

## International Conference on Hybrid and Organic Photovoltaics (HOPV25)

**Roma, Italy, 2025 May 12th - 14th**

**Conference organizers: Filippo De Angelis, Francesca Brunetti and Claudia Barolo**

### Conference Program

| May 12th - Day 1 (Monday) 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| 08:15 - 09:00               | <b>Registration</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 08:40 - 09:00               | <b>Opening - Room Colosseo</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                             | <p><b>Session 1A - Room Colosseo</b><br/>Chair: Filippo De Angelis</p> <p>09:00 - 09:30<br/>Colosseo-K1 <u>Michael Graetzel</u> (<i>Ecole Polytechnique Federale de Lausanne (EPFL)</i>)<br/>Templating the crystallization of perovskite films for high PV performance.</p> <p>09:30 - 10:00<br/>Colosseo-K2 <u>Laura Herz</u> (<i>Department of Physics, University of Oxford, UK</i>)<br/>Optical Probes of Metal Halide Perovskites for Photovoltaic Applications</p> <p>10:00 - 10:25<br/>Colosseo-I1 <u>Alex Ien</u> (<i>Department of Materials Science and Engineering, City University of Hong Kong, Hong Kong SAR, P.R. China</i>)<br/>Printable Organic and Perovskite Solar Cells for Clean Energy</p> <p>10:25 - 10:50<br/>Colosseo-I2 <u>Annalisa Bruno</u> (<i>School of Physical and Mathematical Science &amp; School of Materials Science Engineering &amp; Energy Research Institute @ NTU Nanyang Technological University, 50 Nanyang Avenue, Singapore, 639798 Singapore</i>)<br/>Enhancing Perovskite Device Performance through Scalable Thermal Evaporation Methods</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 10:50 - 11:30               | <b>Coffee Break</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                             | <p><b>Session 1B1 - Tandem PV - Room Fontana Di Trevi</b><br/>Chair: Christian Wolff</p> <p>11:30 - 11:50<br/>Trevi-IS1 <u>Thomas Riedl</u> (<i>University of Wuppertal, Institute of Electronic Devices and Wuppertal Center for Smart Materials &amp; Systems</i>)<br/>The Stability of Organic Solar Cells in Perovskite/Organic Tandems</p> <p>11:50 - 12:10<br/>Trevi-IS2 <u>Soo-jin Moon</u> (<i>Hanwha QCells, Pangyo R&amp;D center, South Korea</i>)<br/>Perovskite/Si tandem solar cells: From Lab Breakthroughs to Commercialization</p> <p>12:10 - 12:25<br/>Trevi-O1 <u>Erica Magliano</u> (<i>CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, Tor Vergata University of Rome, via del Politecnico 1, 00133, Rome</i>), Francesco Di Giacomo, Harshavardhan Reddy Sathy, Shirin Pourmottagh, Gemma Giliberti, Giuseppe Ammirati, Francesca Zarotti, Iurie Usatii, Marco Della Noce, Lucia V. Mercaldo, Paola Delli Veneri, Aldo Di Carlo<br/>Solution-Processed Metal-Oxide Nanoparticles To Prevent The Sputtering Damage In Perovskite-based Tandem Solar Cells</p> <p>12:25 - 12:40<br/>Trevi-O2 <u>Philipp Tockhorn</u> (<i>Helmholtz-Zentrum Berlin for Materials and Energy GmbH, 12489 Berlin, Germany</i>), Sebastian Berwig, Yeonghun Yun, Isabella Taupitz, Kevin Prince, Philippe Holzhey, Florian Riesebeck, Stepan Demchysyn, Christiane Becker, Steve Albrecht<br/>Reduction of optical and electrical losses in all-perovskite tandem solar cells</p> <p>12:40 - 12:55<br/>Trevi-O3 <u>Xuzheng Liu</u> (<i>Light Technology Institute (LTI) at Karlsruhe Institute of Technology (KIT), Karlsruhe, Engesserstr. 13, 76131, Germany</i>), Mohammad Gholipoor, Benjamin Hacene, Petermann Julian, Lingyi Fang, Renjun Guo, Ulrich Wilhelm Paetzold<br/>Enhanced charge carrier management for perovskite/silicon tandem solar cells</p> <p>12:55 - 13:10<br/>Trevi-O4 <u>Muhammad Fareed U Din Masood</u> (<i>Fraunhofer Institute for Solar Energy Systems ISE, Germany</i>), Georgios Loukeris, Clemens Baretzky, Audrey Elizabeth Gillen, Kaleb Strahinger, Uli Würfel, Markus Kohlstädt, Minasadat Heydarian<br/>Assessment of annealing strategies for surface passivation layers in wide band gap perovskite solar cells</p> |
|                             | <p><b>Session 1B2 - New concepts toward sustainable new generation PV -Room Vittorio Emanuele</b><br/>Chair: Zonglong Zhu</p> <p>11:30 - 11:50<br/>Emanuele-IS1 <u>Shuzi Hayase</u> (<i>Infor-Powered Energy System Research Center, The University of Electro-Communications</i>)<br/>Thermal Stability of Sn-based Perovskite Solar Cells</p> <p>11:50 - 12:10<br/>Emanuele-IS2 <u>Lukas Wagner</u> (<i>Physics of Solar Energy Conversion, Department of Physics, University Marburg, Germany</i>), Ian Marius Peters, Annick Anctil, Matthew Davies, Jiska de Groot, Li Wang, Robert Pietzcker, Ned Ekins-Daukes, Jan Christoph Goldschmidt<br/>Paradigm-shifts for sustainable multi-TW photovoltaics</p> <p>12:10 - 12:25<br/>Emanuele-O1 <u>Linde van de Ven</u> (<i>NWO-Institute AMOLF, Science Park 104, 1098 XG Amsterdam, The Netherlands</i>), Erik Garnett<br/>Sn-based perovskites from a stable intermediate</p> <p>12:25 - 12:40<br/>Emanuele-O2 <u>Mahboubeh Hadadian</u> (<i>Department of Mechanical and Materials Engineering, University of Turku, Vesilinnantie 5, 20500 Turku, Finland</i>), Elena S. Akulenko, Maryam Esmailzadeh, Rustem Nizamov, Kati Miettunen<br/>Recycling Perovskite Solar Cells: A Green Solution-Based Approach for Reviving Devices</p> <p>12:40 - 12:55<br/>Emanuele-O3 <u>Daniel Augusto Machado de Alencar</u> (<i>Department of Chemistry, NIS and INSTM Reference Centre, Università degli Studi di Torino, Via Pietro Giuria 7, Torino, 10125 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<br/>Towards Eco-conscious Perovskite Solar Cells: Sustainable Material Use, Innovative Synthesis, and Green-Focused Processing</p> <p>12:55 - 13:10<br/>Emanuele-O4 <u>Donia Fredi</u> (<i>Dracula Technologies, France, 26000 Valence (FR)</i>)<br/>High-performance organic photovoltaic modules for various indoor application</p>                                                                                                                                                                                                                                                      |
|                             | <p><b>Session 1B3 - Organic PV - Room Trastevere</b><br/>Chair: Guillaume Wantz</p> <p>11:30 - 11:50<br/>Trastevere-IS1 Jan Bruder, Karen Fischer, Jonas Armleder, Alexander Czopiak, Holger Röhm, <u>Alexander Colsmann</u> (<i>Karlsruhe Institute of Technology, Material Research Center for Energy Systems, Strasse am Forum 7, 76131 Karlsruhe, Germany</i>)<br/>Organic Solar Cells fabricated from Eco-Friendly Nanoparticle Dispersions</p> <p>11:50 - 12:10<br/>Trastevere-IS2 <u>Vida Engmann</u> (<i>University of Southern Denmark, SDU CAPE</i>)<br/>Vitamins for stable non-fullerene organic solar cells</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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| 12:10 - 12:25<br>Trastevere-01                                                                                             | <p><u>FLAVIA RIGHI RIVA</u> (<i>SpecX-Lab, I.S.M.-C.N.R., Via del Fosso del Cavaliere 100, 00133, Roma, Italy</i>), Amanda Generosi, Marco Guaragno, Emanuela Mangiacapre, Sergio Brutti, Michael Wagner, Andreas Distler, Hans-Joachim Egelhaaf, Barbara Paci</p> <p>Addressing the Stability of Semitransparent Organic Solar Cells via in-situ Investigation of bulk/interface Properties under Stress Conditions</p>                                                                             |
| 12:25 - 12:40<br>Trastevere-02                                                                                             | <p><u>Lorenzo Catini</u> (<i>Department of Chemistry, University of Oxford, Oxford, UK</i>), Jack Ovens, Luke Hanley, Claudia Tait</p> <p>Insights into Charge Transport and Recombination in Organic Solar Cells Through Electrically Detected Magnetic Resonance</p>                                                                                                                                                                                                                               |
| 12:55 - 13:10<br>Trastevere-03                                                                                             | <p><u>Nicola Sangiorgi</u> (<i>Institute of Science, Technology and Sustainability for Ceramics, National Research Council of Italy (ISSMC-CNR), Via Granarolo 64, 48018 Faenza (RA) Italy.</i>), Alex Sangiorgi, Stefano Nejrotti, Simone Galliano, Ana Yancy Segura Zarate, Nadia Barbero, Matteo Bonomo, Luca Rivoira, Mery Malandrino, Frédéric Sauvage, Claudia Barolo, Alessandra Sanson</p> <p>Seawater-based electrolytes for Dye-Sensitized Solar Cells</p>                                 |
| <p><b>Session 1B4 - Material design and modelling - Room Colosseo</b><br/>Chair: Mariachiara Pastore</p>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 11:30 - 11:50<br>Colosseo-IS1                                                                                              | <p>Simona Fantacci, <u>Filippo De Angelis</u> (<i>University of Perugia</i>)</p> <p>20+ years of calculations on Dye Sensitized Solar Cells</p>                                                                                                                                                                                                                                                                                                                                                      |
| 11:50 - 12:10<br>Colosseo-IS2                                                                                              | <p><u>Luca Gregori</u> (<i>Department of Chemistry, Biology and Biotechnology, University of Perugia, via Dell'Elce di Sotto 8, Perugia, 06123, Italy</i>), Daniele Meggiolaro, Filippo De Angelis</p> <p>Reducing p-Doping of Tin Halide Perovskites by Trivalent Cation Doping</p>                                                                                                                                                                                                                 |
| 12:10 - 12:25<br>Colosseo-O1                                                                                               | <p><u>Virginia Carnevali</u> (<i>Laboratory of Computational Chemistry and Biochemistry, Institute of Chemical Sciences and Engineering, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland.</i>), Lorenzo Agosta, Vladislav Slama, Nikolaos Lempesis, Andrea Vezzosi, Ursula Röthlisberger</p> <p>Nanoscale size effects in <math>\alpha</math>-FAPbI<sub>3</sub> evinced by large-scale ab initio simulations</p>                                                              |
| 12:25 - 12:40<br>Colosseo-O2                                                                                               | <p><u>Andrea Vezzosi</u> (<i>Ecole Polytechnique Federale de Lausanne (EPFL)</i>), Virginia Carnevali, Vladislav Slama, Michael Graetzel, Ursula Röthlisberger</p> <p>Computational Insights Into Organic Halide Perovskite Solar Devices Incorporating Electroactive Interlayers</p>                                                                                                                                                                                                                |
| 12:40 - 12:55<br>Colosseo-O3                                                                                               | <p><u>Vladislav Slama</u> (<i>École Polytechnique Fédérale de Lausanne (EPFL)</i>), Ghewa Alsabeh, Ursula Röthlisberger, Jovana V. Milic</p> <p>Aryl-Acetylene Layered Hybrid Perovskites in Photovoltaics</p>                                                                                                                                                                                                                                                                                       |
| 12:55 - 13:10<br>Colosseo-O4                                                                                               | <p><u>Manas Ranjan Samantaray</u> (<i>Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering University of Rome Tor Vergata, Rome, Italy</i>), Sara Pescetelli, Antonio Agresti</p> <p>Interfacial Engineering of 2D Perovskite Solar Cells Using Molybdenum Oxide Thin Film as Interfacial Layer: A Simulation Study</p>                                                                                                                                                  |
| 13:10 - 15:30                                                                                                              | <p><b>Lunch Break</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>Session 1C1 - Tandem PV - Room Fontana Di Trevi</b><br/>Chair: Soo-Jin Moon</p>                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 15:30 - 15:50<br>Trevi-IS1                                                                                                 | <p><u>Christian Wolff</u> (<i>STI IEM PVLAB, EPFL</i>)</p> <p>Towards stable perovskite multijunction solar cells: from nanometer- to wafer-scale</p>                                                                                                                                                                                                                                                                                                                                                |
| 15:50 - 16:10<br>Trevi-IS2                                                                                                 | <p><u>Paola Delli Veneri</u> (<i>ENEA - Italian National Agency for New Technologies, Energy and Sustainable Economic Development</i>)</p> <p>From Inorganic to Hybrid and Organic Materials for High-Efficiency and Integrated Photovoltaics</p>                                                                                                                                                                                                                                                    |
| 16:10 - 16:25<br>Trevi-O1                                                                                                  | <p><u>Antonio Agresti</u> (<i>C.H.O.S.E. (Center for Hybrid and Organic Solar Energy), Electronic Engineering Department, University of Rome Tor Vergata, Via del Politecnico 1, 00118, Rome, Italy.</i>), Sara Pescetelli, Hanna Pazniak, Alessia Di Vito, Enrico Leonardi, Marina Foti, Emmanuel Kymakis, Aldo Di Carlo</p> <p>Perovskite/Silicon photovoltaic tandem technology: the use of MXenes as a booster for the lab to fab transition</p>                                                 |
| 16:25 - 16:40<br>Trevi-O2                                                                                                  | <p><u>Minasadat Heydarian</u> (<i>Fraunhofer Institute for Solar Energy Systems ISE</i>), Kerem Artuk, Maryamsadat Heydarian, Luis Restat, Athira Shaji, Oliver Fischer, Alexander J. Bett, Christoph Messmer, Martin Vivour, Florian Schindler, Martin C. Schubert, Andreas W. Bett, Christian M. Wolff, Juliane Borchert, Patricia S. C. Schulze, Stefan W. Glunz</p> <p>Monolithic Two-Terminal Perovskite/Perovskite/Silicon Triple-Junction Solar Cell with Open Circuit Voltage &gt; 3.0 V</p> |
