigitte Pecquenard Le Cras Development of thin film solid electrolytes: from conventional approaches to high-throughput experimentation
16:15 - 16:45 1.3-12	<u>Jedrzej Morzy</u> (<i>Laboratory for Thin Films and Photovoltaics, Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland</i>), Joel Casella, Moritz Futscher, Yaroslav Romanyuk Nanoscale investigations of metal fluoride conversion cathodes in thin film solid state batteries
16:45 - 17:15 1.3-13	<u>Julia Amici</u> (<i>Department of Applied Science and Technology, Politecnico di Torino, Italy</i>), Matteo Gandolfo, Mattia Longo, Daniele Versaci, Carlotta Francia, Silvia Bodoardo Polymer Based Electrolyte Systems, Towards Safer Lithium Metal Anodes
17:30 - 17:45	Announcement Call for Symposia MatsusSpring26

March 5th - Day 3 (Wednesday)

#AdvanceSSB 2.1	
Chair: Jędrzej Morzy	
09:00 - 09:30 2.1-11	<u>Melanie Finsterbusch-Rosen</u> (<i>Institute of Energy and Climate Research (IEK-1), Forschungszentrum Juelich GmbH, 52425 Juelich, Germany</i>), Martin Finsterbusch New Advances in LLZO Full-Cell Processing
09:30 - 09:45 2.1-01	<u>Timo Rabe</u> (<i>Quintus Technologies AB</i>) Perspective on Warm Isostatic Pressing for Mass Production of Solid-State Batteries
09:45 - 10:15 2.1-12	<u>Kun Joong Kim</u> (<i>Department of Chemistry, Technical University of Munich, Chair of Solid-State Electrolyte Chemistry, Germany</i>), Steffen Weinmann, Jennifer Rupp, Lucie Quincke, Samuel Merk Overcoming chemical incompatibility: Co-Firing of high-energy all ceramic cathodes for garnet-based solid-state batteries
10:15 - 10:25	Closing #AdvanceSSB
10:30 - 11:15	Coffee Break

MATSUS Spring 2025 Conference (MATSUSSpring25)

From halide perovskites to perovskite-inspired materials -Synthesis and Applications - #PeroMat

Sevilla, Spain, 2025 March 5th - 6th

Conference Chairs: Raquel Galian, Thomas Stergiopoulos and Paola Vivo

Conference Program

March 5th - Day 3 (Wednesday)	
08:50 - 09:00	Opening #PeroMat - Room Santa Cruz
	#PeroMat 1.1 Chair: Paola Vivo
09:00 - 09:30 1.1-I1	<u>Francesca De Rossi</u> (<i>CHOSE- Centre for Hybrid and Organic Solar Energy, Department of Electronics Engineering, University of Rome "Tor Vergata", Rome</i>) Flexible Perovskite Solar Cells for Indoor Applications
09:30 - 10:00 1.1-I2	<u>Rosario Vidal</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, Av. Vicent Sos Baynat, s/n, Castelló de la Plana, 12071 Spain</i>), Noora Lamminen, Ville Holappa, Jaume-Adrià Alberola-Borràs, Iván P. Franco, G. Krishnamurthy Grandhi Sustainability of Lead-Free Perovskite-Inspired Materials for Indoor Photovoltaics
10:00 - 10:15 1.1-O1	<u>Alexander Schleusener</u> (<i>Istituto Italiano di Tecnologia, via Morego 30, 16163 Genova, Italy</i>), Mehrdad Faraji, Roman Krahne Sequential Crystallization of Two-Dimensional Layered Perovskite Heterostructures
10:15 - 10:30 1.1-O2	<u>Martina Borreani</u> (<i>Optoelectronics Research Line, Istituto Italiano di Tecnologia, Via Morego 20, 16163 Genoa, Italy</i>), Alexander Schleusener, Roman Krahne Fabrication of High-Quality Two-Dimensional Layered Metal-Halide Perovskite Microcrystals
10:30 - 11:15	Coffee Break
	#PeroMat 1.2 Chair: Thomas Stergiopoulos
11:15 - 11:30 1.2-O1	<u>Simone Bruno</u> (<i>CNR Nanotec, Institute of Nanotechnology, Lecce, Italy</i>), Antonella Giuri, Rosanna Mastria, Marco Pugliese, Vincenzo Maiorano, Aurora Rizzo, Luisa De Marco Thermochromic Polymeric Composite Based on 2D Hybrid Organic-Inorganic Perovskite
11:30 - 12:00 1.2-I1	<u>Laura Herz</u> (<i>Department of Physics, University of Oxford, UK</i>) Optical probes of perovskite-inspired materials
12:00 - 12:30 1.2-I2	<u>Lorenzo Malavasi</u> (<i>Department of Chemistry and INSTM, University of Pavia, Italy</i>) Tuning Strategies to Engineer Chiral Metal Halides
12:30 - 12:45 1.2-O2	<u>Maria Maniadi</u> (<i>MOLTECH-Anjou, UMR 6200, CNRS, UNIV Angers, France</i>), Kostiantyn Tieriekhov, Olivier Ségut, Valérie Dupray, George Volonakis, Nicolas Mercier, Alexandre Abhervé Second-Harmonic Generation and Circular Dichroism Properties in Chiral 2D Double Halide Perovskites
12:45 - 15:30	Lunch Break
	#PeroMat 1.3 Chair: Raquel Galian
15:30 - 16:00 1.3-I1	<u>Lakshminarayana Polavarapu</u> (<i>CINBIO, Universidade de Vigo, Materials Chemistry and Physics Group, Dept. of Physical Chemistry, Campus Universitario Lagoas Marcosende, 36310 Vigo, Spain</i>) Metal Halide Crystals: Newly Emerged Chiroptical Materials
16:00 - 16:15 1.3-O1	<u>Rosanna Mastria</u> (<i>CNR NANOTEC - Istituto di Nanotecnologia, c/o Campus Ecotekne, Via Monteroni, 73100 Lecce, Italy;</i>), Annalisa Coriolano, Laura Polimeno, Antonio Fieramosca, Ilenia Viola, Daniele Sanvitto, Aurora Rizzo, Luisa De Marco The shape of perovskite single crystals: micro/nanostructures for photonics and optoelectronic applications.
16:15 - 16:30 1.3-O2	Jaime Bueno, Marta Zarzuela, Leo Rosado, Alberto Jiménez-Solano, Marta Quintanilla, Miguel Anaya, <u>Sol Carretero-Palacios</u> (<i>Instituto de Ciencia de Materiales de Madrid, ICMM-CSIC, C/Sor Juana Inés de la Cruz, 3, 28049 Madrid, Spain</i>) Advancing perovskite-based optoelectronics with plasmonic nanoparticles
16:30 - 16:45 1.3-O3	<u>Luca Angelo Betti</u> (<i>Department of Chemistry, University of Pavia, Italy</i>), Lisa Rita Magnaghi, Raffaella Biesuz, Lorenzo Malavasi, Aldo Bosetti Chemometric Design of Lanthanum based High Entropy Perovskite: In-depth Neutron Characterization

March 6th - Day 4 (Thursday)

#PeroMat 2.1 Chair: Raquel Galian	
09:00 - 09:15 2.1-01	<u>Griqorios Itskos</u> (<i>Department of Physics, Experimental Condensed Matter Physics Laboratory, University of Cyprus, Nicosia 1678, Cyprus</i>), Andreas Manoli, Paris Papagiorgis, Kushagra Gahlot, Kyriacos Georgiou, Emmanouil Lioudakis, Andreas Othonos, Loredana Protesescu Exciton Physics and Stimulated Emission in Tin Iodide Perovskite Nanostructures
09:15 - 09:45 2.1-11	<u>George Volonakis</u> (<i>Institut des Sciences Chimiques de Rennes, Université de Rennes</i>) Computational materials design for the next generation of energy perovskite-related materials.
09:45 - 10:15 2.1-12	<u>Giulia Longo</u> (<i>Universitat Politècnica de Valencia (UPV), Spain</i>) Double Perovskites and Chalcogenide Perovskites: Variations on the Theme.
10:15 - 10:30 2.1-02	<u>Seyede Maryam Mousavi</u> (<i>Department of Chemistry and Materials Science, Aalto University School of Chemical Engineering, Espoo, Finland</i>), Mostafa Othman, Fangxin Zou, Noora Lamminen, Hossein Baniasadi, Pedro Silva, Yujiao Dong, Christian wolff, Christophe ballif, Paola Vivo, Imran Asghar, Aicha Hessler, Jaana vapaavuori Improving the photo-stability of triple cation perovskite solar cells using chromophore-infused optically transparent Pectin/polymethyl methacrylate composite
10:30 - 11:15	Coffee Break
#PeroMat 2.2 Chair: Thomas Stergiopoulos	
11:15 - 11:30 2.2-01	<u>Anna Cabona</u> (<i>Nanochemistry Department, Italian Institute of Technology, Italy</i>), Stefano Toso, Andrea Griesi, Martina Rizzo, Michele Ferri, Pascal Rusch, Mirko Prato, Giorgio Divitini, Julia Perez - Prieto, Ilka Kriegel, Raquel Galian, Liberato Manna Synthesis, Growth Mechanism and Photocatalytic Properties of Bi/Bi ₁₃ S ₁₈ Br ₂ Nano-Dumbbell Heterostructures
11:30 - 12:00 2.2-11	<u>Aurora Rizzo</u> (<i>CNR NANOTEC – Istituto di Nanotecnologia, c/o Campus Ecotekne, Via Monteroni, 73100 Lecce, Italy;</i>) EXPLORING PEROVSKITE-POLYMER COMPOSITES: FROM SOLAR CELLS TO 3D PRINTED SCINTILLATORS
12:00 - 12:30 2.2-12	<u>Changzeng Ding</u> (<i>i-Lab & Printable Electronics Research Center, Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), Chinese Academy of Sciences (CAS), Ruoshui Road 398, Suzhou 215123, China.</i>), Ronald Österbacka, Chang-Qi Ma Ion motion in perovskite solar cells
12:30 - 12:40	Closing #PeroMat
17:30 - 19:00	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Numerical device modelling and SIMulation of SOLar cells and Light Emitting Diodes: methodologies and applications - #SIMUSOLED

Sevilla, Spain, 2025 March 5th

Conference Chairs: Juan A. Anta, Sandra Jenatsch and Sandheep Ravishankar

Conference Program

March 5th - Day 3 (Wednesday)	
08:50 - 09:00	Opening #SIMUSOLED - Room Prado
	SIMUSOLED 1.1 Chair: Juan A. Anta
09:00 - 09:15 1.1-02	<u>Juan Bisquert</u> (<i>Instituto de Tecnología Química ITQ (UPV-CSIC), Av. dels Tarongers, 46022, València, Spain.</i>), Enrique Balaguera Insight to perovskite solar cell degradation from the transient response
09:15 - 09:45 1.1-12	<u>Andreas Schiller</u> (<i>Fluxim AG, 8400 Winterthur, Switzerland</i>), Balthasar Blülle, Sandra Jenatsch, Miguel Angel Torre Cachafeiro, Firouzeh Ebadi, Nasim Kabir, Mostafa Othman, Christian Michael Wolff, Aïcha Hessler-Wyser, Christophe Ballif, Wolfgang Tress, Beat Ruhstaller Assessing the Influence of Illumination on Ion Conductivity in Perovskite Solar Cells
09:45 - 10:00 1.1-01	<u>Manuel Romero</u> (<i>Multifunctional Optical Materials Group, Institute of Materials Science of Seville (CSIC-US), C/Américo Vespucio 49, 41092 Sevilla, Spain</i>), Abhyuday Paliwal, Gabriel Lozano, Henk J. Bolink, Hernán Míguez Optimization of semitransparent perovskite solar cells
10:00 - 10:30 1.1-11	<u>Giles Richardson</u> (<i>University of Southampton</i>), Will Clarke, Petra Cameron, Matt Cowley, Alison Walker, Matt Wolf The physics of inverted hysteresis and intermediate frequency impedance features in perovskite solar cells
10:30 - 11:15	Coffee Break
	#SIMUSOLED 1.2 Chair: Antonio Jesus Riquelme Exposito
11:15 - 11:45 1.2-11	<u>Nicola Courtier</u> (<i>Department of Engineering Science, University of Oxford, United Kingdom</i>) Modelling and Simulation of the Impact of Ionic Defects on Perovskite Solar Cell Characteristics
11:45 - 12:00 1.2-01	<u>Melanie Micali</u> (<i>AMOLF Institute, Science Park 104, Amsterdam, 1098XG The Netherlands</i>), Raphaël François Lemerle, Anja Tiede, Anna Fontcuberta i Morral, Esther Alarcón Lladó Light and Carrier Management in Emerging Zn3P2 - based solar cells: A Numerical Simulation Approach
12:00 - 12:30 1.2-12	<u>Will Clarke</u> (<i>School of Mathematical Sciences, University of Southampton, Southampton, United Kingdom</i>), Petra Cameron, Giles Richardson Spectral Safari: a Tour Through the Zoo of Perovskite Solar Cell Impedance Spectra from the Perspective of the Drift-Diffusion Model
12:30 - 13:00 1.2-13	<u>Pilar Lopez Varo</u> (<i>Institut Photovoltaïque d'Île-de-France (IPVF), 18 Boulevard Thomas Gobert, Palaiseau, 91120, France.</i>) The Hallmark of Ion Migration in Perovskite Solar Cells
13:00 - 15:30	Lunch Break
	#SIMUSOLED 1.3 Chair: Sandra Jenatsch
15:30 - 16:00 1.3-11	<u>Antonio J. Riquelme</u> (<i>Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG-SyMMES</i>), Johan Liotier, Valid M. Mwalukuku, Quentin Huauilmé, Yann Kervella, Renaud Demadrille, Cyril Aumaître Data-driven modelling for electrolyte optimisation in dyesensitised solar cells and photochromic solar cells
16:00 - 16:15 1.3-01	<u>Catarina G Ferreira</u> (<i>POLIMA-Center for Polariton-driven Light-Matter Interactions, University of Southern Denmark</i>), Jani Lamminaho, Ananta Paul, Markus Babin, Nanna Lysgaard Andersen, Peter Behrendsdorff Poulsen, Sune Thorsteinsson, Joel D Cox, Morten Madsen Numerical Optimization of Structural Colored Interlayers for Building-Integrated Photovoltaics
16:15 - 16:45 1.3-12	<u>Mohammed Azzouzi</u> (<i>Department of Physics & Centre for Processable Electronics, Imperial College London, UK</i>), Hanbo Yang, Jenny Nelson Bayesian Inference of Excited State Properties of Organic Semiconductor Properties
16:45 - 17:15 1.3-13	<u>Noel Giebink</u> (<i>University of Michigan, Ann Arbor</i>) Modeling insight into OLED thermodynamics and degradation
17:15 - 17:25	Closing #SIMUSOLED