| 16:40 - 16:55<br>Trevi-O3                                                                                                  | <p><u>Julian Petermann</u> (<i>Institute of Microstructure Technology (IMT) at KIT, Eggenstein-Leopoldshafen, Hermann-von-Helmholtz- Platz 1, 76344, Germany</i>), Benjamin Hacene, Mohammad Gholipour, Felix Laufer, Raphael Pesch, Ulrich W. Paetzold</p> <p>Photoluminescence-based imaging method for recombination analysis of perovskite thin films in monolithic tandem solar cells</p>                                                                                                       |
| 16:55 - 17:10<br>Trevi-O4                                                                                                  | <p><u>Huyen Tran</u> (<i>Photovoltaics Research Department, Korea Institute of Energy Research (KIER)</i>), Inchan Hwang, Junseop Byeon, Sungjun Hong, Sejin Ahn, Kihwan Kim, Jihye Gwak, Inyoung Jeong, Tae Kyung Lee, Van Hung Tran</p> <p>Reducing open circuit voltage deficit in wide bandgap perovskite solar cells through interfacial treatment with aromatic ammonium halide salts and tandem solar cell applications.</p>                                                                  |
| <p><b>Session 1C2 - Perovskite solar cells: interface engineering - Room Vittorio Emanuele</b><br/>Chair: Lukas Wagner</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 15:30 - 15:50<br>Emanuele-IS1                                                                                              | <p><u>David Ginger</u> (<i>Department of Chemistry, University of Washington, Seattle, WA, 98195-1700, USA</i>)</p> <p>Tailored Interfaces for Operational Stability in Halide Perovskite Solar Cells</p>                                                                                                                                                                                                                                                                                            |
| 15:50 - 16:10<br>Emanuele-IS2                                                                                              | <p><u>Zonglong Zhu</u> (<i>Department of Chemistry, City University of Hong Kong, Hong Kong SAR, P. R. China</i>)</p> <p>Advancing Stability in Hybrid and Organic Photovoltaics: Interface Engineering in Halide Perovskites</p>                                                                                                                                                                                                                                                                    |
| 16:10 - 16:25<br>Emanuele-O1                                                                                               | <p><u>Ruohan Zhao</u> (<i>Department of Physics, Clarendon Laboratory, University of Oxford, Parks Road, Oxford, OX1 3PU, UK</i>), Siyu Yan, Henry Snaith, Nakita Noel</p> <p>From solution to thin-film: Approaches to improving the optoelectronic properties of halide perovskites</p>                                                                                                                                                                                                            |
| 16:25 - 16:40<br>Emanuele-O2                                                                                               | <p><u>Fengning Yang</u> (<i>University of Oxford, GB</i>)</p> <p>How hole transport layer could affect the mobile ions effect in pin perovskite solar cell</p>                                                                                                                                                                                                                                                                                                                                       |
| 16:40 - 16:55<br>Emanuele-O3                                                                                               | <p><u>Dmitry Muratov</u> (<i>Department of Chemistry, University of Turin,</i>), Danila Saranin, Lev Luchnikov, Son Le Thai, Ekaterina Ilicheva, Irina Chuyko, Polina Sukhorukova</p> <p>Scalable self-assembled monolayers for enhanced performance and stability of inverted perovskite solar cells</p>                                                                                                                                                                                            |
| 16:55 - 17:10<br>Emanuele-O4                                                                                               | <p><u>Francesco Vanin</u> (<i>Department of Chemistry, City University of Hong Kong</i>)</p> <p>Elucidating Structure-Function Relationships in Ferrocene-Based Interlayers for High-Performance Perovskite Solar Cells</p>                                                                                                                                                                                                                                                                          |
| <p><b>Session 1C3 - Organic PV - Room Trastevere</b><br/>Chair: Vida Engmann</p>                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| 15:30 - 15:50<br>Trastevere-IS1                                                              | <u>Guillaume Wantz</u> ( <i>Univ. Bordeaux, CNRS, Bordeaux INP, IMS, UMR 5218, F-33400 Talence, France</i> )<br>Efficient OPV solar cells with simplified device structures                                                                                                                                                                                                                                                                                                                                               |
| 15:50 - 16:10<br>Trastevere-IS2                                                              | <u>Gregory Welch</u> ( <i>Department of Chemistry, University of Calgary</i> )<br>New organic dyes and inks for large area roll-coated organic photovoltaics                                                                                                                                                                                                                                                                                                                                                              |
| 16:10 - 16:25<br>Trastevere-O1                                                               | <u>Hua Tang</u> ( <i>Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)</i> )<br>Strategies to Enhance the Commercial Viability of Organic Solar Cells                                                                                                                                                                                                                                                                                                                                                               |
| 16:25 - 16:40<br>Trastevere-O2                                                               | <u>Giuseppe Ammirati</u> ( <i>CNR-Istituto di Struttura della Materia (CNR-ISM), EuroFEL Support Laboratory (EFSL), Via del Fosso del Cavaliere 100, 00133, Rome, Italy.</i> ), Stefano Turchini, Francesco Toschi, Patrick O'Keeffe, Alessandra Paladini, Giuseppe Mattioli, Paolo Moras, Polina Sheverdyayeva, Valeria Miliotti, Christoph Brabec, Michael Wagner, Iain McCulloch, Aldo Di Carlo, Daniele Catone<br>Hole Transfer Dynamics and Optoelectronic Properties in PCE10:FOIC Blends for Organic Photovoltaics |
| 16:40 - 16:55<br>Trastevere-O3                                                               | <u>Jared Faisst</u> ( <i>Fraunhofer Institute for Solar Energy Systems ISE, Germany</i> ), Mathias List, Clemens Baretzky, Andreas W. Bett, Uli Würfel<br>Implied Voltage and Current Characterization in Organic Solar Cells using Transient Photoluminescence                                                                                                                                                                                                                                                           |
| 16:55 - 17:10<br>Trastevere-O4                                                               | <u>Tarig Sheikh</u> ( <i>King Abdullah University of Science and Technology (KAUST)</i> )<br>III-V semiconductor quantum dots for SWIR light emission and detection                                                                                                                                                                                                                                                                                                                                                       |
| <b>Session 1C4 - Material design and modelling - Room Colosseo</b><br>Chair: Simona Fantacci |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 15:30 - 15:50<br>Colosseo-IS1                                                                | <u>Mariachiara Pastore</u> ( <i>Laboratoire de Physique et Chimie Théoriques (LPCT) CNRS &amp; Université de Lorraine, Nancy, France</i> ), Stefano Caramori, Philippe Gros<br>Toward Exploitable Iron Dye-Sensitized Solar Cells?                                                                                                                                                                                                                                                                                        |
| 15:50 - 16:10<br>Colosseo-IS2                                                                | <u>Edoardo Mosconi</u> ( <i>Computational Laboratory for Hybrid/Organic Photovoltaics (CLHYO), Istituto CNR di Scienze e Tecnologie Chimiche "Giulio Natta" (CNR-SCITEC), Via Elce di Sotto 8, 06123 Perugia, Italy</i> )<br>Computational Modeling of Perovskite for Photovoltaics and Photocatalysis                                                                                                                                                                                                                    |
| 16:10 - 16:25<br>Colosseo-O1                                                                 | Filip Ivanovic, Wei-Tao Peng, Samuele Giannini, <u>Jochen Blumberger</u> ( <i>Department of Physics and Astronomy and Thomas Young Centre, University College London, Gower Street, London, WC1E 6BT, UK</i> )<br>Hybrid exciton-charge transfer states are the gateways for efficient hot exciton dissociation                                                                                                                                                                                                           |
| 16:25 - 16:40<br>Colosseo-O2                                                                 | L. R. Franco, Rafael B. Ribeiro, D. Valverde, C. Marchiori, Márcio Varela, Ergang Wang, Ellen Moons, <u>Moyes Araujo</u> ( <i>Department of Engineering and Physics, Karlstad University, 65188 Karlstad, Sweden.</i> )<br>Effects of Molecular Structure and Disorder on the Photophysics of Polymeric Photovoltaics via Multi-Scale Modeling                                                                                                                                                                            |
| 16:40 - 16:55<br>Colosseo-O3                                                                 | <u>Alessandro Mattoni</u> ( <i>CNR - Istituto Officina dei Materiali (IOM), Cagliari, Monserrato, 09042 CA, Italy</i> ), Simone Argiolas, Igor Pensè Schone, Christian Tantardini<br>Microscopic Mechanisms, Morphology and Defects Formation in the Thermally Activated Crystallization of Methylammonium Lead Iodide                                                                                                                                                                                                    |
| 16:55 - 17:10<br>Colosseo-O4                                                                 | <u>Fiza Arshad</u> ( <i>Korea Research Institute of Chemical Technology (KRICT) (KR)</i> ), Won suk Shin, Chaeng Eun Song, Taek-soo Kim<br>Wide-Bandgap Polymers with Hydrogen Bonding Moieties Enable Highly-Efficient and Flexible Ternary Organic Solar Cells                                                                                                                                                                                                                                                          |
| 17:10 - 17:35                                                                                | <b>Break - Room change</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Session 1D - Room Colosseo</b><br>Chair: Claudia Barolo                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 17:35 - 18:00<br>Colosseo-I1                                                                 | <u>Aldo Di Carlo</u> ( <i>CHOSE (Centre for Hybrid and Organic Solar Energy), Department of Electronic Engineering, University of Rome Tor Vergata, Via del Politecnico 1, 00133 Rome, Italy</i> )<br>Molecular Beam Epitaxy of Halide Perovskites                                                                                                                                                                                                                                                                        |
| 18:00 - 18:25<br>Colosseo-I2                                                                 | <u>Aleksandra Djurisic</u> ( <i>Department of Physics, The University of Hong Kong, Hong Kong</i> )<br>Photo/electrochemical stability of 2D halide perovskites                                                                                                                                                                                                                                                                                                                                                           |
| 18:25 - 18:50<br>Colosseo-I3                                                                 | <u>Henry Snaith</u> ( <i>University of Oxford</i> )<br>Performance and stability of multi-junction metal halide perovskite solar cells                                                                                                                                                                                                                                                                                                                                                                                    |
| 20:30 - 22:00                                                                                | <b>Social dinner</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## May 13th - Day 2 (Tuesday) 2

### Session 2A - Room Colosseo

Chair: Francesca Brunetti

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| 09:00 - 09:30 | <u>Mercouri Kanatzidis</u> ( <i>Northwestern University</i> )                                                                                                 |
| Colosseo-K1   | Advancing Solar Cells with Halide Perovskites and Perovskitoids                                                                                               |
| 09:30 - 09:35 | <u>Taro Tanabe</u> ( <i>Tokyo Chemical Industry Co., Ltd. (TCI)</i> )                                                                                         |
| Colosseo-S1   | Tokyo Chemical Industry                                                                                                                                       |
| 09:35 - 10:00 | <u>Annamaria Petrozza</u> ( <i>Center for Nano Science and Technology @Polimi, Istituto Italiano di Tecnologia; Milan, Italy</i> )                            |
| Colosseo-I1   | Structural and electronic properties of lead halide perovskite thin film surfaces                                                                             |
| 10:00 - 10:25 | <u>Bumjoon Kim</u> ( <i>Korea Advanced Institute of Science and Technology (KAIST)</i> )                                                                      |
| Colosseo-I2   | Design of Photoactive Polymers for Intrinsically-Stretchable Polymer Solar Cells                                                                              |
| 10:25 - 10:50 | <u>Mónica Lira Cantú</u> ( <i>Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and BIST, Campus UAB, Bellaterra, 08193 Barcelona, Spain</i> ) |
| Colosseo-I3   | The effect of DMA1-XMAXPbI3 /MXene heterojunction in the stability of Perovskite Solar Cells                                                                  |