MATSUS Spring 2025 Conference (MATSUSSpring25)

Emerging chalcogenide materials for thin film photovoltaic applications - #ChalcoPV

Sevilla, Spain, 2025 March 5th - 6th

Conference Chairs: Giulia Longo and Lucy Whalley

Conference Program

March 5th - Day 3 (Wednesday)	
08:50 - 09:00	Opening #ChalcoPV - Room Triana
	#ChalcoPV 1.1 Chair: Giulia Longo
09:00 - 09:30	<u>Susan Schorr</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH</i>), Galina Gurieva, Max Avdeev
1.1-11	Negative thermal expansion in quaternary chalcogenide compound semiconductors
09:30 - 10:00	Yuancai Gong, Alex Jiménez-Arguijo, Joaquim Puigdollers, <u>Edgardo Saucedo</u> (<i>Emergning Thin Film PV Lab, MNT Group, Electronic Engineering Department, Universitat Politècnica de Catalunya (UPC)</i>)
1.1-12	All about new efficiency records on kesterite based solar cells
10:00 - 10:15	<u>Oliver Rigby</u> (<i>Department of Mathematics, Physics and Electrical Engineering, Northumbria University, Newcastle upon Tyne, NE1 8ST, U.K.</i>), Bethany Willis, Prabeesh Punathil, Michael Jones, Yongtao Qu, Lewis Jones, Elliot Woolley, Vincent Barrioz, Guillaume Zoppi, Neil Beattie
1.1-01	Life Cycle Assessment of Laboratory Scale CZTS Solar Cells
10:15 - 10:30	<u>Galina Gurieva</u> (<i>Structure and dynamics of Energy materials, Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany</i>), Maris Pilvet, Maxim Avdeev, Marit Kauk-Kuusik, Susan Schorr
1.1-02	Cd incorporation as a way to avoid Cu/Zn disorder in kesterites: the Kesterite-Stannite structural transition in Cu ₂ (Zn _{1-x} Cdx)SnS ₄
10:30 - 11:15	Coffee Break
	#ChalcoPV 1.2 Chair: Susan Schorr
11:15 - 11:45	<u>Lydia Wong</u> (<i>Nanyang Technological University, Singapore</i>)
1.2-11	Design of Emerging Chalcogenides for More Efficient Solar Harvesting
11:45 - 12:15	<u>Jon Major</u> (<i>University of Liverpool, UK</i>)
1.2-12	Electron and Hole Transport Layers for Sb ₂ Se ₃ Solar Cells
12:15 - 12:30	<u>Udari Wijesinghe</u> (<i>Northumbria University</i>), Giulia Longo, Oliver Hutter
1.2-01	Photovoltaic Efficiency Enhancement through Highly Crystalline Antimony Selenide Interface Engineering
12:30 - 12:45	<u>Raquel Caballero</u> (<i>Instituto de Óptica-CSIC, C/ Serrano 121, 28006 Madrid, Spain</i>), Victor Bonal, Marina García, Yudania Sánchez, Samira Khelifi, Beatriz Galiana, Nazaret Ruiz-Marín, Rosalia Serna
1.2-02	Sb-(Ge)-Se thin-films: New promising materials for PV application
12:45 - 15:30	Lunch Break
	#ChalcoPV 1.3 Chair: Oliver Rigby
15:30 - 16:00	<u>Jonathan Staaf Scragg</u> (<i>Department of Materials Science and Engineering, Solid State Physics, Uppsala University, Box 35, 75103 Uppsala, Sweden</i>), Sanna Jarl, Anders Holst, Jens Sjölund
1.3-11	Autonomous exploration of new multinary chalcogenides
16:00 - 16:15	<u>Prakriti Kayastha</u> (<i>Northumbria University</i>), Erik Fransson, Paul Erhart, Lucy Whalley
1.3-01	Octahedral tilt-driven phase transitions in BaZrS ₃ chalcogenide perovskite
16:15 - 16:30	<u>Will Tetlow</u> (<i>Northumbria University</i>), Giulia Longo, Marc Etherington, Oliver Hutter
1.3-02	Low-Temperature, Low-Environmental-Impact Synthesis of Barium Sulphide for Perovskite Applications
16:30 - 16:45	<u>Alina Senina</u> (<i>Leibniz Institute for Solid State and Materials Research, Helmholtzstr. 20, 01069 Dresden, Germany</i>), Anatol Prudnikau, Angelika Wrzesińska-Lashkova, Yana Vaynzof, Fabian Paulus
1.3-03	Cation exchange synthesis of AgBiS ₂ and AgSbS ₂ quantum dots for highly efficient solar cells

March 6th - Day 4 (Thursday)

	#ChalcoPV 2.1 Chair: Lucy Whalley
09:20 - 09:50 2.1-11	<u>THOMAS STERGIOPOULOS</u> (<i>Institute of Nanoscience and Nanotechnology, NCSR Demokritos, 15341, Aghia Paraskevi, Athens, Greece</i>) Poly- and nano-crystalline metal chalcogenides for optoelectronic applications
09:50 - 10:05 2.1-01	<u>Jake Forsyth-Hughes</u> (<i>Northumbria University</i>) EXPLORING BISMUTH SULFIDE FOR PHOTOVOLTAICS
10:05 - 10:20 2.1-02	<u>PONNADA Yallam Naidu</u> (<i>Department of Chemistry, Indian Institute of Technology Hyderabad, Kandi, Sangareddy-502285, Telangana, India</i>) The n/p/p Heterojunction Solar Cells with CZTS, Ag ₃ SbS ₃ , and a Carbon Interlayer
10:20 - 10:30	Closing #ChalcoPV
10:30 - 11:15	Coffee Break

MATSUS Spring 2025 Conference (MATSUSSpring25)

CO₂ electrocatalysis for sustainable fuels and chemicals - #CATSUS

Sevilla, Spain, 2025 March 5th - 6th

Conference Chairs: Carlota Bozal-Ginesta and Alessandro Senocrate

Conference Program

March 5th - Day 3 (Wednesday)	
08:50 - 09:00	Opening #CATSUS - Room Magnolia
	#CATSUS 1.1 Chair: Alessandro Senocrate
09:00 - 09:30 1.1-11	<u>Nishithan C Kani</u> (<i>Department of Physics, Surface Physics and Catalysis, Technical University of Denmark, Fysikvej, DK-2800 Lyngby, Denmark</i>), Elena Mayoral, Yu Qiao, Andrea Sartori, Jakob Drnec, Brian Seger Investigation of the transport of cations across various AEMs in an MEA electrolyzer using in-situ X-ray fluorescence spectroscopy
09:30 - 09:45 1.1-01	<u>Lucas Warmuth</u> (<i>Institute of Catalysis Research and Technology, Karlsruhe Institute of Technology, Karlsruhe, Germany</i>), Alain Rieder, Soma Vesztergom, Jakub Drnec, Stephan Pitter, Peter Broekmann Synchrotron WAXS analysis of CO ₂ RR: Pitfalls and advantages
09:45 - 10:00 1.1-02	<u>Henri Pelzer</u> (<i>Institute of Applied Sciences, Chemical Engineering Department, TU Delft</i>), Nikita Kobolov, David Vermaas, Tom Burdyny Salt Formation and Flooding in MEA Cells for CO ₂ Electrolysis under Industry-Relevant Temperatures
10:00 - 10:30 1.1-12	<u>Sophia Haussener</u> (<i>EPFL, School of Engineering, Institute of Materials, 1015 Lausanne, Switzerland</i>) Multi-Scale Modeling of Electrochemical CO ₂ Reduction
10:30 - 11:15	Coffee Break
	#CATSUS 1.2 Chair: Kevinjeorjios Pellumbi
11:15 - 11:45 1.2-11	<u>Beatriz Roldan Cuenya</u> (<i>Department of Interface Science, Fritz-Haber-Institute of the Max Planck Society, 14195 Berlin Germany</i>) Dynamic Evolution of Metal-N-C Single Atom Catalysts during the Electrocatalytic Reduction of CO ₂
11:45 - 12:00 1.2-01	<u>Jesse Kok</u> (<i>Department of ChemE, Delft University of Technology, Van der Maasweg 9, 2629 HZ Delft, the Netherlands</i>), Nikita Kolobov, Thomas Burdyny Demonstration of confinement and voltage homogeneity for stable CO ₂ electrolysis on copper electrodes
12:00 - 12:15 1.2-02	<u>Blaž Tomc</u> (<i>National Institute of Chemistry</i>), Marjan Bele, Nejc Hodnik Understanding the Mechanisms of Copper Catalyst Deactivation During Electrochemical CO ₂ Reduction
12:15 - 12:30 1.2-03	<u>Jian Liang Low</u> (<i>Bundesanstalt für Materialforschung und -prüfung (BAM)</i>), Asad Mehmood, Simon Dietzmann, Beate Paulus, Tim-Patrick Fellinger Assessing Intrinsic Activity Differences between NiN ₄ and CoN ₄ Sites towards CO ₂ Reduction using Structurally Comparable Ni-N-C and Co-N-C Electrocatalysts
12:30 - 15:30	Lunch Break
	#CATSUS 1.3 Chair: Nishithan C Kani
15:30 - 16:00 1.3-11	<u>Jan Rossmeisl</u> (<i>Department of Chemistry University of Copenhagen</i>) Catalysis on High Entropy Alloys
16:00 - 16:30 1.3-12	<u>Jehad Abed</u> (<i>Fundamental AI Research, Meta</i>) Bridging the gap between experiments and computational models for catalyst discovery
16:30 - 16:45 1.3-01	<u>Arielle Rieck</u> (<i>Bundesanstalt für Materialforschung und -prüfung (BAM)</i>), Asad Mehmood, Irina Schwarz, Dirk Weuster-Botz, Tim-Patrick Fellinger Precious-metal free electrocatalysts for a combined bio-electrochemical production of use chemicals from CO ₂
16:45 - 17:00 1.3-02	<u>Kevinjeorjios Pellumbi</u> (<i>Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT</i>), Kai Junge Puring, Ulf-Peter Apfel Crossing the dark forest of CO ₂ electrolysis with molecular electrocatalysts: Which route to take?
17:00 - 17:15 1.3-03	<u>Shuvojit Mandal</u> (<i>School of Materials Sciences, Indian Association for the Cultivation of Science, IN</i>), Praveen Kumar A Strategic Catalyst Modification for Facilitating Selective CO ₂ Reduction at Elevated Potentials

March 6th - Day 4 (Thursday)

#CATSUS 2.1	
Chair: Carlota Bozal-Ginesta	
09:00 - 09:15 2.1-01	<u>Kai Hetze</u> (<i>HIPOLE Jena (Helmholtz Institute for Polymers in Energy Applications Jena), Lessingstrasse 12-14, 07743 Jena, Germany, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH</i>), Konstantin Schutjajew, Martin Oschatz Enhancing CO ₂ Accessibility of Nitrogen-Rich Polymers by Formation of Porous Carbon-Composites for Electrocatalytic CO ₂ RR
09:15 - 09:30 2.1-02	<u>Tsvetelina MERDZHANOVA</u> (<i>IMD3-Photovoltaics, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany</i>), Thérèse CIBAKA, Oleksandr ASTAKHOV Solar-driven CO ₂ electroreduction with direct-coupled PV-EC device in realistic operating cycles
09:30 - 10:00 2.1-11	<u>Francesca Maria Toma</u> (<i>Institute of Functional Materials, Helmholtz Zentrum Hereon</i>) About microenvironments and stability in CO ₂ (photo)electroreduction
10:00 - 10:30 2.1-12	<u>Cao Thang Dinh</u> (<i>Department of Chemical Engineering, Queen's University, Kingston, ON K7L 3N6, Canada</i>) Reversible catalysts for stable electrochemical carbon dioxide conversion
10:30 - 11:15	Coffee Break
#CATSUS 2.2	
Chair: Cao Thang Dinh	
11:15 - 11:45 2.2-11	<u>Pelayo García de Arquer</u> (<i>ICFO - The Institute of Photonic Sciences</i>) Harnessing water in electrolysis towards improved performance
11:45 - 12:00 2.2-01	<u>Hesamoddin Rabiee</u> (<i>Department of Chemistry, Biochemistry and Pharmaceutical Sciences (DCBP), University of Bern, 3012 Bern, Switzerland</i>), Peter Broekmann Advanced Electrode Design for CO ₂ reduction from less pure CO ₂ sources
12:00 - 12:15 2.2-02	<u>Gerard Prats Vergel</u> (<i>Department of Chemical Engineering, Technical University Delft, The Netherlands</i>), Huan Mu, Jasper Biemolt, Nikita Kolobov, David Vermaas, Tom Burdyny Assessing the Long-term Stability of PGM-free Anodes in CO ₂ Electrolysers Using a Reverse-bias BPM
12:15 - 12:25	Closing #CATSUS
17:30 - 19:00	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Electrochemical Water Treatment - #ELECTROWAT

Sevilla, Spain, 2025 March 5th - 6th

Conference Chairs: Julio J. Lado, Cleis Santos and Ignacio Sirés Sadornil

Conference Program

March 5th - Day 3 (Wednesday)	
08:50 - 09:00	Opening #ELECTROWAT - Room Azalea
	#ELECTROWAT 1.1 Chair: Julio J. Lado
09:00 - 09:30	<u>Volker Presser</u> (<i>INM - Leibniz Institute for New Materials</i>)
1.1-I1	Electrochemical Lithium-ion separation
09:30 - 10:00	<u>Rafael Trócoli</u> (<i>Departamento Química Inorgánica e Ingeniería Química, Instituto Químico para la Energía y el Medioambiente (IQUEMA), Universidad de Córdoba, Córdoba 14071, Spain</i>), Victoria Carnero-Roldána, Alejandro López, Fabio La Mantia
1.1-I2	Batteries for metal recovery
10:00 - 10:15	<u>RAQUEL CASASOLA FERNÁNDEZ</u> (<i>IMDEA ENERGIA</i>), ALBA FOMBONA-PASCUAL, ENRIQUE GARCÍA-QUISMONDO HERRÁIZ, JESÚS PALMA DEL VAL,
1.1-O1	JULIO LADO GARRIDO Harnessing Faradaic Deionization in Battery Recycling: Challenges of using inorganic electrode materials for lithium recovery
10:15 - 10:30	<u>Victoria Carnero-Roldán</u> (<i>Universidad de Córdoba, Instituto Químico para la Energía y el Medioambiente (IQUEMA)</i>), Cleis Santos, Fabio La
1.1-O2	Mantia, Rafael Trócoli Critical Raw Material Recovery by a Flow-Through Electrochemical Cell: A Novel Waste Water Battery Recycling Approach
10:30 - 11:15	Coffee Break
	#ELECTROWAT 1.2 Chair: Ignacio Sirés Sadornil
11:15 - 11:30	<u>Alejandro López Chías</u> (<i>Universidad de Córdoba, Instituto Químico para la Energía y el Medioambiente (IQUEMA)</i>), Rafael Trócoli Jiménez,
1.2-O1	Álvaro Caballero Amores Electrochemical lithium recovery from end-of-life lithium-ion batteries via selective extraction process
11:30 - 12:00	<u>Louis de Smet</u> (<i>Advanced Interfaces & Materials, Wageningen University</i>)
1.2-I1	Polymer-based strategies to tune ion selectivity in electrochemical separations
12:00 - 12:30	<u>Sylwin Pawlowski</u> (<i>NOVA University Lisbon, Caparica, Portugal.</i>), Hafiz Saif, João Crespo
1.2-I2	Flow Electrode Capacitive Deionization: A Novel Approach for Lithium Recovery from End-of-Life Li-ion Batteries
12:30 - 12:45	<u>Alba Fombona-Pascual</u> (<i>IMDEA Energy Institute, Electrochemical Processes Unit, Spain</i>), Sergio Pinilla, Julio J. Lado, Jesús Palma
1.2-O2	Advanced Electrochemical Deionization: Challenges and Opportunities of Organic and Inorganic Electrode Materials in FDI
12:45 - 13:00	<u>Angelja Kjara Surca</u> (<i>National Institute of Chemistry, Hajdrihova 19, 1001 Ljubljana, Slovenia</i>), Leonard Moriau, Anja Logar, Luka
1.2-O3	Suhadolnik, Marjan Bele, Nejc Hodnik In situ Raman spectroelectrochemical study of Ir-based electrocatalysts for oxygen evolution reaction
13:00 - 15:30	Lunch Break
	#ELECTROWAT 1.3 Chair: Julio J. Lado
15:30 - 16:00	<u>William Tarpeh</u> (<i>Department of Chemical Engineering, Stanford University</i>)
1.3-I1	Wastewater Refining Catalysts and Processes for Electrochemical Nitrate Reduction to Ammonia
16:00 - 16:30	<u>Gonzalo Abellán</u> (<i>Institute of Molecular Science, University of Valencia, c/Catedrático José Beltrán Martínez 2, 46980 Paterna, Valencia, Spain</i>), Alvaro Seijas-Da Silva, Jorge Romero, Camilo Jaramillo, Youssra Diouane
1.3-I2	Two-Dimensional Layered Hydroxides for Electrochemical Applications
16:30 - 16:45	Ryo Mitsui, <u>Yihuang Wang</u> (<i>Toyota Technical Development Corporation</i>)
1.3-O1	Simulation of Distributed Hydrogen Systems Using a Water Electrolysis Cell Physical Model Expressing Transient Characteristics
16:45 - 17:00	Auguste Tetenoire, Arnaud Fihey, Corinne Lagrost, <u>Mikael Kepenekian</u> (<i>Univ Rennes, ENSCR, CNRS, ISCR – UMR 6226, F-35000 Rennes, France</i>)
1.3-O2	Covalent anchoring of macrocycles on metallic nanoparticles for electrocatalysis

March 6th - Day 4 (Thursday)

	#ELECTROWAT 2.1 Chair: Minghua Zhou
09:00 - 09:30	Ana J. Vega de Arma, Zulema Borjas, Abraham Esteve-Núñez, Juan Manuel Ortiz (<i>IMDEA Water Institute</i>)
2.1-11	BES-BioH2 System: Exploring the Potential of Urban Waste Water for Hydrogen Production Using Microbial Electrochemical Technology
09:30 - 10:00	<u>Raúl Berenguer</u> (<i>Instituto Universitario de Materiales, Departamento de Química Física, Universidad de Alicante UA, Apartado 99, 03080-Alicante, Spain</i>), Andrea Schievano, Juan Manuel Ortiz, Abraham Esteve-Núñez
2.1-12	Design of Carbon Materials for Electrochemical Water Treatment Technologies
10:00 - 10:15	<u>Keyvan Mirehbar</u> (<i>IMDEA Energy Institute, Electrochemical Processes Unit, Spain</i>), Ignasi Sires, Jesus Palma, Julio Lado
2.1-01	Nickel-manganese based anodes for efficient electrochemical oxidation of organic pollutants
10:15 - 10:30	<u>Lele Zhao</u> (<i>Laboratori d'Electroquímica dels Materials i del Medi Ambient, Departament de Ciència de Materials i Química Física, Secció de Química Física, Facultat de Química, Universitat de Barcelona, Martí i Franquès 1-11, 08028 Barcelona, Spain</i>), Sirés Ignasi
2.1-02	Electrocatalysts and heterogeneous catalysts for boosting the electro-Fenton process: Outstanding performance in wastewater treatment at neutral pH
10:30 - 11:15	Coffee Break
	#ELECTROWAT 2.2 Chair: Ignacio Sirés Sadornil
11:15 - 11:45	<u>Emmanuel Mousset</u> (<i>Nantes Université, ONIRIS, CNRS, GEPEA, UMR 6144, F-85000 La Roche-sur-Yon, France</i>)
2.2-11	Electrochemical process intensification for treatment and resource recovery in wastewater
11:45 - 12:15	<u>Sonia Lanzalaco</u> (<i>Chemical Engineering Department, Universitat Politècnica de Catalunya</i>)
2.2-12	Biopolymers & Electrochemistry: A powerful duo for sustainable development
12:15 - 12:45	<u>Minghua Zhou</u> (<i>Nankai University</i>), Ge Song, Jiana Jing, Pei Su
2.2-13	Novel Materials for Electrochemical Conversion of Emerging Contaminants
12:45 - 12:55	Closing #ELECTROWAT
17:30 - 19:00	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Post-Lithium Technologies toward Sustainable Batteries - #SusBatT

Sevilla, Spain, 2025 March 5th - 6th

Conference Chairs: Ivana Hasa, Nagore Ortiz Vitoriano and Manuel Souto

Conference Program

March 5th - Day 3 (Wednesday)	
08:50 - 09:00	Opening #SusBatT - Room Carmona
	#SusBatT 1.1 Chair: Nagore Ortiz Vitoriano
09:00 - 09:30 1.1-11	<u>Hamideh Darjazi</u> (<i>1 GAME Lab, Department of Applied Science and Technology (DISAT), Politecnico di Torino, C.so Duca degli Abruzzi, 24, 10129 Torino (Italy), and National Reference Center for Electrochemical Energy Storage (GISEL) - INSTM, Via G. Giusti 9, 50121 Firenze (Italy).</i>), Alessandro Piovano, Silvia Porporato, Leonardo Balducci, Giuseppina Meligrana, Giuseppe Antonia Elia, Claudio Gerbaldi An overview on recycled polymer binders -electrolytes for next-generation sustainable batteries
09:30 - 10:00 1.1-12	<u>Roza Bouchal</u> (<i>Department of Colloid Chemistry, Max-Planck Institute of Colloids and Interfaces, Am Mühlenberg 1, 14476 Potsdam, Germany</i>), Ibrahim Al Kathemi, Min Ge, Vishnu Arumughan, Eero Kontturi, Markus Antonietti Sustainable Electrolyte/Separator for Practical Aqueous Zinc Batteries
10:00 - 10:15 1.1-01	<u>Nagaraj Patil</u> (<i>IMDEA Energy Institute, Electrochemical Processes Unit, Spain</i>), Rebeca Marcilla Advancing Molecular Crowding Electrolytes for Aqueous Zinc-Based Energy Storage Systems
10:15 - 10:30 1.1-02	<u>Francesco Biscaglia</u> (<i>Università del Salento, Dipartimento di Ingegneria dell'Innovazione, Lecce</i>), Sabrina Di Masi, Claudio Mele, Alessio Mattia Gesualdo, Giuseppe Gigli, Arturo De Risi, Marco Milanese, Luisa De Marco Nanostructured MnO ₂ -based Gas Diffusion Electrodes for Rechargeable Zinc-air Batteries
10:30 - 11:15	Coffee Break
	#SusBatT 1.2 Chair: Manuel Souto
11:15 - 11:45 1.2-11	<u>Jan Bitenc</u> (<i>National Institute of Chemistry, Hajdrihova 19, 1001 Ljubljana, Slovenia</i>) Organic cathodes as an alternative pathway towards multivalent rechargeable batteries
11:45 - 12:15 1.2-12	<u>Moyes Araujo</u> (<i>Department of Engineering and Physics, Karlstad University, Sweden</i>) Organic Cathode Materials: From Basic Principles to AI-Driven Molecular Design
12:15 - 12:30 1.2-01	<u>Jonathan Caroni</u> (<i>CiQUS, Centro Singular de Investigación en Química Bioloxica e Materiais Moleculares, Departamento de Química-Física, Universidade de Santiago de Compostela, 15782, Santiago de Compostela, Spain</i>), Asia Patriarchi, Miguel Ángel Muñoz Márquez, Manuel Souto Electrochemical Performance of Anthraquinone-Based Covalent Organic Framework Cathode Material for Sodium-Ion Batteries
12:30 - 12:45 1.2-02	<u>Hakan Bildirir</u> (<i>IMDEA Energy Institute, Electrochemical Processes Unit, Spain</i>), Nagaraj Patil, Victor A. de la Peña O'Shea, Marta Liras, Rebeca Marcilla Low-cost Hypercrosslinked p-type Polymers as High-Performance Organic Cathode Materials
12:45 - 13:00 1.2-03	<u>Daniel Sharon</u> (<i>Institute of Chemistry, The Hebrew University of Jerusalem, 9190401, Jerusalem, Israel</i>) Addressing Challenges of Self-Discharge and Degradation in Organic-Based Aqueous Batteries
13:00 - 15:30	Lunch Break
	#SusBatT 1.3 Chair: Ivana Hasa
15:30 - 16:00 1.3-11	<u>Jelena Popovic-Neuber</u> (<i>University of Stavanger</i>) Electrochemistry of sustainable lithium and post-lithium battery materials
16:00 - 16:30 1.3-12	<u>Lee Johnson</u> (<i>School of Chemistry, University of Nottingham, UK</i>) Why rate performance is poor in the lithium-sulfur battery and the role of molecular catalysts
16:30 - 16:45 1.3-01	<u>Husam Alshareef</u> (<i>Materials Science and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal 23955-6900, Saudi Arabia</i>) Sustainable NH ₄ ⁺ Ion Battery by Electrolyte Engineering
16:45 - 17:00 1.3-02	<u>Begoña Acebedo</u> (<i>CIC energiGUNE, Basque Research and Technology Alliance (BRTA), Alava Technology Park, Albert Einstein 48, 01510 Vitoria-Gasteiz, Spain</i>) Towards a New Generation of Lithium Metal Batteries with Quasi-Anode-Free Negative Electrodes