### 10:50 - 11:30 Coffee Break

### Session 2B1 - Perovskite PV: from cell to module - Room Fontana Di Trevi

Chair: Fabio Matteocci

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| 11:30 - 11:50 | <u>Trystan Watson</u> ( <i>College of Engineering Swansea University</i> )                                                                                                                                                                                                                                                                       |
| Trevi-IS1     | Roll-to-Roll Printing of Perovskite Solar Cells: Advances in SAM Deposition via Slot-Die Coating                                                                                                                                                                                                                                                 |
| 11:50 - 12:10 | <u>Ji-Youn Seo</u> ( <i>Department of Nano Fusion Technology, Pusan National University, 46241 Busan, Republic of Korea</i> )                                                                                                                                                                                                                    |
| Trevi-IS2     | MOLECULAR ENGINEERING APPROACHES TO PEROVSKITE                                                                                                                                                                                                                                                                                                   |
| 12:10 - 12:25 | <u>Georgia Gkouzia</u> ( <i>TNO - Netherlands Organization for Applied Scientific Research, High Tech Campus 21, 5656 AE Eindhoven, The Netherlands</i> ), Anuja Vijayan, Harrie Gorter, Thomas Exlager, Hero't Mannetje, Marcel Simor, Wiljan Verhees, Dorrit Roosen-Melsen, Herbert Lifka, Gayathri Mathiazhagan, Sjoerd Veenstra, Ilker Dogan |
| Trevi-O1      | Scalable fabrication of flexible perovskite solar cells using roll-to-roll processing on In-free transparent conductive oxides                                                                                                                                                                                                                   |
| 12:25 - 12:40 | <u>Maurizio Stefanelli</u> ( <i>Department of Electronic Engineering, C.H.O.S.E. (Centre for Hybrid and Organic Solar Energy), University of Rome "Tor Vergata", via del Politecnico 1, Rome 00133, Italy</i> ), Angelo Lembo, Luigi Vesce, Aldo Di Carlo                                                                                        |
| Trevi-O2      | Porphyrin-based additives for ambient-air fabricated Cs-FAPI perovskite modules above 22% efficiency                                                                                                                                                                                                                                             |
| 12:40 - 12:55 | <u>Dumitru Sirbu</u> ( <i>Power Roll Ltd</i> ), Farshad Jafarzadeh, Nathan Hill, Jazib Ali, Tamil Velusamy, Christopher Wood, Caitlin Woolley, Balder Nieto, Trevor McArdle                                                                                                                                                                      |
| Trevi-O3      | Toward Commercial Viability: Buried-contact Groove-based Architecture for Fully R2R Processed Perovskite Solar Modules                                                                                                                                                                                                                           |
| 12:55 - 13:10 | <u>Alexandra Levchenko</u> ( <i>IPVF, Institut photovoltaïque d'Ile de France</i> ), Pilar Lopez-Varo, Marion Provost, Karim Medjoubi, Jean Rousset, Daniel Ory                                                                                                                                                                                  |
| Trevi-O4      | Perovskite Mini-module Voltage Loss Quantification and Analysis by Large Scale Hyperspectral Photoluminescence Imaging                                                                                                                                                                                                                           |

### Session 2B2 - Organic PV: from cell to module - Room Vittorio Emanuele

Chair: Mariano Campoy Quiles

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| 11:30 - 11:50 | <u>Andreas Distler</u> ( <i>Friedrich-Alexander-Universität Erlangen-Nürnberg</i> )                                                                                                                                                                                                                                                                                                                  |
| Emanuele-IS1  | Upscaling of Organic Photovoltaic Modules                                                                                                                                                                                                                                                                                                                                                            |
| 11:50 - 12:10 | <u>Chang-Qi Ma</u> ( <i>i-Lab &amp; 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> )                                                                                                                                                                                 |
| Emanuele-IS2  | DEGRADATION MECHANISM OF THERMAL INSTABILITY FOR ORGANIC SOLAR CELLS                                                                                                                                                                                                                                                                                                                                 |
| 12:10 - 12:25 | <u>Leticia Christopholi</u> ( <i>Department of Engineering and Physics, Karlstad University, SE-65188, Karlstad, Sweden</i> ), Zewdneh Genene, Cleber Marchiori, Andrea Muntean, Ergang Wang, Ellen Moons                                                                                                                                                                                            |
| Emanuele-O1   | Investigating Molecular Orientation in Solution-Processed All-Polymer Blends for Photovoltaics                                                                                                                                                                                                                                                                                                       |
| 12:25 - 12:40 | <u>Katerina Nikolaidou</u> ( <i>EURECAT, Centre Tecnològic de Catalunya, Functional Printing and Embedded Devices Unit, Parc Científic TecnoCampus, Av. Ernest Lluch 36, 08302 Mataró, Spain</i> ), Paula Pinyol Castillo, Martí Gibert Roca, Margalida Vidal-Tur, Martin Martín, Tomas Syrový, Veronica Tijero, Luis Asín, Jaume F. Martinez-Garcia, Mariano Campoy-Quiles, Ignasi Burgués-Ceballos |
| Emanuele-O2   | Next Generation Agrioltaics Incorporating Flexible Transparent Organic Solar Modules                                                                                                                                                                                                                                                                                                                 |
| 12:40 - 12:55 | Atiq Ur Rahman, Jacopo Hassen Rahmani, Valentina Carrarini, <u>Andrea Reale</u> ( <i>CHOSE, Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, University of Rome "Tor Vergata", Via del Politecnico 1, 00133 Rome, Italy</i> ), Acacia Mariah Patterson, Sydney Pfeiffer, Tanner M. Melody, Brian A. Collins, Robin Basu, Michael Wagner                             |
| Emanuele-O3   | Semitransparent OPV cells and modules with high ACT                                                                                                                                                                                                                                                                                                                                                  |
| 12:55 - 13:10 | <u>Leonie Pap</u> ( <i>Fraunhofer Institute for Solar Energy Systems, Freiburg, 79110, Germany.</i> ), Mathias List, René Haberstroh, Lasse Bienkowski, Martin Mattenheimer, Thomas Kroyer, Jared Faisst, Birger Zimmermann, Uli Würfel                                                                                                                                                              |
| Emanuele-O4   | Upscaling of Semitransparent Organic Modules with a Metal-free Top Electrode reaching an Average Visible Transmission of 51% and a Light Utilization Efficiency of 4%                                                                                                                                                                                                                                |

### Session 2B3 - Perovskite PV for Space applications - Room Trastevere

Chair: Francesca De Rossi

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| 11:30 - 11:50  | <u>Nitin Padture</u> ( <i>School of Engineering, Brown University</i> )                                                                                                                                                                          |
| Trastevere-IS1 | Connecting Mechanical Properties, Durability, and Reliability of High-Performance Perovskite Solar Photovoltaics                                                                                                                                 |
| 11:50 - 12:10  | <u>Pavel Troshin</u> ( <i>Federal Research Center for Problems of Chemical Physics and Medicinal Chemistry of the Russian Academy of Sciences, Russia</i> ), Victoria V Ozerova, Lyubov Frolova, Nikita Emelianov, Ivan Zhidkov, Sergey Aldoshin |
| Trastevere-IS2 | Perovskite solar cells for space applications: some material and device stability challenges                                                                                                                                                     |
| 12:10 - 12:25  | <u>Ian Sellers</u> ( <i>Department of Electrical Engineering, University at Buffalo, Buffalo NY 14260, USA</i> )                                                                                                                                 |
| Trastevere-O1  | Metal Halide Perovskite Solar Cells for Emerging Space Applications                                                                                                                                                                              |
| 12:25 - 12:40  | <u>Lorenzo Torresani</u> ( <i>Institute for Photovoltaics, University of Stuttgart, Pfaffenwaldring 47, 70569, Stuttgart, Germany</i> ), Andreas Pahler, Stephanie Essig, Chittaranjan Das, Claudiu Mortan, Michael Saliba                       |
| Trastevere-O2  | Proton-resilient Perovskite Solar Cells for Space Applications                                                                                                                                                                                   |
| 12:40 - 12:55  | <u>Anush Ranka</u> ( <i>School of Engineering, Brown University</i> ), Nitin Padture                                                                                                                                                             |
| Trastevere-O3  | Mitigating cracking of polymer substrates for flexible devices including perovskite solar cells                                                                                                                                                  |