March 6th - Day 4 (Thursday)

	#SusBatT 2.1 Chair: Ivana Hasa
09:00 - 09:30	<u>Maidier Zarrabeitia</u> (<i>Helmholtz Institute Ulm (HIU), Helmholtzstrasse 11, 89081 Ulm, Germany</i>)
2.1-I1	Identifying the key parameters of electroactive materials for Sodium- and Potassium-Batteries
09:30 - 10:00	<u>Alexey Koposov</u> (<i>Department of Chemistry, Centre for Materials Science and Nanotechnology, University of Oslo</i>)
2.1-I2	Conversion-alloying anode materials for Na-ion batteries: understanding performance using operando methods.
10:00 - 10:15	<u>Jesús Manuel Blázquez Moreno</u> (<i>Universidad de Córdoba, Instituto Químico para la Energía y el Medioambiente (IQUEMA)</i>), Ana Laura
2.1-O1	Páez Jerez, Alvaro Yamil Tesio, Almudena Benítez de la Torre, Alvaro Caballero Amores
	Room-Temperature Sodium-Sulfur Batteries with Simplified Sulfurized Polyacrylonitrile Cathodes for Long-Term Cycling Stability
10:15 - 10:30	<u>Paul Appel</u> (<i>Division 3.6 - Electrochemical Energy Materials, Bundesanstalt für Materialforschung und -prüfung (BAM), Unter den Eichen</i>
2.1-O2	44-46, 12203 Berlin)
	Designing Core-Shell Carbon Structures as High-Capacity Negative Electrodes for Sodium Ion Batteries
10:30 - 11:15	Coffee Break
	#SusBatT 2.2 Chair: Nagore Ortiz Vitoriano
11:15 - 11:45	<u>Lorenzo Stievano</u> (<i>CNRS Institut Charles Gerhardt Montpellier, UMR 5253</i>), Laure Monconduit
2.2-I1	Electronic Structure and Electrochemical Mechanisms in Electrode Materials for Potassium Batteries
11:45 - 12:15	<u>Maqali Gauthier</u> (<i>Université Paris-Saclay, CEA, NIMBE, LEEL, 91191 Gif-sur-Yvette Cedex, France</i>), Malaurie Paillot, Caroline Keller, Sophie
2.2-I2	Le Caër
	Aqueous Concentrated Electrolytes: Does Water Only Matter? The Case of Mg Based Aqueous Solutions
12:15 - 13:00	Roundtable Discussion
13:00 - 15:30	Lunch Break
	#SusBatT 2.3 Chair: Manuel Souto
15:30 - 16:00	<u>Nerea Casado</u> (<i>Polymat, University of the Basque Country UPV/EHU, 20018 Donostia-San Sebastian, Spain.</i>), David Mecerreyes
2.3-I1	Redox polymers for organic batteries
16:00 - 16:15	<u>Luise Sander</u> (<i>Bundesanstalt für Materialforschung und -prüfung (BAM)</i>), Robert Leonhardt, Juliane Scholl, Dominik Al-Sabbagh, Thorid
2.3-O1	Lange, Jonas Krug von Nidda, Tim-Patrick Fellinger
	Commercially Available Sodium-Ion Cells: Linking the Electrochemical Performance to Material and Electrode Properties
16:15 - 16:30	<u>Rosalba Rincón Ovalles</u> (<i>Wiley-VCH</i>)
2.3-O2	The Future is Open: Open Access, Open Data, Open Science
16:30 - 16:40	#Closing SUSBatT
17:30 - 19:00	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

New Generation Batteries, operando Characterization techniques and advanced Manufacturing - #NewGenBatt

Sevilla, Spain, 2025 March 5th

Conference Chairs: Maria Crespo and Pedro López-Aranguren

Conference Program

March 5th - Day 3 (Wednesday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #NewGenBatt - Room Estepa
	#NewGenBatt 1.2 Chair: Maria Crespo
11:25 - 11:55 1.2-11	<u>Rosalía Cid</u> (<i>Centre for Cooperative Research on Alternative Energies (CIC energiGUNE), Basque Research and Technology Alliance (BRTA), Alava Technology Park, Albert Einstein 48, 01510 Vitoria-Gasteiz, Spain</i>), Maider Elosua, Miren de Lasén, Pierre Lannelongue, Pedro López-Aranguren Unveiling Solid Electrolyte Interphase in solid-state batteries with Operando XPS
11:55 - 12:25 1.2-12	<u>Svetlana Menkin</u> (<i>Yusuf Hamied Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge, CB2 1EW, UK.</i>), J.T Simon, V. Sedajova, D. Tripathy, H.E. Smith, S.M. Clarke, C.P. Grey The effect of interface heterogeneity on zinc metal anode cyclability
12:25 - 12:55 1.2-13	<u>Yu Katayama</u> (<i>Osaka University, SANKEN (The Institute of Scientific and Industrial Research), Mihogaoka, Ibaraki 567-0047, Osaka, Japan</i>) Operando Infrared Spectroscopy to Probe Electrolyte-Electrode Interface of New Generation Batteries
12:55 - 15:20	Lunch Break
	#NewGenBatt 1.3 Chair: Pedro López-Aranguren
15:20 - 15:50 1.3-11	<u>Emilia Olsson</u> (<i>Advanced Research Center for Nanolithography</i>) Understanding the Interface in Alkali Metal Ion Batteries via Atomic Scale Modelling
15:50 - 16:20 1.3-12	<u>Florian Hausen</u> (<i>Institute of Energy Technologies, IET-1: Fundamental Electrochemistry, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany</i>) Operando Atomic Force Microscopy for Battery Materials
16:20 - 16:50 1.3-13	<u>Heather Au</u> (<i>Department of Chemical Engineering, Imperial College London, London, SW7 2AZ, UK</i>) Carbon Fibre Hosts for Sustainable Lithium-Sulfur Battery Electrodes
16:50 - 17:20 1.3-14	<u>Arnaud Demortière</u> (<i>CNRS, LRCS laboratory & RS2E battery Network, Amiens, France</i>), Fayçal Adrar, Nicolas Folastre, Junhao Cao, Kevyn Gallegos Moncayo, Justine Jean, Arash Jamali 4D-STEM & in situ ec-TEM to Study the Lithiation Dynamics in Battery Cathode Materials
17:20 - 17:30	Closing #NewGenBatt

MATSUS Spring 2025 Conference (MATSUSSpring25)

Emerging Inorganic Photoabsorbers: Beyond ABX₃ Perovskites - #NextGenSolar

Sevilla, Spain, 2025 March 6th - 7th

Conference Chairs: Nakita Noel, Jay Patel and Marcello Righetto

Conference Program

March 6th - Day 4 (Thursday)	
10:30 - 11:15	Coffee Break
15:20 - 15:30	Opening #NextGenSolar - Room Santa Cruz
	#NextGenSolar 1.3 Chair: Marcello Righetto
15:30 - 16:00	<u>Monica Morales-Masis</u> (<i>MESA+ Institute, University of Twente, 7500 AE Enschede, The Netherlands</i>) On the Vapor-Phase Growth of Novel Photo-absorbers with Complex Compositions
1.3-I1	
16:00 - 16:30	<u>Teresa Gatti</u> (<i>Electrochemistry Group, Department of Applied Science and Technology, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129-Turin, Italy</i>) Bismuth-based semiconductors for sustainable light-energy conversion
1.3-I2	
16:30 - 17:00	<u>Rafael Jaramillo</u> (<i>Massachusetts Institute of Technology, Cambridge, MA, USA</i>) Chalcogenide perovskite thin films for photovoltaics
1.3-I3	
17:00 - 17:15	<u>Stefania Riva</u> (<i>Condensed Matter Physics of Energy Materials, Division of X-ray Photon Science, Department of Physics and Astronomy, Uppsala University</i>), Soham Mukherjee, Corrado Comparotto, Sergei M. Butorin, Fredrik O.L. Johansson, Garima Aggarwal, Jonathan Scragg, Håkan Rensmo From electronic structure and materials chemistry to functionality in BaZrS ₃ thin films: a roadmap
1.3-O1	
17:15 - 17:30	<u>Jae Eun Lee</u> (<i>Department of Physics, Clarendon Laboratory, University of Oxford, Parks Road, Oxford, OX1 3PU, UK</i>), Marcello Righetto, Benjamin Putland, Siyu Yan, Michael Johnston, Henry Snaith, Laura Herz Impact of Charge Transport Layers on the Formation and Optoelectronic Properties of Co-evaporated Cu ₂ AgBiI ₆
1.3-O2	
17:30 - 19:00	Poster Session

March 7th - Day 5 (Friday)

08:30 - 08:55	Closing and Awards Ceremony
	#NextGenSolar 2.1 Chair: Nakita Noel
09:00 - 09:30	<u>Franziska Hegner</u> (<i>Technical University of Munich</i>)
2.1-11	CuTa ₂ N ₂ and ZrTa ₂ N ₃ : Ternary Nitrides as a Platform for Next-Generation Photoactive Materials
09:30 - 10:00	<u>Geoffroy Hautier</u> (<i>Dartmouth College</i>)
2.1-12	Computationally-driven discovery of new solar absorbers
10:00 - 10:30	<u>Sudip Chakraborty</u> (<i>Harish-Chandra Research Institute</i>)
2.1-13	Emerging Inorganic Photoabsorbers: Beyond ABX ₃ Perovskites
10:30 - 11:15	Coffee Break
	#NextGenSolar 2.2 Chair: Jay Patel
11:15 - 11:45	<u>Feng Wang</u> (<i>Materials Design Division Department of Physics, Chemistry and Biology (IFM) Linköping University, 581 83 Linköping, Sweden</i>), Fuxiang Ji, Feng Gao
2.2-11	Develop Halide Double Perovskites as Potential Photovoltaic Materials
11:45 - 12:15	<u>Thomas Bein</u> (<i>Department of Chemistry, Ludwig-Maximilians-Universität München, 81377 Munich, Germany</i>)
2.2-12	Emerging lead-free 2D- and 3D-perovskite-derived absorber materials
12:15 - 12:45	<u>Fabian Paulus</u> (<i>Institute for Materials Chemistry, Leibniz-Institute for Solid State and Materials Research (IFW) Dresden</i>)
2.2-13	Bismuth- and antimony-containing nanocrystals for future photovoltaics
12:45 - 13:00	<u>Michael Volokh</u> (<i>Department of Chemistry, Ben-Gurion University of the Negev, Beer-Sheva, 8410501, Israel.</i>)
2.2-01	Combining Inorganic Photoabsorbers with Porous Conductive Organic Layers for Photoelectrochemical Solar Fuel Production
13:00 - 13:10	Closing #NextGenSolar

MATSUS Spring 2025 Conference (MATSUSSpring25)

Advances in Nanocrystals: Fundamental approaches and technological perspectives - #NCAdv