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| 12:55 - 13:10<br>Trastevere-04                                                                                        | <p><u>Luigi Angelo Castriotta</u> (<i>CHOSE – Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, Tor Vergata University of Rome, via del Politecnico 1, 00133, Rome</i>), Kenjiro Fukuda, Osbel Almora, Lulu Sun, Md Aslam Uddin, Haoyang Jiao, Karen Forberich, Christoph J. Brabec, Jinsong Huang</p> <p>Standardized Protocols for Evaluating Mechanical Performance of Flexible Solar Cells &amp; Modules: Insights from new Procedures ISOS-B, ISOS-M, and Novel Bending Tests</p> |
| <p><b>Session 2B4 - Emerging concepts - Room Colosseo</b><br/>Chair: Ute Cappel</p>                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 11:30 - 11:50<br>Colosseo-IS1                                                                                         | <p><u>Juan Bisquert</u> (<i>INSTITUTO DE TECNOLOGIA QUIMICA (UPV-CSIC), València, Spain</i>), Enrique H. Balaguera</p> <p>Markers of perovskite solar cell degradation from the transient and impedance response</p>                                                                                                                                                                                                                                                                                                   |
| 11:50 - 12:10<br>Colosseo-IS2                                                                                         | <p><u>Askhat N. Jumabekov</u> (<i>Department of Physics, School of Sciences and Humanities, Nazarbayev University, Astana 010000, Kazakhstan</i>), Erik O. Shalenov, Hryhorii P. Parkhomenko, Madina Jelbuldina</p> <p>Back-Contact Perovskite Solar Cells: Advancing Performance and Stability through Innovative Architecture</p>                                                                                                                                                                                    |
| 12:10 - 12:25<br>Colosseo-O1                                                                                          | <p><u>Guillermo Martinez-Denegri</u> (<i>Solar Energy Division, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH (HZB), Hahn-Meitner-Platz 1, 14109 Berlin, Germany</i>), Florian Riesebeck, Hanifah Winarto, Sarah Liedtke, Klaus Jäger, Sebastian Berwig, Philipp Tockhorn, Steve Albrecht, Christiane Becker</p> <p>Textured interfaces in perovskite-based solar cells as a holistic strategy to enhance the device performance</p>                                                                       |
| 12:25 - 12:40<br>Colosseo-O2                                                                                          | <p><u>Angelica Simbula</u> (<i>Dipartimento di Fisica, Università di Cagliari, 09042 Monserrato, Italy</i>), Antonio Agresti, Sara Pescetelli, Riccardo Pau, David Dell'Angelo, Alessio Filippetti, Valeria Demontis, Daniela Marongiu, Francesco Quochi, Andrea Mura, Giovanni Bongiovanni, Aldo Di Carlo, Michele Saba</p> <p>Ambipolar transport and photodoping in perovskite solar cells with MXenes</p>                                                                                                          |
| 12:40 - 12:55<br>Colosseo-O3                                                                                          | <p>Stijn Lenaers, Stijn Lammar, Anurag Krishna, Tom Aernouts, Laurence Lutsen, Dirk Vanderzande, <u>Wouter Van Gompel</u> (<i>imo-imomec, Hasselt University, Martelarenlaan 42, Hasselt, 3500, Belgium</i>)</p> <p>Tuning the Molecular Structure of Phosphonic Acids as Interlayers for Inverted Perovskite Solar Cells</p>                                                                                                                                                                                          |
| 12:55 - 13:10<br>Colosseo-O4                                                                                          | <p>Lucas J. Affonço, Nilton F. Azevedo Neto, Bruno Lupino, Edmar J. Gasparoto Jr, Stevan B. dos Santos, Sílvia L. Fernandes, André L.J. Pereira, Allan V. Ribeiro, Alexys B. Alfonso, Augusto Batagin Neto, Rodrigo S. Pessoa, Carlos F.O. Graeff, <u>José H.D. da Silva</u> (<i>Universidade Estadual Paulista UNESP</i>)</p> <p>On the Optical Properties of Transition Metal Oxide Transport Layers</p>                                                                                                             |
| 13:10 - 15:30                                                                                                         | <p><b>Lunch Break</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><b>Session 2C1 - Advanced characterization and automation - Room Fontana Di Trevi</b><br/>Chair: Selina Olthof</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 15:30 - 15:50<br>Trevi-IS1                                                                                            | <p><u>Ute Cappel</u> (<i>Uppsala University</i>)</p> <p>Ion migration in perovskites single crystals investigated with time-resolved photoelectron spectroscopy</p>                                                                                                                                                                                                                                                                                                                                                    |
| 15:50 - 16:10<br>Trevi-IS2                                                                                            | <p><u>Tracey Clarke</u> (<i>Department of Chemistry, University College London, London, (United Kingdom)</i>)</p> <p>Anion Localisation on Termini of a Non-Fullerene Acceptor Facilitates Charge Transport</p>                                                                                                                                                                                                                                                                                                        |
| 16:10 - 16:25<br>Trevi-O1                                                                                             | <p>Jacek J. Baranowski, Sanjay Sahare, Mykhailo Solovan, <u>Marcin Ziótek</u> (<i>Faculty of Physics and Astronomy, Adam Mickiewicz University, Poznań 61-614, Poland</i>)</p> <p>Near-interface Probing of Perovskite Solar Cells Using Transient Absorption: Ion Segregation, 2D Phase Distribution, Stability and Coherent Phonons.</p>                                                                                                                                                                             |
| 16:25 - 16:40<br>Trevi-O2                                                                                             | <p><u>Tomas Edvinsson</u> (<i>Department of Materials Science and Engineering, Solid State Physics, Uppsala University, Box 35, 75103 Uppsala, Sweden</i>)</p> <p>Nature of the Excited State, Thermal Relaxation, and Quantum Confinement in Halide Perovskites</p>                                                                                                                                                                                                                                                   |
| 16:40 - 16:55<br>Trevi-O3                                                                                             | <p><u>Mathias Uller Rothmann</u> (<i>Foshan Xianhu Laboratory</i>)</p> <p>Atomic-scale Microstructure of Lead Halide Perovskite Thin Films</p>                                                                                                                                                                                                                                                                                                                                                                         |
| 16:55 - 17:10<br>Trevi-O4                                                                                             | <p><u>Michael P. Nielsen</u> (<i>School of Photovoltaic and Renewable Energy Engineering, UNSW Sydney, Sydney, New South Wales, Australia</i>), Shona McNab, Alex J. Baldacchino, Alfie Jones, Alison Ciesla, Bram Hoex, Murad J. Y. Tayebjee, Nicholas J. Ekins-Daukes</p> <p>Interfacial band alignment and triplet energy transfer in singlet fission silicon solar cells</p>                                                                                                                                       |
| <p><b>Session 2C2 - Organic PV - Room Vittorio Emanuele</b><br/>Chair: Andreas Distler</p>                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 15:30 - 15:50<br>Emanuele-IS1                                                                                         | <p><u>Mariano Campoy Quiles</u> (<i>Instituto de Ciencia de Materiales de Barcelona (ICMAB-CSIC), Campus UAB, 08193 Bellaterra, Barcelona, Spain</i>)</p> <p>Opportunities and limitation of Rainbow solar cells</p>                                                                                                                                                                                                                                                                                                   |
| 15:50 - 16:10<br>Emanuele-IS2                                                                                         | <p><u>Julianna Panidi</u> (<i>University of Edinburgh</i>)</p> <p>Exploring the stability of bio-renewable based OPVs</p>                                                                                                                                                                                                                                                                                                                                                                                              |
| 16:10 - 16:25<br>Emanuele-O1                                                                                          | <p><u>Paula Pinyol-Castillo</u> (<i>EURECAT, Centre Tecnològic de Catalunya, Functional Printing and Embedded Devices Unit, Parc Científic TecnoCampus, Av. Ernest Lluch 36, 08302 Mataró, Spain</i>), Katerina Nikolaidou, Martí Gibert-Roca, Aina López-Porta, Pablo Gamonal-Repiso, Enric Fontdecaba, Theo Rouanet, Agustín Mihi, Mariano Campoy-Quiles, Ignasi Burgués-Ceballos</p> <p>Laser Patterning and Plastic Integration Techniques for Scalable Organic Photovoltaic Modules</p>                           |
| 16:25 - 16:40<br>Emanuele-O2                                                                                          | <p><u>Eunchi Kim</u> (<i>Institute of Energy Materials and Devices, Photovoltaics (IMD - 3), Forschungszentrum Jülich, Germany</i>), Paula Hartnagel, Barbara Urbano, Leonard Christen, Thomas Kirchartz</p> <p>Inferring Material Parameters from Current-Voltage Curves in Organic Solar Cells with Neural-Network-Based Surrogate Models</p>                                                                                                                                                                        |
| 16:40 - 16:55<br>Emanuele-O3                                                                                          | <p><u>Chu-Chen Chueh</u> (<i>Department of Chemical Engineering, National Taiwan University, Taiwan</i>)</p> <p>Interface Design for Efficient Organic, Perovskite and Perovskite/Organic Tandem Solar Cells</p>                                                                                                                                                                                                                                                                                                       |
| 16:55 - 17:10<br>Emanuele-O4                                                                                          | <p><u>Julie Euvrard</u> (<i>Dept. of Physics and Centre for Processable Electronics, Imperial College London, London, SW7 2AZ, UK</i>), Oki Gunawan, Antoine Kahn, Barry P. Rand</p> <p>Developing ‘gated’ photo-Hall effect to characterize photocarrier generation, recombination, and transport in organic semiconductor heterostructures</p>                                                                                                                                                                       |
| <p><b>Session 2C3 - Operational and material stability - Room Trastevere</b><br/>Chair: Pablo P. Boix</p>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 15:30 - 15:50<br>Trastevere-IS1                                                                                       | <p><u>Jovana V Milić</u> (<i>Adolphe Merkle Institute, University of Fribourg</i>)</p> <p>Toward Dynamic Control of Hybrid Materials in Photovoltaics and Beyond</p>                                                                                                                                                                                                                                                                                                                                                   |

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| 15:50 - 16:10<br>Trastevere-IS2                                                                                          | <p><u>Frédéric Sauvage</u> (<i>Laboratoire de Réactivité et Chimie des Solides, CNRS UMR7314, Université de Picardie Jules Verne, Hub de l'énergie, 15 Rue Baudelocque, 80039 Amiens Cedex, France</i>)<br/>In Situ Characterization Techniques For Understanding Degradation in Hybrid Halide Perovskites</p>                                                                                                                                                                                         |
| 16:10 - 16:25<br>Trastevere-O1                                                                                           | <p>Ennio Luigi Comi, Evelyn Knapp, Sandra Jenatsch, <u>Daniele Braga</u> (<i>Fluxim AG, Winterthur, Switzerland</i>), Mattia Battaglia, Miguel Torre, Christoph Kirsch, Beat Ruhstaller<br/>Investigating Inhomogeneities and Turn-on Dynamics in Carbon-Based Perovskite Solar Cells Using Advanced Imaging and Simulation Techniques</p>                                                                                                                                                             |
| 16:25 - 16:40<br>Trastevere-O2                                                                                           | <p><u>Sarah Gillespie</u> (<i>AMOLF Institute, Science Park 104, Amsterdam, 1098XG The Netherlands</i>), Agustin Alvarez, Bruno Ehrler, Veronique Gevaerts, Bart Geerligs, Erik Garnett<br/>An Optical Equivalent of Impedance Spectroscopy</p>                                                                                                                                                                                                                                                        |
| 16:40 - 16:55<br>Trastevere-O3                                                                                           | <p><u>Huriye Ertay</u> (<i>IPVF, Institut photovoltaïque d'Île de France</i>), Davide Ceratti, Tim Kodalle, Marion Provost, Carolin Sutter-Fella, Philip Schulz<br/>In-situ Multimodal Analysis of Metal Halide Perovskite Film Formation and Degradation for Stable Perovskite Solar Cells</p>                                                                                                                                                                                                        |
| 16:55 - 17:10<br>Trastevere-O4                                                                                           | <p><u>Aruto Akatsuka</u> (<i>Chiba University, Graduate School of Engineering, Chiba, Japan</i>), Minh Anh Truong, Atsushi Wakamiya, Gaurav Kapil, Shuzi Hayase, Hiroyuki Yoshida<br/>Molecular Orientations of Carbazole Derivative Hole-Collecting Monolayer for Perovskite Solar Cells</p>                                                                                                                                                                                                          |
| <p><b>Session 2C4 - New concepts toward sustainable new generation PV -Room Colosseo</b><br/>Chair: Askhat Jumabekov</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 15:30 - 15:50<br>Colosseo-IS1                                                                                            | <p><u>Maria Laura Parisi</u> (<i>R2ES Lab, Research on Renewable Energy and Sustainability, Department of Biotechnologies, Chemistry and Pharmacy, University of Siena, Siena, Italy</i>), Mercy Jelegat Kypiator, Adalgisa Sinicropi<br/>Prospective Life Cycle Assessment for the eco-design of perovskite/silicon tandem solar cells from the lab scale to industrial solar devices</p>                                                                                                             |
| 15:50 - 16:10<br>Colosseo-IS2                                                                                            | <p><u>Tayebeh Ameri</u> (<i>Chair for Composite Materials, Department of Materials Science, Faculty of Engineering, Christian-Albrechts-Universität zu Kiel, Germany</i>)<br/>Additive Engineering for Solution-processed Photovoltaics</p>                                                                                                                                                                                                                                                            |
| 16:10 - 16:25<br>Colosseo-O1                                                                                             | <p><u>Daniel Prochowicz</u> (<i>Institute of Physical Chemistry, Polish Academy of Science, Kasprzaka 44/52, 01-224 Warsaw, Poland</i>)<br/>Improving Morphology and Optoelectronic Properties in All-Inorganic Perovskite Solar Cells</p>                                                                                                                                                                                                                                                             |
| 16:25 - 16:40<br>Colosseo-O2                                                                                             | <p><u>Stepan Demchyshyn</u> (<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, 14109, Berlin, Germany.</i>), Bekele Hailegnaw, Christoph Putz, Lukas Lehner, Martin Kaltenbrunner<br/>Lightweight and Flexible Perovskite Solar Cells System Integration</p>                                                                                                                                                                                                                               |
| 16:40 - 16:55<br>Colosseo-O3                                                                                             | <p><u>Zeynab Skafi</u> (<i>CHOSE (Centre for Hybrid and Organic Solar Energy), Department of Electronic Engineering, Tor Vergata University of Rome, Rome, Italy</i>), Luigi Angelo Castriotta, Babak Taheri, Fabio Matteocci, Matthias Fahland, Farshad Jafarzadeh, Ebin Joseph, Abhisek Chakraborty, Vaibhav Singh, Vahid Mottaghitalab, Leila Mivehi, Francesca Brunetti, Luca Sorbello, Aldo Di Carlo, Thomas M. Brown<br/>Integrating Perovskite Solar Cells on Polycarbonate Film Substrates</p> |
| 16:55 - 17:10<br>Colosseo-O4                                                                                             | <p><u>karthikeyan Pandurangan</u> (<i>Department of Biotechnology, Chemistry and Pharmacy, R2ES Lab, University of Siena, 53100 Siena, Italy</i>), Luigi Vesce, Elene Iannibelli, Maurizio Stefanelli, Hafez Nikbakht, Mercy Jelagat Kipyator, Maria Laura Parisi, Adalgisa Sinicropi, Aldo Di Carlo<br/>Fully Printable Perovskite Solar Module with Carbon Electrode for low light environments</p>                                                                                                  |
| 17:10 - 17:35                                                                                                            | <p><b>Break - Room change</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p><b>Session 2D - Room Colosseo</b><br/>Chair: Filippo De Angelis</p>                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 17:35 - 18:00<br>Colosseo-I1                                                                                             | <p><u>Giulia Grancini</u> (<i>University of Pavia</i>)<br/>Manipulation of Low Dimensional Hybrid Perovskites: a tool for breaking perovskite solar cell efficiency and stability limits</p>                                                                                                                                                                                                                                                                                                           |
| 18:00 - 18:25<br>Colosseo-I2                                                                                             | <p><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>)<br/>Perovskite-inspired metal halides for indoor photovoltaic applications</p>                                                                                                                                                                                                                                                              |
| 18:30 - 20:00                                                                                                            | <p><b>Poster Session</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## May 14th - Day 3 (Wednesday) 3

### Session 3A - Room Colosseo

Chair: Claudia Barolo

- 09:00 - 09:30  
Colosseo-K1 Derya Baran (*Materials Science and Engineering Program (MSE), Physical Sciences and Engineering Division (PSE), King Abdullah University of Science and Technology (KAUST), Thuwal, 23955, Saudi Arabia*)  
Slowing Down in an Accelerated World: Understanding Degradation Pathways in Organic and Perovskite Photovoltaics for Extended Lifetime
- 09:30 - 09:35  
Colosseo-S1 Jack Lin (*EnliTechnology Co., Ltd.*)  
Enlitech Industry
- 09:35 - 10:00  
Colosseo-I1 Thomas Anthopoulos (*Manchester University, UK*)  
Advancing the efficiency and stability of organic photovoltaics
- 10:00 - 10:25  
Colosseo-I2 Marina Freitag (*SNES, Newcastle University, UK*)  
IoT Networks Powered by DSC-Hybrid Photocapacitors
- 10:25 - 10:55  
Colosseo-K2 Tsutomu Miyasaka (*Toin University of Yokohama*)  
Interfacial Engineering of Lead-based and Lead-free Perovskite Solar Cells

### 10:55 - 11:35 Coffee Break

### Session 3B1 - Operational and material stability - Room Fontana Di Trevi

Chair: Pavel Troshin

- 11:35 - 11:55  
Trevi-IS1 Iris Visoly-Fisher (*Ben-Gurion Solar Energy Center Swiss Institute for Dryland Environmental and Energy Research Blaustein Institutes for Desert Research, Sede Boqer Campus, Ben-Gurion University of the Negev*)  
Outdoor Operational Stability Testing of Perovskite Solar Cells
- 11:55 - 12:10  
Trevi-O1 Zijian Peng (*Institute of Materials for Electronics and Energy Technology (i-MEET), Friedrich-Alexander-Universität Erlangen-Nürnberg, 91058 Erlangen, Germany*), Larry Lüer, Christoph Brabec  
Locating the non-radiative recombination losses of perovskite solar cells during accelerated ageing
- 12:10 - 12:25  
Trevi-O2 Sushil Sangale (*Department of Flexible and Printable Electronics, LANL-JBNU Engineering Institute-Korea, Jeonbuk National University*), Sung-Nam Kwon, Seok-In Na  
Colloidal Ink Engineering for Slot-Die Processes to Realize Highly Efficient and Robust Perovskite Solar Modules
- 12:25 - 12:40  
Trevi-O3 Matteo Iacomini, Sven Bonus (*Coatema Coating Machinery GmbH*), Harmen Rooms  
Lab to Fab: Advancing the future of solar with R2R Technology
- 12:40 - 12:55  
Trevi-O4 Salvatore Valastro (*CNR IMM Section of Catania*), Gaetano Calogero, Emanuele Smecca, Valentina Arena, Giovanni Mannino, Corrado Bongiorno, Ioannis Deretzis, Giuseppe Fiscaro, Antonino La Magna, Simone Galliano, Gabriele Viada, Matteo Bonomo, Claudia Barolo, Alessandra Alberti  
Polyurethane-encapsulated mesoporous carbon-based perovskite solar cells resilient to extreme humidity and mitigation of the related reversible J-V bump
- 12:55 - 13:10  
Trevi-O5 Marta Pereira (*LEPABE - Laboratory for Process Engineering, Environment, Biotechnology and Energy, Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal.*), Jorge Martins, Dzmitry Ivanou, Seyedali Emami, Adélio Mendes  
Light Induced Degradation of Perovskite Films and Solar Cells: Study of Controlled Atmosphere Sealing Approach