Sevilla, Spain, 2025 March 6th - 7th

Conference Chairs: Clement Livache, Carmelita Rodà and Matteo Zaffalon

Conference Program

March 6th - Day 4 (Thursday)	
09:00 - 09:10	Opening #NCAdv - Room Nervión I-II
	#NCAdv 1.1 Chair: Sandrine Ithurria
09:10 - 09:40	<u>Liberato Manna</u> (<i>Nanochemistry, Istituto Italiano di Tecnologia, 16163 Genova, Italy</i>)
1.1-I1	Halide Perovskite Nanocrystals: Synthesis, Growth Mechanisms, Superstructures, Heterostructures
09:40 - 10:10	<u>Jonathan De Roo</u> (<i>Department of Chemistry, University of Basel, 4058 Basel, Switzerland</i>)
1.1-I2	Lanthanide doped core/shell oxide nanocrystals; from mechanistic insight to optical properties.
10:10 - 10:25	Mariam Kurashvili, Patrick von Schwerin, Lena S. Stickel, Jochen Feldmann, <u>Quinten A. Akkerman</u> (<i>Chair for Photonics and Optoelectronics, Nano-Institute Munich and Department of Physics, Ludwig-Maximilians-Universität (LMU), Königinstr. 10, 80539 Munich, Germany</i>)
1.1-O1	Efficient Energy Transfer from Quantum Dots to Closely-Bound Dye Molecules without Spectral Overlap
10:25 - 11:15	Coffee Break
	#NCAdv 1.2 Chair: Carmelita Rodà
11:15 - 11:45	<u>Sharon Horta</u> (<i>Postdoc, Institute of Science and Technology Austria</i>)
1.2-I1	Solid state diffusion in metal-semiconductors core-shell nanoparticle
11:45 - 12:15	Mariarosa Cavallo, Dario Mastrippolito, Erwan Bossavit, Pavel Dudin, Yoann Prado, Jose Avila, Emmanuel Lhuillier, <u>Debora Pierucci</u>
1.2-I2	(<i>Sorbonne Université, CNRS, Institut des NanoSciences de Paris, 75005 Paris</i>) Energy Landscape of Nanocrystal-Based Devices Revealed by Operando Photoemission Microscopy
12:15 - 12:30	<u>Mariarosa Cavallo</u> (<i>Sorbonne Université, CNRS, Institut des NanoSciences de Paris, 75005 Paris</i>), Sylvia Matzen, Thomas Maroutian, Yoann
1.2-O1	Prado, Jose Avila, Pavel Dudin, Debora Pierucci, Emmanuel Lhuillier Coupling Ferroelectric to Colloidal Nanocrystals as a Generic Strategy to Engineer the Carrier Density Landscape
12:30 - 15:30	Lunch Break
	#NCAdv 1.3 Chair: Matteo Zaffalon
15:30 - 15:45	<u>Loredana Protesescu</u> (<i>Zernike Institute for Advanced Materials, University of Groningen, Netherlands</i>)
1.3-O1	Emerging metal boride nanocrystals for applications in extreme environment
15:45 - 16:00	<u>Andrea Fratelli</u> (<i>Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, Via R. Cozzi 55, 20125 Milano, Italy</i>),
1.3-O2	Matteo L. Zaffalon, Emanuele Mazzola, Dmitry N. Dirin, Ihor Cherniukh, Clara Otero Martinez, Matteo Salomoni, Francesco Carulli, Francesca Rossi, Francesco Meinardi, Luca Gironi, Liberato Manna, Maksym V. Kovalenko, Sergio Brovelli Size Effects on Scintillation in Lead Halide Perovskite Nanocrystals
16:00 - 16:30	<u>SOMNATH MAHATO</u> (<i>Department of Physics, Indian Institute of Technology Kharagpur, Kharagpur- 721302, India</i>)
1.3-I1	Metal halide Perovskite Nanocrystals: Light Emitting and Scintillating Futures
16:30 - 16:45	<u>Xiaohe Zhou</u> (<i>University of Milano Bicocca</i>), Matteo L. Zaffalon, Andrea Fratelli, Francesca Cova, Francesca Rossi, Mengda He, Liang Li, Sergio Brovelli
1.3-O3	Emerging Applications of Perovskite
16:45 - 17:15	<u>Juan Ignacio Clemente</u> (<i>Departament de Química Física i Analítica, Universitat Jaume I, Av. Sos Baynat s/n, 12071 Castelló, Spain</i>), Jordi Llusar, Josep Planelles
1.3-I2	Colloidal Quantum Dot Molecules: Artificial H ₂ and H ₂ ⁺
17:30 - 19:00	Poster Session

March 7th - Day 5 (Friday)

08:30 - 08:55	Closing and Awards Ceremony
	#NCAdv 2.1 Chair: Matteo Zaffalon
09:00 - 09:15 2.1-01	<u>Chenger Wang</u> (<i>Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, via R. Cozzi 55, Milano 20125, Italy</i>), Francesco Carulli, Sergio Brovelli Cu-doped CdZnS/ZnS nano-scintillators for detection of neutrinoless double beta decay
09:15 - 09:45 2.1-11	<u>Ivo Tanghe</u> (<i>Department of Chemistry, Physics and Chemistry of Nanostructures Group, Ghent University, Belgium</i>), Servet Ataberk Cayan, Margarita Samoli, Dries Van Thourhout, Zeger Hens, Pieter Geiregat Towards Printable Advanced Light Sources across the Entire Spectrum
09:45 - 10:15 2.1-12	<u>Kaifeng Wu</u> (<i>Dalian Institute of Chemical Physics, Chinese Academy of Science</i>) Coherent manipulation of photochemical spin-triplet formation in quantum dot-molecule hybrid radical pairs
10:15 - 10:30 2.1-02	<u>Guy Whitworth</u> (<i>King's College London</i>), Carmelita Roda, Mariona Dalmases, Nima Taghipour, Miguel Dosil, Katerina Nikolaidou, Hamed Dehghanpour, Gerasimos Konstantatos Nanosecond Lasing in the Extended SWIR using PbS
10:30 - 11:15	Coffee Break
	#NCAdv 2.2 Chair: Clement Livache
11:15 - 11:30 2.2-01	<u>Tung Dang</u> (<i>Nanotechnology and Advanced Spectroscopy Team, C-PCS, Chemistry Division, Los Alamos National Laboratory, Los Alamos, NM 87545, USA</i>), Donghyo Hahm, Changjo Kim, Valerio Pinchetti, Victor Klimov Microdisk lasers using colloidal type-(I+II) quantum dots
11:30 - 12:00 2.2-11	<u>Aliaksei Horlach</u> (<i>Department of Electrical and Computer Engineering, Technion, Israel</i>) Supercoherence: Harnessing Long-Range Interactions to Preserve Collective Quantum Coherence in Disordered Systems
12:00 - 12:30 2.2-12	<u>Gabriele Raino</u> (<i>Institute of Inorganic Chemistry, Department of Chemistry and Applied Biosciences, ETH Zürich, CH-8093 Zürich, Switzerland</i>), Feld Leon, Simon C. Boehme, Maryna Bodnarchuk, Nuri Yadzani, Dan Oron, Maksym Kovalenko Phonon-driven wavefunction localization promotes room-temperature, pure single-photon emission in large organic-inorganic lead-halide perovskite quantum dots
12:30 - 12:45 2.2-02	<u>Seungho Lee</u> (<i>Institute of Science and Technology Austria, Am Campus 1, 3400 Klosterneuburg, Austria</i>), Daniel Balazs, Sharon Horta, Aiswarya Rayaroth Puthiyaveetil, Maria Ibáñez Reaction Precursor-Mediated Formation of Stable Supercrystals in Colloidal Nanocrystal Synthesis: PbTe Case
12:45 - 15:30	Lunch Break
	#NCAdv 2.3 Chair: Carmelita Roda
15:30 - 16:00 2.3-11	<u>Elena Shornikova</u> (<i>Experimental Physics 2, TU Dortmund University, D-44221 Dortmund, Germany</i>) Magneto-optics of colloidal nanocrystals: from ensemble to single-nanocrystal studies
16:00 - 16:30 2.3-12	<u>Sandrine Ithurria</u> (<i>Laboratoire de Physique et d'Etude des Matériaux, ESPCI-Paris, PSL Research University, Sorbonne Université Univ Paris 06, CNRS UMR 8213, 10 rue Vauquelin 75005 Paris, France.</i>) Surface chemistry in semiconductor NPLs: a tool to tune the optical properties
16:30 - 16:45 2.3-01	<u>Hossein Roshan</u> (<i>Photonic Nanomaterials, Istituto Italiano di Tecnologia, 16163, Genova, Italy</i>), Anatol Prudnikau, Dongxu Zhu, Luca De Trizio, Vladimir Lesniak, Liberato Manna, Francesco Di Stasio Infrared Optoelectronics based on Colloidal Nanocrystals
16:45 - 17:00 2.3-02	<u>Henri Lehouelleur</u> (<i>Laboratoire de Physique et d'Etude des Matériaux, ESPCI-Paris, PSL Research University, Sorbonne Université Univ Paris 06, CNRS UMR 8213, 10 rue Vauquelin 75005 Paris, France.</i>), Sandrine Ithurria Self-assembly of tartrate ligands on 2D semiconductor nanoplatelets for strong chiro-optical features
17:00 - 17:10	Closing #NCAdv

MATSUS Spring 2025 Conference (MATSUSSpring25)

Future of Metal Halide Perovskites: Fundamental Approaches and Technological Challenges - #PerFut25

Sevilla, Spain, 2025 March 6th - 7th

Conference Chairs: Annalisa Bruno and Pablo P. Boix

Conference Program

March 6th - Day 4 (Thursday)	
08:50 - 09:00	Opening #PerFut25 - Room Arenal II - III
	#PerFut25 1.1 Chair: Silvia Colella
09:00 - 09:30 1.1-13	<u>Christian Wolff</u> (<i>École Polytechnique Fédérale de Lausanne (EPFL), IEM, PV-Lab, Rue de la Maladière 71b, 2000, Neuchâtel, Switzerland</i>) Towards stable perovskite-silicon tandem solar cells: from nanometer- to wafer-scale
09:30 - 10:00 1.1-11	<u>Rosario Vidal</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, Av. Vicent Sos Baynat, s/n, Castelló de la Plana, 12071 Spain.</i>) Challenges and Opportunities in the Sustainable Development of Metal Halide Perovskites
10:00 - 10:30 1.1-12	<u>Yana Vaynzof</u> (<i>Leibniz Institute for Solid State and Materials Research (IFW) Dresden, 01069, Germany</i>) Can we eliminate toxic solvents from the processing of metal halide perovskites?
10:30 - 11:15	Coffee Break
	#PerFut25 1.2 Chair: Rosario Vidal
11:15 - 11:30 1.2-01	<u>Lauriane Scherrer</u> (<i>Laboratoire LuMin, CNRS, Université Paris-Sud, ENS Cachan, Université Paris-Saclay, 91405 Orsay Cedex, France</i>), Emmanuelle Deleporte, Jean Rousset, Iwan Zimmermann Development of an inorganic perovskite absorber deposited by slot-die coating on a large surface in ambient atmosphere
11:30 - 12:00 1.2-11	<u>Iván Mora-Seró</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, Av. De Vicent Sos Baynat, s/n 12071 Castelló, Spain</i>) Applications of Tin-based Halide Perovskites
12:00 - 12:30 1.2-12	<u>Trystan Watson</u> (<i>SPECIFIC, College of Engineering Swansea University</i>) Progress towards roll to roll perovskite modules
12:30 - 12:45 1.2-02	<u>Juanita Hidalgo</u> (<i>Department of Materials Science and Engineering, Massachusetts Institute of Technology</i>) Understanding end-of-life mechanisms of lead halide perovskites to improve long-term stability
12:45 - 13:00 1.2-03	<u>Kristina Geisler</u> (<i>Institute of Microstructure Technology (IMT) at KIT</i>), Ronja Pappenberger, Philip Scharfer, Faranak Sadegh, David B. Ritzer, Ulrich W. Paetzold Novel Drying Technique for Homogeneous Perovskite Thin-Film Formation within Large Area Slot-Die-Coated Monolithic Perovskite/Silicon Tandem Devices
13:00 - 15:30	Lunch Break
	#PerFut25 1.3 Chair: Annalisa Bruno
15:30 - 16:00 1.3-11	<u>Michele Sessolo</u> (<i>Institute of Molecular Science (ICMoI), University of Valencia, c/Catedrático José Beltrán 2, Paterna, 46980 Valencia, Spain.</i>) Dry processing of thin and thick perovskite layers for photodetectors
16:00 - 16:30 1.3-12	<u>Silvia Colella</u> (<i>CNR NANOTEC - c/o Dipartimento di Chimica, Università degli Studi di Bari Aldo Moro, Via Orabona 4, 70126 Bari, Italy</i>) Interface Engineering based on Plasma Processing for Perovskite Solar Cells
16:30 - 16:45 1.3-01	<u>Elena Siliavka</u> (<i>Chair for Emerging Electronic Technologies, Technical University of Dresden, Nöthnitzer Str. 61, 01187 Dresden, Germany</i>), Thalia Pandelides, Vladimir V. Shilovskikh, Angelika Wrzesinska-Lashkova, Zongbao Zhang, Ran Ji, Boris Rivkin, Yana Vaynzof Additive Engineering of Thermally Evaporated FAPbI ₃ Solar Cells
16:45 - 17:00 1.3-02	<u>Siyu Yan</u> (<i>Department of Physics, University of Oxford, Clarendon Laboratory, Parks Road, Oxford, OX1 3PU, UK</i>), Nakita Noel, Michael Johnston, Jay Patel, Jae Eun Lee, Laura Herz A Templating Approach to Controlling the Growth of Coevaporated Halide Perovskites
17:00 - 17:15 1.3-03	<u>Beatriz de Sola</u> (<i>Multifunctional Optical Materials Group, Institute of Materials Science of Seville (CSIC-US), C/Américo Vespucio 49, 41092 Sevilla, Spain</i>), Laura Calió, Juan F. Galisteo-López, Mauricio E. Calvo, Hernán Míguez Amplified spontaneous emission from perovskite quantum dots embedded in electron scavenging films.
17:15 - 17:30 1.3-04	<u>Victor Sagra</u> (<i>Instituto de Ciencia de los Materiales (ICMUV), Universitat de Valencia, 46980 Paterna, Spain</i>), Jaume Noguera, Miriam Mínguez, Teresa Ripolles, Rafael Abargues, Pablo Perez Boix Harnessing Water Chemistry for the in-situ Synthesis and Stabilization of CsPbBr ₃ Nanocrystals with near unity photoluminescence efficiency
17:30 - 19:00	Poster Session

March 7th - Day 5 (Friday)

08:30 - 08:55	Closing and Awards Ceremony
	#PerFut25 2.1 Chair: Pablo P. Boix
09:00 - 09:30	<u>Antonio Guerrero</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, 12006 Castelló, Spain.</i>)
2.1-11	Effect of external contacts in halide optoelectronic applications and memristors
09:30 - 10:00	<u>Ivan Scheblykin</u> (<i>NanoLund, Lund University, 22100 Lund, Sweden</i>)
2.1-12	Perovskite Memlumors – Exploiting Defects for Photonic Neuromorphic Computing
10:00 - 10:15	<u>Ignacio Sanjuán</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, 12006 Castelló, Spain.</i>), Naresh Kumar Pendyala, Alisha
2.1-01	Basheer Shamla, Antonio Guerrero In-depth Investigation on the Resistive Switching Behavior in Reliable Halide Perovskite Memristors Modified with a Buffer Layer.
10:15 - 10:30	Javier Castillo-Seoane, Juan Delgado-Alvarez, Lidia Contreras-Bernal, Jose Manuel Obrero-Perez, Xabier García-Casas, Francisco Javier
2.1-02	Aparicio, Teresa Cristina Rojas, Ana Borrás, Angel Barranco, <u>Juan Ramon Sanchez-Valencia</u> (<i>Institute of Materials Science of Seville, Spanish National Research Council – University of Seville, C. Américo Vesputio 49, Seville, Spain</i>) Glancing Angle Deposition of halide perovskites
10:30 - 11:15	Coffee Break
	#PerFut25 2.2 Chair: Annalisa Bruno
11:15 - 11:45	<u>Clara Aranda Alonso</u> (<i>Center for Nanoscience and Sustainable Technologies (CNATS). Department of Physical, Chemical and Natural Systems, Universidad Pablo de Olavide, Sevilla, Spain</i>)
2.2-11	Impedance Spectroscopy at the Low-frequency: Decoding Perovskite Ion Dynamics
11:45 - 12:15	<u>Francesca Brunetti</u> (<i>Centre for Hybrid and Organic Solar Energy (CHOSE). University of Rome Tor Vergata</i>)
2.2-12	Perovskite based photocapacitors as a route for self-powered IoT devices
12:15 - 12:30	<u>Mauricio Calvo Roggiani</u> (<i>Multifunctional Optical Materials Group, Institute of Materials Science of Seville (CSIC-US)</i>), Hernán Míguez,
2.2-02	Carlos Romero-Pérez Intense Blue Light Emitters and Responsive Materials From CSPbBr ₃ Nanocrystals Embedded in SiO ₂ Transparent Porous Films
12:30 - 12:45	<u>Ana Palacios Saura</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Hahn-Meitner-Platz 1, 14109 Berlin, Germany</i>), Joachim
2.2-01	Breternitz, Armin Hoell, Susan Schorr Influence of the Solvent in the Atomic Arrangement in MAPbI ₃ Precursor Solutions
12:45 - 15:30	Lunch Break
	#PerFut25 2.3 Chair: Pablo P. Boix
15:30 - 16:00	<u>Eva Unger</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, HySPRINT Innovation Lab, Kekuléstraße 5, 12489 Berlin, Germany</i>), Janardan Dagar, Pramila Patil, Arun Kumar, Maja Tomic, Anton Dzhong, Lennart Klaus Reb
2.3-11	Tracking process reproducibility of slot-die coated perovskite solar cells with systematic research data management
16:00 - 16:15	<u>Abinash Tiwari</u> (<i>Centre for Research in Nanotechnology and Science, IIT Bombay, 400076.</i>), Elsa John, Sumit Sharma, Aswani Yella
2.3-01	Electrochromic Behavior in Halide Perovskites: Toward Smart Windows and Displays
16:15 - 16:30	<u>Yihui Cai</u> (<i>Institute of Chemistry and Processes for Energy Environment and Health (ICPEES), CNRS University of Strasbourg, UMR 7515, 25 rue de Becquerel, Strasbourg Cedex 02, 67087, France</i>), Dominique Begin, Charles Sidhoum, Christophe Lefevre, Vasiliki Papaefthimiou,
2.3-02	Erik Elkaim, Pascal Boulet, Pierre Desgardin, Marie-France Barthe, Ricardo Helm, Werner Egger, Maik Butterling, Andreas Wagner, Spiros Zafeiratos, Damien Cianferani, Loic Mager, Catherine Corbel, Ovidiu Ersen, Clément Sanchez, Sylvie Begin-Colin Unveiling the Role of Surface Defects in Methylammonium Lead Iodide for Electromagnetic Wave Absorption via Mechanosynthesis
16:30 - 16:40	Closing #PerFut25

MATSUS Spring 2025 Conference (MATSUSSpring25)

Illuminating the Future: Advancements in Photon sources, Photodetectors, and Photonic Applications with 3D and low- dimensional metal halide perovskites - #PhotoPero

Sevilla, Spain, 2025 March 6th - 7th

Conference Chairs: Emmanuelle Deleporte, Blas Garrido and Juan P. Martínez Pastor

Conference Program

March 6th - Day 4 (Thursday)	
09:00 - 09:10	Opening #PhotoPero
	#PhotoPero 1.1 Chair: Juan P. Martínez Pastor
09:10 - 09:40 1.1-11	<u>Thomas Riedl</u> (<i>University of Wuppertal, Institute of Electronic Devices and Wuppertal Center for Smart Materials & Systems</i>), Cedric Kreusel, Naho Kurahashi, Fereshteh Vahabzad, Maximilian Schiffer, Ralf Heiderhoff CsPbCl ₃ - a promising gain medium for violet lasers
09:40 - 09:55 1.1-01	José María Viaña, Carlos Romero-Pérez, Mauricio Calvo, <u>Gabriel Lozano</u> (<i>Multifunctional Optical Materials Group, Institute of Materials Science of Seville (CSIC-US), C/Américo Vespucio 49, 41092 Sevilla, Spain</i>), Hernán Míguez Synergistic Integration of Phosphor Nanoparticles and Perovskite Lead Halide Nanostructures for Tunable White Light Generation
09:55 - 10:25 1.1-12	<u>Tze Chien Sum</u> (<i>Physics and Applied Physics, Nanyang Technological University (NTU), Singapore</i>) Perovskite Quantum Emitters
10:30 - 11:15	Coffee Break
	#PhotoPero 1.2 Chair: Emmanuelle Deleporte
11:15 - 11:45 1.2-11	Nguyen Ha My Dang, Simone Zanotti, Celine Chevalier, Gaëlle Trippé-Allard, Emmanuel Drouard, Dario Gerace, Emmanuelle Deleporte, Christian Seassal, <u>Hai Son Nguyen</u> (<i>Univ Lyon, Ecole Centrale de Lyon, INSA Lyon, Université Claude Bernard Lyon 1, CPE Lyon, CNRS, INL, UMR5270, Ecully 69130, France</i>) Polaritonic Metasurface Based on Halide Perovskite
11:45 - 12:15 1.2-12	<u>Felix Deschler</u> (<i>Institute for Physical Chemistry, Universität Heidelberg</i>) Ultrafast Spin Dynamics in Chiral Metal-Halide Perovskites
12:15 - 12:45 1.2-13	<u>Alexandre Abhervé</u> (<i>MOLTECH-Anjou, UMR 6200, CNRS, UNIV Angers, France</i>), Maria Maniadi, Kostiantyn Tieriekhov, Nicolas Mercier, Anil Kumar, Tapan Kumar Das, Jacky Even, Claudine Katan, Mikaël Kepenekian Chiral Halide Perovskite Materials for Optoelectronic and Spintronic Applications
12:45 - 15:30	Lunch Break
	#PhotoPero 1.3 Chair: Blas Garrido
15:30 - 16:00 1.3-11	Sandra Soriano Díaz, Jaume Noguera Gómez, Juan P. Martínez Pastor, Pablo P. Boix, Rafael Abargues, <u>Isaac Suárez</u> (<i>Instituto de Ciencia de los Materiales (ICMUV), Universitat de Valencia, 46980 Paterna, Spain</i>) MAPbBr ₃ -Ni(AcO) ₂ nanocomposite waveguides
16:00 - 16:30 1.3-12	<u>Carole Diederichs</u> (<i>Laboratoire de Physique de l'ENS, Université PSL, CNRS, Sorbonne Université, Université Paris Cité</i>), Zakaria Said, Marina Cagnon Trouche, Christophe Voisin, Yannick Chassagneux Cavity Quantum Electrodynamics with Individual Perovskite Nanocrystals Coupled to a Fibered Microcavity
16:30 - 16:45 1.3-01	Zher Ooi, Guadalupe Vega, Shenyue Nie, Alberto Jimenez-Solano, Krzysztof Galkowski, Piotr Nyga, Sam Stranks, <u>Miguel Anaya</u> (<i>Department of Chemical Engineering and Biotechnology, University of Cambridge, United Kingdom</i>) Angular control in Perovskite LEDs and photodetectors by photonics
17:30 - 19:00	Poster Session

March 7th - Day 5 (Friday)

08:30 - 08:55	Closing and Awards Ceremony
	#PhotoPero 2.1 Chair: Blas Garrido
09:00 - 09:15 2.1-01	<u>Junaid Khan</u> (MIND-IN2UB, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franquès 1, 08028 Barcelona (Spain)), Júlia Marí Guaita, Kenneth Lobo, Giovanni Vescio, Joshua Forero, Sergi Hernández, Albert Cirera, Blas Garrido Effect of annealing temperature on the properties of inkjet printed CsPbBr ₃ nanocrystal inks.
09:15 - 09:45 2.1-11	<u>Esther Alarcon-Llado</u> (Center for Nanophotonics, AMOLF, The Netherlands) Hyperuniform photonic architectures for efficient ultrathin photovoltaics
09:45 - 10:15 2.1-12	<u>Stefania Cacovich</u> (Institut Photovoltaïque d'Île-de-France (IPVF), UMR 9006, CNRS, Ecole Polytechnique - IP Paris, Chimie Paristech - PSL, Palaiseau, 91120, France) Rapid and Noise-Resilient Mapping of Photogenerated Carrier Lifetime in Halide Perovskite Thin Films
10:15 - 10:30 2.1-02	<u>Giovanni Vescio</u> (MIND-IN2UB, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franquès 1, 08028 Barcelona (Spain)), Albert Cirera, Sergi Hernández, Vladimir Chyrvony, Isaac Suarez, Juan Pastor Martinez, Blas Garrido Inkjet-printed FASnI ₃ photodetectors for flexible and sustainable optoelectronics: pioneering lead-free solutions
10:30 - 11:15	Coffee Break
	#PhotoPero 2.2 Chair: Juan P. Martínez Pastor
11:15 - 11:30 2.2-01	<u>Azhar Ali Ayaz PIRZADO</u> (Institut de Chimie et Procédés pour l'Energie, l'Environnement et la Santé (ICPEES), UMR-7515, CNRS-Université de Strasbourg, Strasbourg 67087, France.), Yihui CAI, Thomas FIX, Dominique BEGIN, Sylvie Begin-Colin Mechanosynthesis of MAPbI ₃ @Graphite composites for visible-light photodetectors
11:30 - 12:00 2.2-11	<u>Albert Cirera</u> (MIND-IN2UB, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franquès 1, 08028 Barcelona (Spain)), Giovanni Vescio, Sergi Hernández, Blas Garrido Inkjet Printed Perovskite LEDs: Approaches, Limitations, and Perspectives
12:00 - 12:15 2.2-02	Joshua D. Forero, Giovanni Vescio, Júlia Marí, Blas Garrido, Albert Cirera, <u>Sergi Hernández</u> (MIND, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franquès 1, E-08028, Barcelona, Spain.) Fabrication and Characterization of Inkjet-Printed CsCu ₂ I ₃ Perovskite UV Photodetectors
12:15 - 12:30 2.2-03	<u>Zhongcheng Yuan</u> (Linköping University, Sweden), Chunxiong Bao, Sai Bai, Feng Gao Interfacial reactions facilitated high performance perovskite LEDs and multifunctional displays
12:30 - 15:30	Lunch Break
	#PhotoPero 2.3 Chair: Emmanuelle Deleporte
15:30 - 16:00 2.3-11	<u>Daniele Cortecchia</u> (Department of Industrial Chemistry, University of Bologna) Two-dimensional perovskites for lasing: the importance of compositional and structural engineering
16:00 - 16:15 2.3-01	<u>Roshini Jayabalan</u> (Institute of Physics, University of Augsburg, 86159 Augsburg, Germany), Girish Kakkepalaya Hanumantharaju, Arup Sarkar, Fengshuo Zu, Theresa Hettiger, Marcus Scheele, Norbert Koch, Denis Adrienko, Wolfgang Brütting Improving hole injection into CsPbBr ₃ nanocrystal LEDs by ligand engineering
16:15 - 16:30	
16:30 - 16:40	Closing #PhotoPero

MATSUS Spring 2025 Conference (MATSUSSpring25)

Halide perovskites for quantum technologies - #PeroQuant25

Sevilla, Spain, 2025 March 6th - 7th

Conference Chairs: Grigorios Itskos, Claudine Katan and Gabriele Raino

Conference Program

March 6th - Day 4 (Thursday)	
10:30 - 11:15	Coffee Break
11:15 - 11:25	Opening #PeroQuant25 - Room Triana
	#PeroQuant25 1.2 Chair: Maksym Kovalenko
11:25 - 11:55	<u>Kaifeng Wu</u> (<i>Dalian Institute of Chemical Physics, Chinese Academy of Sciences</i>)
1.2-11	Manipulation of spin coherence in lead halide perovskite quantum dots
11:55 - 12:25	<u>Philippe Tamarat</u> (<i>Laboratoire Photonique, Numérique et Nanosciences (LP2N) Institut d'Optique Graduate School, CNRS & Université de Bordeaux</i>)
1.2-12	Quantum optical properties of single perovskite nanocrystals
12:25 - 12:40	<u>Kaouther Tlili</u> (<i>Université de Carthage, Faculté des Sciences de Bizerte, LR01ES15 Laboratoire de Physique des Matériaux : Structure et Propriétés, 7021 Zarzouna, Bizerte, Tunisia.</i>), Maria Chamarro, Kais Boujdaria, Christophe Testelin
1.2-01	Exciton in Halide Perovskite Nanoplatelets: Finite Confinement and Dielectric Effect in Effective Mass Approximation
12:40 - 15:30	Lunch Break
	#PeroQuant25 1.3 Chair: Grigorios Itskos
15:30 - 16:00	<u>Taehee Kim</u> (<i>ETH Zürich, Department of Chemistry and Applied Biosciences, Switzerland</i>), Jeong Hyun Han, Ryeong Myeong Kim, Mariia Svyrydenko, Ki Tae Nam, Gabriele Raino, Maksym Kovalenko
1.3-11	Chiral Quantum Light Emission from Achiral Perovskite Quantum Dots
16:00 - 16:30	<u>Aditya Mohite</u> (<i>Department of Chemical and Biomolecular Engineering, Rice University, Houston, TX 77005</i>)
1.3-12	Overcoming the surface paradox: Buried perovskite quantum dots in wide-bandgap perovskite thin films
16:30 - 17:00	<u>Sascha Feldmann</u> (<i>Laboratory for Energy Materials, EPFL</i>)
1.3-13	Novel chiroptical probes to track spin & light polarization in space & time in emerging semiconductors
17:30 - 19:00	Poster Session

March 7th - Day 5 (Friday)

08:30 - 08:55	Closing and Awards Ceremony
	#PeroQuant25 2.1 Chair: Quinten Akkerman
09:00 - 09:30 2.1-11	<u>Jacky even</u> (<i>Univ Rennes, INSA Rennes, CNRS, Institut FOTON - UMR 6082, Rennes, France</i>), Simon thebaud, Xu Zeli, Laurent Pedesseau, Marios Zacharias, Mikael Kepenekian, Georges Volonakis, Claudine Katan Insights into electron-lattice coupling, excitonic polarons and lattice polymorphism in 3D halide perovskites
09:30 - 10:00 2.1-12	<u>Zeger Hens</u> (<i>Physics and Chemistry of Nanostructures group (PCN), Ghent University, Krijgslaan 281, Gent 9000, Belgium</i>), Isabella Wagner, Kai Chen, Justin Hodgkiss, Pieter Geiregat Exciton and biexciton polarons in colloidal CsPbBr ₃ nanoplatelets
10:00 - 10:15 2.1-01	Miri Kazes, <u>Dekel Nakar</u> (<i>Department of Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovot 7610001, Israel</i>), Ihor Cherniukh, Maryna I. Bodnarchuk, Leon G. Feld, Chenglian Zhu, Mariia Svyrydenko, Daniel Amgar, Gabriele Rainò, Maksym V. Kovalenko, Dan Oron Observation of Three-Photon Cascaded Emission from Triexcitons in Giant CsPbBr ₃ Quantum Dots at Room Temperature and Multiexciton Dependence on Blinking State
10:15 - 10:30 2.1-02	<u>Xuyang Lin</u> (<i>LP2N - Institut d'Optique, Université de Bordeaux & CNRS</i>), Mathias Staunstrup, Jitendra-nath Acharyya, Jean-baptiste Trebbia, Philippe Tamarat, Brahim Lounis Low-background resonant three-photon excitation of a single colloidal perovskite nanocrystal
10:30 - 11:15	Coffee Break
	#PeroQuant25 2.2 Chair: Carole Diederichs
11:15 - 11:45 2.2-12	<u>Zhongcheng Yuan</u> (<i>Department of Physics, Chemistry and Biology (IFM), Linköping University, Linköping, SE-58183, Sweden</i>), Chunxiong Bao, Henry Snaith, Feng Gao Applications of Perovskite Light-Emitting Diodes
11:45 - 12:00 2.2-01	<u>Florian von Toperczer</u> (<i>Werkstoffe der Elektrotechnik & CENIDE, Universität Duisburg-Essen, Bismarckstraße 81, 47057 Duisburg, Germany</i>), Kseniia Shcherbak, Ihor Cherniukh, Maryna Bodnarchuk, Maksym V. Kovalenko, Gerd Bacher Electrical Control of Single CsPbBr ₃ Nanorod Emission
12:00 - 12:30 2.2-11	<u>Simon C. Boehme</u> (<i>ETH Zürich, Department of Chemistry and Applied Biosciences, Switzerland</i>), Chenglian Zhu, Leon G. Feld, Nuri Yazdani, Tan P.T. Nguyen, Viktoriia Morad, Ihor Cherniukh, Dmitry N. Dirin, Miri Kazes, Nadav Frenkel, Dan Oron, Maryna I. Bodnarchuk, Claudine Katan, Jacky Even, Gabriele Rainò, Maksym V. Kovalenko Assessing, suppressing, and utilizing dynamic disorder in lead-halide perovskite quantum dots for quantum-light applications
12:30 - 12:45 2.2-02	<u>Laura Calì</u> (<i>Multifunctional Optical Materials Group, Institute of Materials Science of Seville (CSIC-US), C/Américo Vespucio 49, 41092 Sevilla, Spain</i>), Clara Bujalance, Dmitry N. Dirin, David O. Tiede, Juan F. Galisteo-López, Johannes Feist, Francisco J. García-Vidal, Maksym V. Kovalenko, Hernán Míguez Polariton Dynamics in Perovskite Quantum Dot Solids
12:45 - 12:55	Closing #PeroQuant25

MATSUS Spring 2025 Conference (MATSUSSpring25)

Chiral Hybrid Organic-Inorganic Metal Halides : Synthesis - Theory - Applications - #Charm

Sevilla, Spain, 2025 March 6th

Conference Chairs: Lorenzo Malavasi and Alessandro Stroppa

Conference Program

March 6th - Day 4 (Thursday)	
08:45 - 09:00	Opening #Charm - Room Giralda III
	#Charm 1.1 Chair: Lorenzo Malavasi
09:00 - 09:30 1.1-11	<u>Yana Vaynzof</u> (<i>Leibniz Institute for Solid State and Materials Research (IFW) Dresden, 01069, Germany</i>) Controlling phase purity and microstructure in chiral 2D perovskites
09:30 - 10:00 1.1-12	<u>Beatriz Martín-García</u> (<i>CIC nanoGUNE, ES</i>), Yaiza Asensio, Houman Bahmani Jalali, Sergio Marras, Marco Gobbi, Fèlix Casanova, Aurelio Mateo-Alonso, Francesco Di Stasio, Iván Rivilla, Luis E. Hueso Exploring Circularly Polarized Photoluminescence from Bulk to Exfoliated Flakes in Chiral Hybrid Organic-Inorganic Manganese Perovskites
10:00 - 10:30 1.1-13	<u>Adriana Pietropaolo</u> (<i>University of Catanzaro</i>) Free-Energetics, Nucleation Kinetics and Circularly Polarized light Emission in Chiral Hybrid Perovskites
10:30 - 11:15	Coffee Break
	#Charm 1.2 Chair: Alessandro Stroppa
11:15 - 11:30 1.2-01	<u>Clarissa Coccia</u> (<i>Department of Chemistry and INSTM, University of Pavia, via Taramelli 16, Pavia, 27100, Italy</i>), Marco Moroni, Massimo Boiocchi, Marta Morana, Doretta Capsoni, Alessio Porta, Giulia Folpini, Annamaria Petrozza, Edoardo Mosconi, Lorenzo Malavasi ENGINEERING BONDING NETWORK IN CHIRAL METAL HALIDES THROUGH LIGAND DESIGN
11:30 - 11:45 1.2-02	<u>Davide Mauri</u> (<i>University of Pavia and INSTM</i>), Marco Moroni, Clarissa Coccia, Edoardo Mosconi, Lorenzo Malavasi Computational and Experimental Studies on Bi and Sb Containing Chiral Metal Halides for ChirOptoelectronic Applications
11:45 - 12:15 1.2-11	<u>Muskan Nabi</u> (<i>CNR - Institute for SuPerconductors, INnovative materials, and devices Italy</i>), Alessandro Stroppa Ferromagnetic chiral hybrid organic-inorganic perovskites
12:15 - 12:45 1.2-12	<u>Shuxia Tao</u> (<i>Computational Materials Physics, Applied Physics, Eindhoven University of Technology, the Netherlands.</i>) Twisting light and spin by chiral perovskites: towards a unified theory
12:45 - 15:30	Lunch Break
	#Charm 1.3 Chair: Lorenzo Malavasi
15:30 - 16:00 1.3-11	<u>Marco Moroni</u> (<i>Department of Chemistry, University of Pavia, Italy</i>) Chiral hybrid perovskites and their derivatives: unlocking the functional behavior through composition and crystal structure tuning
16:00 - 16:30 1.3-12	<u>Juan Jose Palacios</u> (<i>Departamento de Física Teórica de la Materia Condensada and Condensed Matter Physics Center (IFIMAC), Universidad Autónoma de Madrid, Madrid 28049, Spain</i>) Density functional theory based computation of current-induced spin polarization on chiral systems
16:30 - 16:45	Closing #Charm
17:30 - 19:00	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

Sustainability of halide perovskites - #SUPER

Sevilla, Spain, 2025 March 6th

Conference Chairs: Francesca Brunetti, Iris Visoly-Fisher and Lukas Wagner

Conference Program

March 6th - Day 4 (Thursday)	
08:50 - 09:00	Opening #SUPER - Room Giralda V
	#SUPER 1.1 Chair: Iris Visoly-Fisher
09:00 - 09:30	<u>Jason Baxter</u> (<i>Department of Chemical and Biological Engineering, Drexel University</i>)
1.1-I1	Potential Environmental Impacts of Perovskites: (1) Cation Selection and (2) Pb Leachate From Hypothetical Module Breakage Events
09:30 - 10:00	<u>Ian Marius Peters</u> (<i>Helmholtz-Institute Erlangen-Nuremberg for Renewable Energy (IET-2), Forschungszentrum Jülich</i>)
1.1-I2	Advancing Sustainability through Circular Recycling of Perovskite Solar Cells
10:00 - 10:15	<u>Abhinandan Patra</u> (<i>CHOSE, Centre for Hybrid Organic Solar Energy, Department of Electronic Engineering, University of Rome, Tor Vergata, Via del Politecnico 1, 000133, Roma, Italy</i>), Francesca Brunetti, Samyuktha Noola, Emanuele Calabrò, Matteo Bonomo, Claudia Barolo, Francesca De Rossi, Chandra Sekhar Rout
1.1-O1	Seamless Integration of MXene Microsupercapacitors and Carbon Perovskite Solar Cells for Next-Generation Photosupercapacitors
10:15 - 10:30	<u>Azhar Ali Ayaz PIRZADO</u> (<i>Institut de Chimie et Procédés pour l'Energie, l'Environnement et la Santé (ICPEES), UMR-7515, CNRS-Université de Strasbourg, Strasbourg 67087, France.</i>), Taylan KARAKOC, Sergey PRONKIN, Sylvie BEGIN-COLIN
1.1-O2	Mechanosynthesis of lead-free halide perovskites for supercapacitor applications
10:30 - 11:15	Coffee Break
	#SUPER 1.2 Chair: Iris Visoly-Fisher
11:15 - 11:45	Zonglong Zhu, <u>Francesco Vanin</u> (<i>Department of Chemistry, City University of Hong Kong</i>)
1.2-I1	Unlocking the Durability of Halide Perovskite Solar Cells: The Role of Interface Engineering
11:45 - 12:15	Matthew Davies, <u>Rodrigo Garcia-Rodriguez</u> (<i>SPECIFIC IKC, Materials Science and Engineering, Faculty of Science and Engineering, Swansea University</i>), Pavlina Kalyva, Tia Ansell, Karen Villalobos, Charlotte Thmopson, Favour Ibezim, Trystan Watson, Emmanuel Pean
1.2-I2	Advancing Sustainable Materials and Processes for Perovskite Solar Cells through Photochemical Characterisation
12:15 - 12:30	<u>Federico Locardi</u> (<i>Dipartimento di Chimica e Chimica Industriale, Università degli Studi di Genova, Via Dodecaneso 31, 16146 Genova, Italy</i>), Davide Pratolongo, Marta Campolucci, Marco Vocciant, Emmanuela Di Giorgio, Chiara Lambruschini, Liberato Manna
1.2-O1	CsPbX ₃ (X = Cl, Br, I) nanocrystals synthesized in green solvent
12:30 - 15:30	Lunch Break
	#SUPER 1.3 Chair: Francesca Brunetti
15:30 - 16:00	<u>Annalisa Bruno</u> (<i>School of Materials Science and Engineering, Nanyang Technological University, 50 Nanyang Technological University, Singapore 639798, Singapore</i>)
1.3-I1	From Scalable Solar Cells to Quantum Wells: Changing Perovskite Processes for Green Energy Applications
16:00 - 16:30	<u>Christina Kamaraki</u> (<i>OxfordPV</i>)
1.3-I2	Leveraging Sunlight: Accelerating the development of high efficiency PVSK/Si solar technology
16:30 - 16:40	Closing #SUPER
17:30 - 19:00	Poster Session

MATSUS Spring 2025 Conference (MATSUSSpring25)

In situ/operando characterization of electrochemical energy materials with synchrotron X-ray techniques - #Operax

Sevilla, Spain, 2025 March 6th

Conference Chairs: Carlos Escudero and Juan Jesús Velasco Vélez

Conference Program

March 6th - Day 4 (Thursday)	
08:50 - 09:00	Opening #Operax - Room Estepa
	#Operax 1.1 Chair: Carlos Escudero
09:00 - 09:30 1.1-11	<u>Lucia Aballe</u> (<i>ALBA Synchrotron Light Facility, Spain</i>), Jordi Arbiol, Esther Barrena, Caterina Biscari, Joan Casas, Ana Belén Martínez, Gonzalo Merino, Aitor Mugarza, Carmen Ocal, Sergio Vicente In-situ correlative facility for advanced energy materials at the ALBA Synchrotron
09:30 - 10:00 1.1-12	<u>Carlo Marini</u> (<i>ALBA Synchrotron Light Facility, Carrer de la Llum 2-26, 08290, Cerdanyola del Valles, Spain</i>), Carlos Escudero, Eduardo Villalobos-Portillo, Ilaria Lucentini, Jordi Prat Albert, Giovanni Agostini BL16 NOTOS: an X-ray absorption and diffraction beamline for operando battery studies at ALBA
10:00 - 10:15 1.1-01	<u>Tristan Petit</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH (HZB)</i>), Namrata Sharma, Faidra Amargianou, Peer Bärmann, Bin Wu, Markus Weigand Scanning X-ray microscopy for the in situ characterization of nanomaterials in water
10:15 - 10:30 1.1-02	<u>Jordi Fraxedas</u> (<i>Catalan Institute of Nanoscience and Nanotechnology (ICN2)</i> , <i>CSIC and BIST, Campus UAB, Bellaterra, 08193 Barcelona, Spain</i>), Olga Muntada, Jéssica Casandra Ramírez, Federico Capone, Rémi Dedryvère, Benedikt Lassalle-Kaiser, Denis Céolin, Jean-Pascal Rueff, María José Esplandiú, Francesc Pérez-Murano HAXPES in liquid cells using optimized microfabricated silicon nitride membranes
10:30 - 11:15	Coffee Break
	#Operax 1.2 Chair: Lucia Aballe
11:15 - 11:45 1.2-11	<u>María Escudero Escribano</u> (<i>ICREA Professor, Catalan Institute of Nanoscience and Nanotechnology (ICN2)</i>) In-situ investigations of electrocatalytic reduction reactions to produce renewable fuels and chemicals
11:45 - 12:15 1.2-12	<u>Rosa Arrigo</u> (<i>School of Science, Engineering and Environment, University of Salford, Manchester M5 4WT, UK</i>) Exploring the Why and How of Catalyst Morphology in CO ₂ Reduction by Copper Oxide Using In Situ Analysis
12:15 - 12:45 1.2-13	Daniela Mendoza, Si-Thanh Dong, Baptiste Maurice, Elodie Anxolabéhère-Mallart, Marc Robert, <u>benedikt Lassalle</u> (<i>Synchrotron SOLEIL, L'Orme des Merisiers, 91190 Saint-Aubin, France</i>) In Situ X-ray Absorption Spectroscopy : a Complementary Tool for Molecular Electrochemistry
12:45 - 13:00 1.2-01	<u>Ilargi Napal Azcona</u> (<i>Università degli Studi di Trieste, Physics Department, P.le Europa 1, 34127 Trieste, Italy</i>), Matteo Bisetto, Simone Dal Zilio, Federico Salvador, Davide Benedetti, Manuela Bevilaqua, Silvia Nappini, Elena Magnano In-Situ Soft X-ray Absorption Spectroscopy for the study of the stability of copper NPs during CO ₂ Reaction Reduction
13:00 - 15:30	Lunch Break
	#Operax 1.3 Chair: Juan Jesús Velasco Vélez
15:30 - 16:00 1.3-12	<u>Peter Strasser</u> (<i>Technical University Berlin, Straße des 17. Juni 124 10623 Berlin, Germany</i>) Mechanistic aspects of electrolytic water splitting in acid and alkaline
16:00 - 16:30 1.3-11	<u>M. Rosa Palacin</u> (<i>Institut de Ciència de Materials de Barcelona, ICMAB-CSIC, Campus UAB, 08193 Bellaterra, Spain</i>) Operando XRD and electrode dynamics in blended electrode materials for Li-ion batteries
16:30 - 16:45 1.3-01	<u>Laura Simonelli</u> (<i>ALBA Synchrotron Light Facility, Carrer de la Llum 2-26, 08290, Cerdanyola del Valles, Spain</i>), Oleg Usoltsev, Shehab E. Ali, Andrea Sorrentino, Hyeonseon Choi, Matthias Kuenzel, Stefano Passerini, Dino Tonti Operando multi-edge XAS to unlock the Co removal effect in Li- and Mn rich NMC cathodes
16:45 - 17:00 1.3-02	Cheng Liu, Wenhai Wang, Ashley P. Black, Vlad Martin Diaconescu, Krzysztof Matlak, Lorenzo Stievano, Andrea Sorrentino, Laura Simonelli, <u>Dino Tonti</u> (<i>Institut de Ciència de Materials de Barcelona (ICMAB)</i> , <i>CSIC, Campus UAB, 08193 Bellaterra, Spain</i>) The Elusive Mechanism in Rechargeable Aqueous Zn-MnO ₂ Batteries Studied by Ex-Situ and Operando X-Ray Absorption and Microscopy
17:00 - 17:15 1.3-03	<u>Cristina Flox</u> (<i>Instituto de Ciencia de Materiales de Barcelona (ICMAB-CSIC)</i> , <i>Campus UAB, 08193 Bellaterra, Barcelona, Spain</i>), Dino Tonti, Laura Simonelli, Nieves Casañ-pastor, Juan Manuel Pérez Rodríguez Exploration of polyoxometalates-based electrolytes for redox flow batteries
17:15 - 17:25	Closing #Operax

MATSUS Spring 2025 Conference (MATSUSSpring25)

Emerging Radiation Detectors - #NextDetectors

Sevilla, Spain, 2025 March 6th - 7th

Conference Chairs: Miguel Anaya and Laura Basiricò

Conference Program

March 6th - Day 4 (Thursday)	
17:30 - 19:00	Poster Session
March 7th - Day 5 (Friday)	
08:30 - 08:55	Closing and Awards Ceremony
08:45 - 09:00	Opening #NextDetectors - Room Giralda V
	#NextDetectors 1.1 Chair: Miguel Anaya
09:00 - 09:30	<u>Matt Wilson</u> (<i>Technology Department, UKRI - Science and Technology Facilities Council</i>) X-ray Detector Requirements, Challenges and Opportunities for Scientific Applications
1.1-11	
09:30 - 09:45	<u>Vitalii Bartosh</u> (<i>Laboratory of Inorganic Chemistry, Department of Chemistry and Applied Biosciences, ETH Zürich, Switzerland</i>), Gebhard J.
1.1-01	Matt, Kostiantyn Sakhatskyi, Andrii Kanak, Yuliia Kominko, Lorenzo J. A Ferraresi, Sergii Yakunin, Maksym Kovalenko High-spatial-resolution X-ray imaging with directly integrated, melt-cast CsPbBr ₃ detectors
09:45 - 10:00	<u>Bekir Türedi</u> (<i>Laboratory of Inorganic Chemistry, Department of Chemistry and Applied Biosciences, ETH Zürich, Switzerland</i>), Gebhard J.
1.1-02	Matt, Kostiantyn Sakhatskyi, Vitalii Bartosh, Sergii Yakunin, Maksym Kovalenko Unity Charge Extraction in Almost 1 mm Thick Perovskite Single Crystals for High-Performance Zero-Bias X-Ray Detectors
10:00 - 10:30	<u>Angelo Monguzzi</u> (<i>Scintillation properties of hybrid fast emitting materials containing high-Z elements. Angelo Monguzzi Department of Materials Science, University of Milano-Bicocca, Via R. Cozzi 55, 20125 Milano (ITA)</i>)
1.1-12	Scintillation properties of hybrid fast emitting materials containing high-Z elements.
10:30 - 11:15	Coffee Break
	#NextDetectors 1.2 Chair: Angelo Monguzzi
11:15 - 11:45	<u>Ilaria Fratelli</u> (<i>University of Bologna, Department of Physics and Astronomy</i>) Organic Semiconductor and Perovskite Thin Films for Proton Detection
1.2-11	
11:45 - 12:00	<u>Yi-Teng Huang</u> (<i>Inorganic Chemistry Laboratory, Department of Chemistry, University of Oxford, South Parks Road, Oxford OX1 3QR, UK</i>), Robert Hoyer
1.2-01	Fast Near-Infrared Photodetectors Based on Nontoxic AgBiS ₂
12:00 - 12:15	<u>Abigail Seddon</u> (<i>LICSEN, NIMBE, CEA, CNRS, Université Paris-Saclay, CEA Saclay 91191 Gif-sur-Yvette Cedex, France</i>)
1.2-02	Project MULANS: Multi-layered Nano Scintillators
12:15 - 12:30	<u>Francisco Yubero</u> (<i>Institute of Materials Science of Seville, Spanish National Research Council - University of Seville, C. Américo Vespucio 49, Seville, Spain</i>), Jorge Gil-Rostra, Javier Ferrer-Fernandez, Agustín R González-Elipe
1.2-03	Energy-Sensitive Ion-and Cathode-Luminescent Radiation-Beam Monitors Based on Multilayer Thin-Film Design
12:30 - 13:00	<u>Sergio Brovelli</u> (<i>Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, via R. Cozzi 55, Milano 20125, Italy</i>)
1.2-12	Progress and prospects of lead halide perovskite nanoscintillators
13:00 - 15:30	Lunch Break
	#NextDetectors 1.3 Chair: Laura Basiricò
15:30 - 16:00	<u>Silvia Colella</u> (<i>CNR-NANOTEC Istituto di Nanotecnologia, Via Orabona 4, 70125 Bari, Italy</i>) Highly stable perovskite-based x-ray detectors through the use of polymeric template
1.3-11	
16:00 - 16:15	<u>Sema Sarisozen</u> (<i>Institute of Physics and Astronomy, University of Potsdam, Karl-Liebknecht-Straße 24-25, D-14476 Potsdam-Golm</i>), Anne-Catherine Lehn, Gonul Ofkeli, Matthias Rössle, Alexander von Reppert, Sercan Ozen, Matthias Hartlieb, Olena Maslyanchuk, Dieter Neher, Felix Lang
1.3-01	Enhancing X-ray Detection Performance of Perovskite Embedded Membrane Through Polymer Additive
16:15 - 16:25	Closing #NextDetectors