### Session 3B2 - Perovskite solar cells: interface engineering - Room Vittorio Emanuele

Chair: Udo Bach

- 11:35 - 11:55  
Emanuele-IS1 Han Young Woo (*Department of Chemistry, Korea University*)  
n-Doped Interlayer for Inverted Perovskite Solar Cells
- 11:55 - 12:10  
Emanuele-O1 Jasmeen Nespoli, Maartje van der Meer, Sander Heester, Bahiya Ibrahim, Bart Boshuizen, Jan Anton Koster, Lars Bannenberg, tom Savenije (*Department of Chemical Engineering, Faculty of Applied Sciences, Van der Maasweg 9, Delft University of Technology, 2629 HZ Delft, The Netherlands*)  
Quantitative Analysis of Doping in Mixed Sn-Pb Perovskites
- 12:10 - 12:25  
Emanuele-O2 Daniele Catone (*Istituto di Struttura della Materia - CNR (ISM-CNR), EuroFEL Support Laboratory (EFSL), Via del Fosso del Cavaliere 100, 00133, Rome, Italy*), G Ammirati, S Turchini, F Toschi, P O'Keeffe, A Paladini, F Martelli, R Khanfar, D Takhellambam, S Pescetelli, A Agresti  
Hole Transfer Dynamics in Thin Films of Mixed-Dimensional Quasi-2D Perovskites
- 12:25 - 12:40  
Emanuele-O3 Asayil Alsulami (*Materials Science and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal 23955-6900, Saudi Arabia*), Luis Lanzetta, Derya Baran  
Mechanistic Insights into Oxidative Degradation of Hybrid Tin-Lead Perovskites: Avenues for Enhanced Stability
- 12:40 - 12:55  
Emanuele-O4 Narendra Pai (*Flexible Electronics Laboratory, CSIRO Manufacturing, Clayton, VIC 3168, Australia.*), Luke Sutherland, Aaron Seeber, Wen Liang Tan, Andrew Scully, Yogesh Gulia, Mei Gao, Dechan Angmo  
Stabilizing Black Phase CsPbI3 at Low Temperature Under an Ambient Processing Environment
- 12:55 - 13:10  
Emanuele-O5 Jérôme Gautier (*AMOLF, Science Park 104, Amsterdam, The Netherlands*), Sarah Gillespie, Erik Garnett  
Harnessing light induced dynamics to enhance photoluminescence in perovskites thin film

### Session 3B3 - Dye sensitized solar cells: Advances and perspectives -Room Trastevere

Chair: Nadia Barbero

- 11:35 - 11:55  
Trastevere-IS1 Elizabeth Gibson (*School of Natural and Environmental Science, Newcastle University, Newcastle upon Tyne, United Kingdom*)  
Materials and Dye Development for Tandem Dye-sensitized Solar Cells
- 11:55 - 12:10  
Trastevere-O1 Simone Galliano (*Department of Chemistry, NIS Interdepartmental and INSTM Reference Centre. University of Turin, Torino, Italy*), Marcello Franzini, Kezia Sasitharan, George H. Morritt, Marco Zanetti, Marco Borri, Andrea Reale, Marina Freitag, Claudia Barolo  
Solution-processable coordination polymers for counter-electrode in DSSCs
- 12:10 - 12:25  
Trastevere-O2 Diego Mirani (*Univ. Grenoble Alpes, CEA, CNRS, IRIG-SyMMES, 38000 Grenoble, France.*), Samuel Fauvel, Jhon-Edinson Galvez Arango, Pascale Maldivi, Antonio J. Riquelme, Cyril Aumaitre, Renaud Demadrille  
Molecular engineering of photochromic dyes for DSSCs with improved performance
- 12:25 - 12:40  
Trastevere-O3 Chinmai Mysorekar (*Faculty of Physics and Astronomy, Adam Mickiewicz University, 2 Uniwersytetu Poznańskiego, 61-614, Poznań, Poland*), Adam Glinka, Nur Izyan, Safalmani Pradhan, Shyam Sudhir Pandey, Marcin Ziótek  
Expected and surprising effects observed in co-sensitized dye systems

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| 12:40 - 12:55<br>Trastevere-O4                                                                                    | <u>Suraj Soman</u> ( <i>CSIR-NIIST</i> )<br>Fascinating Lab to Land Journey of Versatile Nanostructured Indoor Solar Cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 12:55 - 13:10<br>Trastevere-O5                                                                                    | <u>María Fernanda Cerdá</u> ( <i>Laboratorio de Biomateriales, IQB, Facultad de Ciencias, UdelaR. Montevideo, Uruguay</i> )<br>DSSC based on natural dyes: comparison of the measured efficiencies using two iodine-based electrolytes                                                                                                                                                                                                                                                                                                                                                         |
| <b>Session 3B4 - Physical vapor deposition of halide perovskites - Room Colosseo</b><br>Chair: Paola Delli Veneri |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 11:35 - 11:55<br>Colosseo-IS1                                                                                     | <u>Monica Morales-Masis</u> ( <i>NanoLab, MESA+ Institute for Nanotechnology, University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands</i> )<br>Advances, challenges and opportunities of physical vapor deposition of halide perovskites                                                                                                                                                                                                                                                                                                                                         |
| 11:55 - 12:10<br>Colosseo-O1                                                                                      | <u>Emanuele Smecca</u> ( <i>Istituto per la Microelettronica e Microsistemi (IMM), Consiglio nazionale delle Ricerche (CNR), Ottava Strada 5, Zona Industriale, 95121, Catania, Italy</i> ), Valentina Arena, Giovanni Mannino, Salvatore Valastro, Ioannis Deretzis, Nadir Vanni, Aurora Rizzo, Gaetano Calogero, Giuseppe Fisicaro, Corrado Bongiorno, Stefano Perugini, Antonino La Magna, Alessandra Alberti<br>In-depth study of the evaporation process of high-quality MAPbI <sub>3</sub> by Low Vacuum - Proximity Space Effusion (LV-PSE) for semitransparent perovskite solar cells. |
| 12:10 - 12:25<br>Colosseo-O2                                                                                      | <u>Sahana Suresh</u> ( <i>Institute for Photovoltaics, University of Stuttgart, Pfaffenwaldring 47, 70569, Stuttgart, Germany</i> ), Chittaranjan Das, Michael Saliba<br>All-inorganic CsPbBr <sub>3</sub> perovskite solar cells via sequential thermal evaporation                                                                                                                                                                                                                                                                                                                           |
| 12:25 - 12:40<br>Colosseo-O3                                                                                      | <u>Shijun Shi</u> ( <i>Department of Advanced Interdisciplinary Studies, Graduate School of Engineering, University of Tokyo</i> ), Masato Sotome, Kazuteru Nonomura, Hiroshi Segawa, Takashi Kondo<br>Impact of Substrate Heating and Cooling Rates on Crystallization and Inverted Solar Cells Performance of Co-evaporated CsPbI <sub>2</sub> Br Perovskite Thin Films                                                                                                                                                                                                                      |
| 12:40 - 12:55<br>Colosseo-O4                                                                                      | <u>S. Dilara Öz</u> ( <i>University of Cologne, Institute for Physical Chemistry</i> ), Selina Olthof<br>Investigation of Substrate Dependency in Thermal Evaporation of mix-halide FAPbI <sub>3</sub> Br <sub>2</sub> Perovskite Thin Films                                                                                                                                                                                                                                                                                                                                                   |
| 12:55 - 13:10<br>Colosseo-O5                                                                                      | <u>Suzana Kralj</u> ( <i>MESA+ Institute, University of Twente, 7500 AE Enschede, The Netherlands</i> ), Marly Nales, Kerem Artuk, Christian M. Wolff, Monica Morales-Masis<br>Hybrid Sequential Process for Perovskite Absorbers Growth by Pulsed Laser Deposition (PLD)                                                                                                                                                                                                                                                                                                                      |
| 13:10 - 15:30                                                                                                     | <b>Lunch Break</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Session 3C1 - Operational and material stability - Room Fontana Di Trevi</b><br>Chair: Iris Visoly-Fisher      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 15:30 - 15:50<br>Trevi-IS1                                                                                        | <u>Diego Bagnis</u> ( <i>OE Department, oninn - Centro de inovações</i> )<br>From-lab-to-Fab OPVs: Challenge and results on next production NFA-based panel                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 15:50 - 16:10<br>Trevi-IS2                                                                                        | <u>Udo Bach</u> ( <i>Australian Centre for Advanced Photovoltaics, Department of Chemical and Biological Engineering, Monash University, Clayton, VIC, Australia.</i> ), Jie Zhao<br>Optimized Thiocyanate Passivation for Efficient and Stable Perovskite Solar Cells                                                                                                                                                                                                                                                                                                                         |
| 16:10 - 16:25<br>Trevi-O1                                                                                         | <u>Saskia Fiedler</u> ( <i>NWO-Institute AMOLF, Science Park 104, 1098 XG Amsterdam, The Netherlands</i> ), Imme Schuringa, Robin Schot, Linh Lan Nguyen, Lam Yeng Ming, Bruno Ehrler, Albert Polman<br>Electron beam-based study of optoelectronic properties of metal halide perovskites                                                                                                                                                                                                                                                                                                     |
| 16:25 - 16:40<br>Trevi-O2                                                                                         | <u>Benjamin Gallant</u> ( <i>School of Chemistry, University of Birmingham, Edgbaston B15 2TT, UK</i> ), Satyawan Nagane, Dominik Kubicki, Sam Stranks<br>Inducing Octahedral Tilting via Organic Molecule Templating for Highly Stable Photoactive Formamidinium Lead Triiodide                                                                                                                                                                                                                                                                                                               |
| 16:40 - 16:55<br>Trevi-O3                                                                                         | <u>Gerrit Boschloo</u> ( <i>Department of Chemistry - Ångström Laboratory, Uppsala University, Uppsala, Sweden</i> )<br>Electrochemical Proton Insertion in n-i-p Perovskite Solar Cells                                                                                                                                                                                                                                                                                                                                                                                                       |
| 16:55 - 17:10<br>Trevi-O4                                                                                         | <u>Teresa S. Ripollés</u> ( <i>Instituto de Ciencia de los Materiales de la Universidad de Valencia (ICMUV), 46080, Paterna, Valencia, Spain.</i> )<br>Enhancing Perovskite Solar Cell Diagnostics with Current-Voltage Reconstruction Techniques.                                                                                                                                                                                                                                                                                                                                             |
| <b>Session 3C2 - Emerging concepts and devices - Room Vittorio Emanuele</b><br>Chair: Maria Laura Parisi          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 15:30 - 15:50<br>Emanuele-IS1                                                                                     | Omar E. Solis, Miriam Minguez- Avellan, Víctor Sagra-Rodríguez, Jaime Noguera-Gómez, Teresa Ripollés, Rafael Abargues, <u>Pablo P. Boix</u> ( <i>Instituto de Tecnología Química (ITQ). Universitat Politècnica de València- Consejo Superior de Investigaciones Científicas (UPV-CSIC). 46022 València, Spain</i> )<br>Postsynthetic reactions to harness the full potential of metal halide perovskites.                                                                                                                                                                                     |
| 15:50 - 16:10<br>Emanuele-IS2                                                                                     | <u>Selina Olthof</u> ( <i>University of Cologne</i> )<br>Investigation of the electronic structure of 2D halide perovskites as well as 3D/2D interfaces                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 16:10 - 16:25<br>Emanuele-O1                                                                                      | Jenny L. N. Boane, Francesca De Rossi, Ugur Deneb Menda, Elvira Fortunato, Rodrigo Martins, Francesca Brunetti, Manuel J. Mendes, <u>Hugo Aguas</u> ( <i>I3N/CENIMAT, Department of Materials Science, NOVA School of Science and Technology and CEMOP/UNINOVA, Campus de Caparica, 2829-516 Caparica Portugal</i> )<br>Colloidal-Lithographed Front Electrodes for Flexible Perovskite Solar Cells with Enhanced Light Trapping                                                                                                                                                               |
| 16:25 - 16:40<br>Emanuele-O2                                                                                      | <u>Elisa Fabbretti</u> ( <i>Department of Materials Science and Solar Energy Research Centre (MIB-SOLAR), University of Milano-Bicocca, Via Cozzi 55, 20126, Milan, 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, Alessandro Minotto, Adele Sassella<br>Chalcogenide Nanoparticles Hole Transporting Material Improving Perovskite Solar Cells Stability                                                  |
| 16:40 - 16:55<br>Emanuele-O3                                                                                      | <u>Fraser J. Angus</u> ( <i>University of Glasgow School of Chemistry Joseph Black Building Glasgow, G128QQ, UK</i> ), Lucy J. F. Hart, Yin Li, Abdul Khaleed, Philip Calado, James R. Durrant, Aleksandra B. Djurišić, Pablo Docampo, Piers R. F. Barnes<br>More is Different: Mobile Ions Improve the Design Tolerances of Perovskite Solar Cells                                                                                                                                                                                                                                            |
| 16:55 - 17:10                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Session 3C3 - Emerging concepts and devices - Room Trastevere</b><br>Chair: Elizabeth Gibson                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| 15:30 - 15:50<br>Trastevere-IS1                                                                                    | <p><u>Nadia Barbero</u> (<i>Department of Chemistry, NIS and INSTM Reference Centre, Università degli Studi di Torino, Via Pietro Giuria 7, Torino, 10125 Italy</i>), Maksym Bokan, Kateryna Bondar, Baptiste Charrier, Donato Pasculli, Mattia Rubes, Ana Yancy Segura Zarate, Raffaele Borrelli, Matteo Bonomo, Simone Galliano, Frédéric Sauvage, Claudia Barolo</p> <p>Colorless Dye Sensitized Solar Cells for Building Integration</p>                                                                               |
| 15:50 - 16:10<br>Trastevere-IS2                                                                                    | <p><u>David Jones</u> (<i>School of Chemistry, Bio21 Institute, University of Melbourne, Australia.</i>)</p> <p>Secondary Self-Assembly in Singlet Fission Chromophore Design</p>                                                                                                                                                                                                                                                                                                                                          |
| 16:10 - 16:25<br>Trastevere-O1                                                                                     | <p><u>Fabio Matteocci</u> (<i>CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, University of Rome "Tor Vergata", Via del Politecnico 1, 00133 Roma, Italy</i>), Marco Girolami, Diego Di Girolamo, Jessica Barichello, Barbara Paci, Paolo Moras, Daniele Trucchi, Stefania Cacovich, Aldo Di Carlo</p> <p>Wide-Band Gap Perovskite based on bromide halide: Impact of light, thermal and X-Ray Irradiation stresses on semi-transparent perovskite solar cells and detectors</p> |
| 16:25 - 16:40<br>Trastevere-O2                                                                                     | <p><u>Baptiste Charrier</u> (<i>Department of Chemistry, NIS Interdepartmental Centre and INSTM Reference Centre, Università Degli Studi di Torino, Via Pietro Giuria 7, 10125, Torino, Italy.</i>), Mattia Rubes, Diego Civarelli, Vijay Challuri, Matteo Bonomo, Nadia Barbero, Frédéric Sauvage, Claudia Barolo</p> <p>A study of the degradation of indoor DSSCs after bufexamic acid treatment</p>                                                                                                                    |
| 16:40 - 16:55<br>Trastevere-O3                                                                                     | <p><u>Kezia Sasitharan</u> (<i>School of Natural and Environmental Sciences, Newcastle University, United Kingdom NE1 7RU</i>)</p> <p>Tunable Nanosheets for Ambient Energy Storage</p>                                                                                                                                                                                                                                                                                                                                    |
| 16:55 - 17:10<br>Trastevere-O4                                                                                     | <p><u>Francesca De Rossi</u> (<i>CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, Tor Vergata University of Rome, via del Politecnico 1, 00133, Rome</i>), Daniel Augusto Machado de Alencar, Abhinandan Patra, Samyuktha Noola, Giulio Koch, Matteo Bonomo, Claudia Barolo, Francesca Brunetti</p> <p>Perovskite Solar Cells and Supercapacitors on Flexible Substrates</p>                                                                                                      |
| <p><b>Session 3C4 - Advanced characterization and automation - Room Colosseo</b></p> <p>Chair: Edoardo Mosconi</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 15:30 - 15:50<br>Colosseo-IS1                                                                                      | <p><u>Alessio Gagliardi</u> (<i>Technische Universität München, TUM School of Computation, Information and Technology, Electrical Engineering Department, Atomistic Modeling Center (AMC), Munich Data Science Institute (MDSI) München, Germany</i>)</p> <p>Material dynamics simulations enhanced by machine learning through generative methods integrated with experimental data</p>                                                                                                                                   |
| 15:50 - 16:10<br>Colosseo-IS2                                                                                      | <p><u>Alison Walker</u> (<i>Department of Physics University of Bath, BA2 7AY, UK</i>), Kjeld Jensen, Petra Cameron, Giles Richardson, Will Clarke</p> <p>Identifying Perovskite Solar Cell Degradation Mechanisms From A Digital Twin</p>                                                                                                                                                                                                                                                                                 |
| 16:10 - 16:25<br>Colosseo-O1                                                                                       | <p><u>Petra Cameron</u> (<i>Department of Chemistry, University of Bath, Claverton Down, Bath BA2 7AY, United Kingdom</i>), Will Clarke, Giles Richardson</p> <p>Linking model and experiment - interpreting the impedance spectroscopy of perovskite solar cells</p>                                                                                                                                                                                                                                                      |
| 16:25 - 16:40<br>Colosseo-O2                                                                                       | <p><u>Simon Ternes</u> (<i>CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, Tor Vergata University of Rome, via del Politecnico 1, 00133, Rome</i>), Maurizio Stefanelli, Felix Reichelt, Alessio Gagliardi, Aldo Di Carlo</p> <p>Solving the problem of achieving consistent gas quenching in batch-to-batch coating of perovskite photovoltaics by Bayesian optimization of drying parameters</p>                                                                               |
| 16:40 - 16:55<br>Colosseo-O3                                                                                       | <p><u>Martin Majewski</u> (<i>Helmholtz Institute Erlangen-Nürnberg for Renewable Energy, Forschungszentrum Jülich, Germany</i>), Shudi Qiu, Olivier J. Ronsin, Tian Du, Hans-J. Egelhaaf, Christoph J. Brabec, Jens Harting</p> <p>Simulation of the impact of processing conditions for solution-processed thick perovskite layers</p>                                                                                                                                                                                   |
| 16:55 - 17:10<br>Colosseo-O4                                                                                       | <p><u>Leonard Christen</u> (<i>IMD3-Photovoltaics, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany</i>), Thomas Kirchartz</p> <p>On the Value of Device Characterization for the Optimization of Solar Cells</p>                                                                                                                                                                                                                                                                                                      |
| 17:10 - 17:35                                                                                                      | <b>Break - Room change</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 17:35 - 18:35                                                                                                      | <b>Concluding round table - Room Colosseo - Chair: Francesca Brunetti</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 18:35 - 19:00                                                                                                      | <b>Closing and Awards Ceremony - Room Colosseo</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |