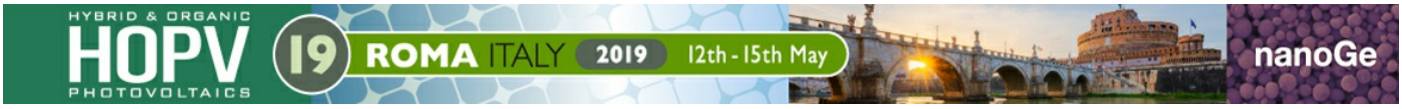

International Conference on Hybrid and Organic Photovoltaics (HOPV19)

Roma, Italy, 2019 May 12th - 15th
Conference Chairs: Prashant Kamat, Filippo De Angelis and Aldo Di Carlo

Conference Program

May 12th - Day 1 (Sunday)	
16:00 - 17:30	**Registration**
17:00 - 18:30	**Welcome**
May 13th - Day 2 (Monday)	
07:45 - 08:45	**Registration**
08:45 - 08:50	**Announcement of the day**
08:50 - 09:00	**Opening**
	Session G1.1
09:00 - 09:45 G1.1-K1	Tsutomu Miyasaka *(Graduate School of Engineering, Toin University of Yokohama, 1614, Kurogane-cho, Aoba, Yokohama, Kanagawa, Japan 225-8503)* Focusing key directions of perovskite photovoltaic R&Ds towards industrialization
09:45 - 10:15 G1.1-I1	Tom Aernouts *(imec (partner in Solliance & EnergyVille), Kapeldreef 75, Leuven, 3001, Belgium.)* Efficient Structures and Processes for Reliable Perovskite Solar Modules
10:15 - 10:45 G1.1-I2	James Durrant *(Department of Chemistry and Centre for Plastic Electronics, Imperial College London)* Charge Carrier Dynamics in Disordered Materials for Solar Energy Conversion
10:45 - 11:15	**Coffee Break**
	Session G1.2
11:15 - 11:45 G1.2-I1	Jinsong Huang *(University of North Carolina – Chapel Hill)* Defect Passivation in Halide Perovskites
11:45 - 12:15 G1.2-I2	Masaru Kuno *(Radiation Laboratory, Department of Chemistry & Biochemistry, University of Notre Dame)* Microscopic Measurements of Hybrid Perovskite Solar Cells
12:15 - 12:45 G1.2-I3	Henk Bolink *(Instituto de Ciencia Molecular (ICMol), Universidad de Valencia)* Vapor Phase Deposited Single Junction and Tandem Perovskite Solar Cells.
12:45 - 13:00	Industry talk
13:00 - 14:30	**Lunch Break**
	Session A1
14:30 - 15:00 A1-IS1	Daniele Meggiolaro *(D3-CompuNet, Istituto Italiano di Tecnologia, Via Morego 30, 16163 Genova)* Defects Chemistry and Charge Traps in MA(Pb,Sn)I3 Perovskites: A Computational Perspective
15:00 - 15:15 A1-O1	Silvia Motti *(Department of Physics, University of Oxford)*, Daniele Meggiolaro, Alex Barker, Carlo Perini, James Ball, Marina Gandini, Roberto Sorrentino, Min Kim, Filippo de Angelis, Annamaria Petrozza Defect Activity in Lead Halide Perovskites
15:15 - 15:30 A1-O2	Mohammad Sajedi Alvar *(Max Planck Institute for Polymer Research, Ackermannweg10, 55128 Mainz, Germany)*, Gert Jan Wetzelaer, Paul Blom Concentration and Mobility of Ions in Methylammonium Lead Iodide Thin Films from Dielectric Response
15:30 - 15:45 A1-O3	Alessandro Senocrate *(Max Planck Institut for Solid State Research)*, Igor Moudrakovski, Tolga Acartuerk, Gee Yeong Kim, Rotraut Merkle, Ulrich Starke, Michael Graetzel, Joachim Maier Slow methylammonium migration in methylammonium lead iodide in the dark and under illumination

15:45 - 16:00 A1-O4	Moritz Futscher *(Center for Nanophotonics, AMOLF, Science Park 104, 1098 XG Amsterdam, The Netherlands)*, Lucie McGovern, Kangyu Ji, Sandy Sanchez, Sam Stranks, Bruno Ehrler Ion Migration in Triple-Cation Mixed-Halide Perovskite Solar Cells with Potassium Passivation
16:00 - 16:30	**Coffee Break**
16:30 - 16:45 A1-O5	Prashant V. Kamat *(Radiation Laboratory, Department of Chemistry & Biochemistry, University of Notre Dame)*, Rebecca Scheidt, Gergely Samu, Csaba Janaky Halide Ion Migration in Mixed Halide Lead Perovskites
16:45 - 17:00 A1-O6	Waldemar Kaiser *(Department of Electrical and Computer Engineering, Technical University of Munich)*, Nga Phung, Antonio Abate, Alessio Gagliardi 3D simulation of ion migration within the microstructure of perovskite solar cells
17:00 - 17:15 A1-O7	Gee Yeong Kim *(Max Planck Institute for Solid State Research, Physical Chemistry of Solid, Stuttgart, 70569, Germany)*, Alessandro Senocrate, David Moia, Joachim Maier Equilibrium space charges effect at halide perovskite interactions: The role of ionic charge carriers
17:15 - 17:30 A1-O8	Terry Chien-Jen Yang *(École Polytechnique Fédérale de Lausanne (EPFL), Institute of Microengineering (IMT), Photovoltaics and Thin-Film Electronics Laboratory (PV-Lab), Rue de la Maladière 71b, Neuchâtel 2002, Switzerland)*, Pietro Caprioglio, Fan Fu, Peter Fiala, Martin Stolterfoht, Florent Sahli, Ricardo Razera, Matthias Bräuninger, Steve Albrecht, Dieter Neher, Quentin Jeangros, Christophe Ballif Photoinduced Halide Segregation and Diffusion in Mixed-halide Perovskite Solar Cells
	Session B1
14:30 - 14:45 B1-O7	Ilker Dogan *(TNO Solliance)*, Francesco Di Giacomo, Henri Fledderus, Harrie Gorter, Gerwin Kirchner, Ike de Vries, Sjoerd Veenstra, Pim Groen, Ronn Andriessen, Yulia Galagan Roll-to-roll slot-die coating of perovskite solar cells with efficiencies up to 13.5%: perspectives from the current status and further potential improvements
14:45 - 15:00 B1-O8	Felix Utama Kosasih *(Department of Materials Science and Metallurgy, University of Cambridge, 27 Charles Babbage Road, Cambridge CB3 0FS, United Kingdom)*, Lucija Rakocevic, Jef Poortmans, Caterina Ducati Visualisation and Elemental Analysis of Perovskite Damage in Laser Scribing of Perovskite Solar Modules
15:00 - 15:15 B1-O1	Fabio Matteocci *(CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, University of Rome Tor Vergata)*, Emanuele Calabrò, Diego Di Girolamo, Enrico Lamanna, Danilo Dini, Aldo Di Carlo Long-Term Stability of Large Area Perovskite Solar Cell under Thermal Stress
15:15 - 15:30 B1-O2	YAOGUANG RONG *(Michael Grazel Center for Mesoscopic Solar Cells, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology,)*, ANYI MEI, YUE HU, HONGWEI HAN Efficient and stable printable mesoscopic perovskite solar cells
15:30 - 16:00 B1-IS1	Francesco Di Giacomo *(TNO – partner in Solliance, PO Box 8550, 5605KN Eindhoven, The Netherlands)*, Henri Fledderus, Ilker Dogan, Wiljan Verhees, Valerio Zardetto, Claire Burgess, Meherdad Najafi, Dong Zhang, Harrie Gorter, Gerwin Kirchner, Ike de Vries, Herbert Lifka, Yulia Galagan, Tom Aernouts, Mariadriana Creatore, Pim Groen, Sjoerd Veenstra, Ronn Andriessen Towards Stable Perovskite Solar Modules Made by Sheet to Sheet and Roll to Roll Fabrication
16:00 - 16:30	**Coffee Break**
16:30 - 16:45 B1-O3	Laurence Lutsen *(1 IMEC, Imomec, Diepenbeek (Belgium))*, Dirk Vanderzance, Wouter Van Gompel, Roald Herckens, Paul-Henri Denis, Martijn Mertens, Tom Aernouts, Jan D'Haen, Bart Ruttens, Kristof Van Hecke Towards 2D Layered Hybrid Perovskites with Enhanced Functionality
16:45 - 17:00 B1-O4	Antonio Agresti *(CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, University of Rome Tor Vergata)*, Sara Pescetelli, Hanna Pazniak, Danina Saranin, Daniele Rossi, Matthias Auf der Maur, Alessia Di Vito, Alessandro Pecchia, Andrea Liedl, Rosanna Larciprete, Aldo Di Carlo 2D material engineering of perovskite solar cells: the emergence of MXenes

17:00 - 17:15 B1-O5	Edoardo Mosconi *(Computational Laboratory for Hybrid/Organic Photovoltaic (CLHYO), Istituto CNR di Scienze e Tecnologie Molecolari (ISTM-CNR), Via Elce di Sotto 8, 06123 Perugia, Italy)*, Damiano Ricciarelli, Qiong Wang, Christian Wolff, Junming Li, Dieter Neher, Filippo De Angelis, Gian Paolo Suranna, Roberto Grisorio, Antonio Abate Computational modelling of HTM/Perovskite interface: The role of methylammonium cation
17:15 - 17:30 B1-O6	Saba Gharibzadeh, Bahram Abdollahi Nejand, Marius Jackoby, Tobias Abzieher, Somayeh Moghadamzadeh, Jonas A. Schwenzer, Philipp Brenner, Raphael Schmager, Amir Abbas Haghighirad, Uli Lemmer, Bryce S. Richards, Ian A. Howard, Ulrich W. Paetzold *(Karlsruhe Institute of Technology (KIT), Institute of Microstructure Technology (IMT), Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen, Germany)* 2D/3D Perovskite Heterostructures for High Performance and High Open Circuit Voltage in Wide-Bandgap Perovskite Photovoltaics
	Session C1
14:30 - 14:45 C1-O8	Luiza de Queiroz Correa *(CSEM Brasil)*, Juliana Luiza da Silva Martins, Gabriela de Amorim Soares, Barbara Hellen de Souza Miranda, Diego Bagnis Electron transport material modification for high-efficiency and stable flexible P3HT:O-IDTBR polymer solar cells blade coated in air from non-halogenated solvents
14:45 - 15:00 C1-O7	Elena Barulina *(Aix-Marseille Univ., UMR CNRS 7325, Centre Interdisciplinaire de Nanosciences de Marseille (CINaM), 13009 Marseille Cedex 09, France)*, Pavlo Perkhun, Wolfgang Köntges, Martin Pfannmöller, Sadok Ben Dkhil, Jean-Jacques Simon, Olivier Margeat, Christine Videlot-Ackermann, Jörg Ackermann A detailed stability study of highly efficient polymer solar cells based on ITIC derivatives
15:00 - 15:15 C1-O1	Jochen Kammerer, Rasmus Schröder, Irene Wacker, Riva Alkarsifi, Pavlo Perkhun, Christine Videlot-Ackermann, Olivier Margeat, Jörg Ackermann, Martin Pfannmöller *(Centre for Advanced Materials (CAM), Heidelberg University, Heidelberg, Germany)* Visualizing the surface morphology of non-fullerene acceptor blends by automated segmentation of spatially resolved electron spectra from ultra-low voltage scanning electron microscopy
15:15 - 15:30 C1-O2	Giuseppina Polino *(CHOSE- Centre for Hybrid and Organic Solar Energy, University of Rome "Tor Vergata", Electronic Engineering Department)*, Luca La Notte, Simone Dell'Elce, Andrea Liscio, Giorgio Cardone, Babak Taheri, Aldo Di Carlo, Andrea Reale, Francesca Brunetti Fully Spray-Coated Organic Photovoltaic Cells with Green Solvents: Study of Interfaces and Scale-Up
15:30 - 15:45 C1-O3	Andreas Schiller *(Institute of Computational Physics, Zurich University of Applied Sciences (ZHAW), 8401 Winterthur (Switzerland))*, Balthasar Blülle, Christoph Kirsch, Martin Neukom, Beat Ruhstaller Accumulation of ionic charge carriers and the influence of steric potential in perovskite solar cells
15:45 - 16:00 C1-O4	Benjamin Daiber *(Center for Nanophotonics, AMOLF, Science Park 104, 1098 XG Amsterdam, The Netherlands)*, Koen v.d. Hoven, Moritz H. Futscher, Bruno Ehrler Efficiency Potential of Singlet Fission Enhanced Silicon Solar Cells using Different Energy Transfer Schemes
16:00 - 16:30	**Coffee Break**
16:30 - 17:00 C1-IS1	Aleksandra Djurisic *(Department of Physics, The University of Hong Kong)*, Fangzhou Liu, Ho Won Tam, Tik Lun Leung Towards Improved Stability of Organic-Inorganic Perovskite Solar Cells
17:00 - 17:15 C1-O5	Juliane Bochert *(Clarendon Laboratory, Department of Physics, Oxford University, Oxford OX1 3PU, UK)*, Ievgen Levchuk, Lavina C. Snoek, Mathias Uller Rothmann, Henry J. Snaith, Christoph J. Brabec, Laura M. Herz, Michael B. Johnston Impurities and their influence on the co-evaporation of methylammonium perovskite thin-film solar cells
17:15 - 17:30 C1-O6	Mojtaba Abdi-Jalebi *(Cavendish Laboratory, Department of Physics, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, UK.)*, M. Ibrahim Dar, Satyaprasad P. Senanayak, Henning Sirringhaus, Michael Grätzel, Richard H. Friend Highly Luminescent and Stable Metal Halide Perovskite Devices via Graded Hole Transport Layers
17:30 - 19:00	**Poster Session**

May 14th - Day 3 (Tuesday)

08:55 - 09:00	**Announcement of the day**
	Session G2.1
09:00 - 09:45 G2.1-K1	Henry Snaith *(University of Oxford, Department of Physics, Clarendon Laboratory, Parks Road, Oxford, OX13PU, UK)* Perovskite Solar Cells: Improving Device Efficiency and Stability, and Understanding Optoelectronic Processes
09:45 - 10:15 G2.1-I1	Naomi Ginsberg *(Department of Physics, University of California, Berkeley, USA)*, Milan Delor, Connor Bischak, Minliang Lai, Hannah Weaver, Dylan Lu, QinQin Yu, Peidong Yang, David Limmer Resolving Carrier Dynamics in Metal Halide Perovskites to Elucidate Structural Transformation Mechanisms and the Impact of Structural Heterogeneity on Transport
10:15 - 10:45 G2.1-I2	Nitin Padture *(Brown University)* Nano-/Micro-structural Tailoring of Pb-based and Pb-free Multi-dimensional Halide Perovskites for Scalable, Efficient, and Stable Solar Cells
10:45 - 11:15	**Coffee Break**
	Session G2.2
11:15 - 11:45 G2.2-I1	Mercouri Kanatzidis *(Department of Chemistry, Northwestern University, Evanston, IL 60208, USA.)* Chemistry and Devices from Low Dimensional Halide Perovskites Semiconductors
11:45 - 12:15 G2.2-I2	Liberato Manna *(Department of Nanochemistry, Istituto Italiano di Tecnologia,Via Morego 30, 16163 Genova (Italy))* Halide Perovskite Nanocrystals: Their Synthesis, Chemical, Structural, and Surface Transformations
12:15 - 12:45 G2.2-I3	Osman M. Bakr *(Materials Science and Engineering, King Abdullah University of Science and Technology (KAUST), Saudi Arabia)* Nanoscale and Bulk Perovskite Single-Crystals: Surface Engineering for Efficient LEDs, Photodetectors, and Solar Cells
12:45 - 13:00	Industry talk
13:00 - 14:30	**Lunch Break**
	Session A2
14:30 - 15:00 A2-IS1	Nadia Barbero, Raffaele Borrelli, Vittoria Novelli, Simone Galliano, Matteo Bonomo, Guido Viscardi, Claudia Barolo *(Dipartimento di Chimica, NIS Interdepartmental and INSTM Reference Centre, Università degli Studi di Torino, Via Pietro Giuria 7, 10125 Torino, Italy)*, Frederic Sauvage Near Infra-Red Dyes in Dye-Sensitized Solar Cells: from Panchromatic Absorption to Completely Transparent DSSCs
15:00 - 15:15 A2-O1	Nicola Sangiorgi *(ISTEC-CNR, Institute of Science and Technology for Ceramics, National Research Council of Italy, Via Granarolo 64, 48018 Faenza, RA, Italy.)*, Alex Sangiorgi, Alessandra Sanson Molecular Imprinted Polypyrrole Counter Electrode for Quasi-Solid DSSCs
15:15 - 15:30 A2-O2	Peter Holliman *(College of Engineering, Swansea University, Bay Campus, Swansea, SA1 8EN, UK)*, Christopher Kersahw, Diana Meza-Rojas, Rosie Anthony, Eurig Jones, Leo Furnell, Arthur Connell, James McGettrick, Dawn Geatches, Sebastian Metz, Kakali Sen Surface Engineering Dye-sensitized Solar Cells
15:30 - 15:45 A2-O3	Ana Lucia Pinto *(LAQV-REQUIMTE, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa, 2829-516 Caparica, Portugal.)*, Luis Cruz, Vânia Gomes, Hugo Cruz, Giuseppe Calogero, Victor de Freitas, A. Jorge Parola, Fernando Pina, J. Carlos Lima On the Role of the Anchoring Unit in the Efficiency of Pyranoanthocyanin-based Dye-Sensitized Solar Cells
15:45 - 16:00 A2-O4	Matteo Bonomo *(University of Turin, Department of Chemistry and NIS Interdepartmental Center)*, Emmanuel Ekoi, Claudia Barolo, Denis Dowling, Danilo Dini, Aldo Di Carlo Effect of the Sintering Procedure on the Photoelectrochemical Performances of Nanostructured Mixed Oxides as Photocathodes of p and Tandem Dye-Sensitized Solar Cells with Superior Conversion Properties
16:00 - 16:30	**Coffee Break**

16:30 - 16:45 A2-O5	Sreelakshmi Chandrabose, Kai Chen, Alex J. Barker *(Center for NanoScience and Technology, Italian Institute of Technology, Via Pascoli 70/3, 20133 Milano, Italy)*, Joshua J. Sutton, Shyamal Prasad, Jingshuai Zhu, Keith C. Gordon, Zenqi Xie, Xiaowei Zhan, Justin M. Hodgkiss Facile Exciton Diffusion in Fused Ring Electron Acceptor Films
16:45 - 17:00 A2-O6	Philip Bellchambers *(Department of Chemistry, University of Warwick, CV4 7AL, Coventry, United Kingdom)*, Silvia Varagnolo, Ross Hatton High-Performance Cu Mesh Transparent Conductive Electrodes for Flexible Organic Photovoltaics
17:00 - 17:15 A2-O7	Enrique Pascual-San-José *(Institut de Ciència de Materials de Barcelona (ICMAB-CSIC)*, Xabier Rodríguez-Martínez, Martin Heeney, Roger Guimerà-Manrique, Mariano Campoy-Quiles, Fei Zhuping High Throughput Screening of Highly Efficient Non-fullerene Acceptor based Organic Solar Cells Assisted by a Multi-Dataset Scientific Robot
17:15 - 17:30 A2-O8	SADOK BEN DKHIL *(Dracula Technologies, Valence, France)*, Florent Pourcin, Donia Fredj, Elena Barulina, Olivier Margeat, Christine Vidélot Ackermann, Jörg Ackermann, Jérome Vernet, Brice Cruchon, Pascal Pierron Printable high efficiency flexible and Free design OPV modules for indoor application
	Session B2
14:30 - 14:45 B2-O7	Juan F. Galisteo-López *(Instituto de Ciencia de Materiales de Sevilla, Consejo Superior de Investigaciones Cientίficas)*, Mauricio E. Calvo, Cristina T. Rojas, Hernán Míguez Mechanism of Photoluminescence Intermittency in Organic–Inorganic Perovskite Nanoparticles
14:45 - 15:00 B2-O8	Manon Spalla *(LEPMI / Université Savoie Mont Blanc)*, Lara Perrin, Emilie Planes, Muriel Matheron, Solenn Berson, Lionel Flandin Stability of mixed cation perovskite solar cells: understanding of involved mechanisms
15:00 - 15:15 B2-O1	Endre Horvath *(EPFL SB IPHYS LPMC)*, Massimo Spina, Balint Nafradi, Eric Bonvin, Marton Kollar, Andrzej Sienkiewicz, Konstantins Matulnikovs, Anastasiia Glushkova, Alla Arakcheeva, Zsolt Szekrenyes, Hajnalka Tohati, Katalin Kamaras, Richard Gaal, Pavao Andricevic, Rita Smajda, Raphael Pugin, Laszlo Forro Lead halide perovskite nanowires: quest for liquid phase wafer-scale epitaxial growth
15:15 - 15:30 B2-O2	Quinten A. Akkerman *(Department of Nanochemistry, Istituto Italiano di Tecnologia (IIT), via Morego 30, I-16163 Genova, Italy)*, Liberato Manna Beyond the crystal lattice of lead halide perovskites: The curious cases of Cs4PbX6, Cs(Pb:Mn)I3, Cs2PbI2Cl2 and CsPb(Cl:Br:I)3 nanocrystals
15:30 - 16:00 B2-IS1	Angshuman Nag *(Department of Chemistry, Indian Institute of Science Education and Research (IISER), Pune 411008, India)* Mn- and Yb- Doping in Metal Halide Perovskite Nanocrystals
16:00 - 16:30	**Coffee Break**
16:30 - 16:45 B2-O3	Ajay Jena *(Graduate School of Engineering, Toin University of Yokohama, 1614, Kurogane-cho, Aoba, Yokohama, Kanagawa, Japan 225-8503)*, Tsutomu Miyasaka Performance Deterioration and Stability issues with Organic-inorganic hybrid and All-inorganic Perovskite Solar Cells
16:45 - 17:00 B2-O4	Eline Hutter *(Center for Nanophotonics, AMOLF, 1098 XG Amsterdam, The Netherlands)*, Maria Gelvez-Rueda, Davide Bartesaghi, Ferdinand Grozema, Tom Savenije Bandgap Tunability and Charge Transport Properties of Mixed Antimony-Bismuth Cs2AgBi1-xSbxBr6 Halide Double Perovskites
17:00 - 17:15 B2-O5	Nakita K. Noel *(Princeton University)* Interfacial Charge-transfer Doping of Metal Halide Perovskites for High Performance Optoelectronics
17:15 - 17:30 B2-O6	Jongchul Lim *(University of Oxford, GB)*, Bernard Wenger, Henry Snaith Elucidating the Long-range Charge Carrier Mobility in Metal Halide Perovskite Thin Films
	Session C2

14:30 - 14:45 C2-O5	Nishat Sultana *(Department of Physics, The University of Auckland, Private Bag 92019, Auckland 1142, New Zealand)*, Nicholas J. Demarais, Denys Shevchenko Unveiling the Degradation mechanism of Perovskite Solar Cells by the Laser Desorption/Ionization Mass Spectrometry
14:45 - 15:00 C2-O6	Bowon Yoo *(Department of Chemistry and Centre for Plastic Electronics, Imperial College London)*, Alex Aziz, Dibyajyoti Ghosh, Hyejin Park, M. Saiful Islam, Saif A. Haque Optical and Electronic Property Changes in Lead-free Perovskites by Metal Cation Transmutation
15:00 - 15:30 C2-IS2	Azat Akbulatov, Olga Yamilova, Mohamed Elnaggar, Alexandra Boldyreva, Moneim Elshobaki, Sergey Tsarev, Lyubov Frolova, Keith Stevenson, Pavel Troshin *(Skolkovo Institute of Science and Technology, Skolkovo Innovation Center)* Revealing Diverse Degradation Pathways in Lead Halide Perovskite Solar Cells
15:30 - 15:45 C2-O1	Kohei Nishimura, Daisuke Hirotani, Gaurav Kapil, Chi Huey Ng, Kengo Hamada, Kamarudin, Muhammad Akmal, Ripolles Teresa, Shen Qing, Satoshi Iikubo, Takashi Minemoto, Kenji Yoshino, Hiroshi Segawa, Shuzi Hayase *(Kyushu Institute of Technology)* Relationship between Relative Lattice Strain and Efficiency for Sn-Perovskite Solar Cells
15:45 - 16:00 C2-O2	Lucija Rakocevic *(IMEC, Leuven)*, Felix Ernst, Robert Gehlhaar, Tom Aernouts, Christoph Brabec, Jef Poortmans Reliable comparison of perovskite solar cell performance using maximum power point tracking
16:00 - 16:30	**Coffee Break**
16:30 - 17:00 C2-IS1	Joseph Cardon, Kevin Tkaczibson, Hsiang-Yun Chen, Shane Ardo *(Department of Chemistry, University of California, Irvine, CA 92617 USA)* Leveraging Iodide Oxidation Electrocatalysts to Overcome Efficiency Limitations in Dye-Sensitized Solar Cells
17:00 - 17:15 C2-O3	Francesca Tessore *(Dipartimento di Chimica, Università degli Studi di Milano)*, Gabriele Di Carlo, Alessio Orbelli Biroli, Elisabetta Benazzi, Stefano Caramori HIGH-POTENTIAL PORPHYRIN-BASED SnO2 PHOTOANODES for WATER PHOTOOXIDATION
17:15 - 17:30 C2-O4	Ingrid Rodríguez-Gutiérrez, Manuel Rodríguez-Pérez, Alberto Vega-Poot, Geonel Rodríguez-Gattorno, Gerko Oskam *(Department of Applied Physics, CINVESTAV-IPN, Mérida, Yuc., México.)* Photoelectrochemistry of Semiconducting Oxide Materials for Solar Water Splitting: Characterization of Charge Carrier Dynamics Using IMPS
19:30 - 22:00	**Social Dinner**
May 15th - Day 4 (Wednesday)	
08:45 - 09:00	**Poster prize ceremony**
	Session G3.1
09:00 - 09:45 G3.1-K1	Xiaoyang Zhu *(Department of Chemistry, Columbia University, New York, New York 10027, United States)* Ferroelectric large polarons in lead halide perovskites
09:45 - 10:15 G3.1-I1	Oleg Prezhdo *(Chemistry, University of Southern California)* Time-Domain Modeling of Excited State Dynamics in Halide Perovskites
10:15 - 10:45 G3.1-I2	Lin Chen *(Chemical Sciences and Engineering Division, Argonne National Laboratory, Lemont, Illinios 60439, United States)* Electronic Processes, Morphologies and Structural-functional Correlations in Conjugated Oligomers and Polymers for OPV and Photocatalysis
10:45 - 11:15	**Coffee Break**
	Session G3.2
11:15 - 11:45 G3.2-I1	Anders Hagfeldt *(Laboratory of Photomolecular Science (LSPM), Institute of Chemical Sciences and Engineering, School of Basic Sciences, Ecole Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland.)* The Versatility of Mesoscopic Solar Cells

11:45 - 12:15 G3.2-I2	Efrat Lifshitz *(Schulich Faculty of Chemistry, Russell Berrie Nanotechnology Institute, Solid State Institute, Technion-Israel Institute of Technology)* Magnetic Interactions in Pristine and Magnetically Doped Halide-Perovskites
12:15 - 12:45 G3.2-I3	Samuel Stranks *(Cavendish Laboratory, Department of Physics, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, UK.)* Visualising the Impact of Defects and Strain on Halide Perovskite Structures
12:45 - 13:00	Industry talk
13:00 - 14:30	**Lunch Break**
	Session A3
14:30 - 15:00 A3-IS1	Bruno Ehrler *(Center for Nanophotonics, AMOLF, Science Park 104, 1098 XG Amsterdam, The Netherlands)*, Moritz Futscher, Lucie McGovern The Path towards Efficient and Stable Perovskite/Silicon Tandem Solar Cells
15:00 - 15:15 A3-O5	Ihteaz Muhaimeen Hossain *(Institute of Microstructure Technology, Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen, Germany)*, Yidenekachew Donie, Raphael Schmager, Mohamed S. Abdelkhalik, Andrei Karabanov, Somayeh Moghadamzadeh, Jonas A. Schwenzer, Uli Lemmer, Bryce S. Richards, Guillaume Gomard, Ulrich W. Paetzold Nanophotonic front electrodes for perovskite-based tandem photovoltaics
15:15 - 15:30 A3-O6	Alexander J. Bett, Patricia S.C. Schulze, Kristina M. Winkler *(Fraunhofer Institute for Solar Energy Systems ISE, Heidenhofstrasse 2, 79110 Freiburg, Germany)*, Özde Kabakli, Martin Bivour, Ludmila Cojocaru, Ines Ketterer, Laura E. Mundt, Leonard Tutsch, Martin Hermle, Stefan W. Glunz, Jan Christoph Goldschmidt Monolithic perovskite silicon tandem solar cells with high-bandgap perovskite absorber exceeding 1.8 V open-circuit voltage
15:30 - 15:45 A3-O7	Ricardo Razera *(École Polytechnique Fédérale de Lausanne EPFL, CH)*, Peter Fiala, Fan Fu, Florent Sahli, Terry Yang, Matthias Bräuninger, Henri Boudinov, Quentin Jeangros, Christophe Ballif Stability of perovskite and two terminal Si/perovskite tandem solar cells under reverse bias
15:45 - 16:00 A3-O8	Rebecca Belisle *(Department of Physics, Wellesley College)*, James Raiford, Kevin Bush, Luca Bertoluzzi, Aryeh Gold-Parker, Axel Palmstrom, Rohit Prasanna, Michael Toney, Stacey Bent, Michael McGehee Designing Contact Layers and Surface Treatments to Overcome Performance Challenges for Perovskite Tandems
16:00 - 16:30	**Coffee Break**
16:30 - 16:45 A3-O1	Marko Jost *(Young Investigator Group Perovskite Tandem Solar Cells, Helmholtz-Zentrum Berlin)*, Tobias Bertram, Dibyashree Koushik, Jose A. Marquez, Marcel A. Verheijen, Eike Köhnen, Amran Al-Ashouri, Thomas Unold, Mariadriana Creatore, Iver Lauermann, Christian A. Kaufmann, Rutger Schlatmann, Steve Albrecht Thin Conformal Hole Transport Layers Enabling Highly Efficient Monolithic Perovskite/CIGSe Tandem Solar Cells
16:45 - 17:00 A3-O2	Yangying Zhou *(State Key Laboratory of New Ceramics & Fine Processing, School of Materials Science and Engineering, Tsinghua University, Beijing 100084, P. R. China.)*, Hong Lin Perovskite Solar Cell-Thermoelectric Tandem System with a High Efficiency of Over 23%
17:00 - 17:15 A3-O3	David McMeekin *(Clarendon Laboratory, Department of Physics, Oxford University, Oxford OX1 3PU, UK)*, Suhas Mahesh, Nakita Noel, Matthew Klug, JongChul Lim, Jonathan Warby, James Ball, Laura Herz, Michael Johnston, Henry Snaith Solution-Processed All-Perovskite Multi-Junction Solar Cells
17:15 - 17:30 A3-O4	Heping Shen *(Research School of Engineering, The Australian National University)*, Stefan Omelchenko, Daniel Jacobs, Sisir Yalamanchili, Nathan Lewis, Kylie Catchpole In situ recombination junction between p-Si and TiO2 enables high-efficiency monolithic perovskite/Si tandem cells
	Session B3

14:30 - 14:45 B3-O7	Tae-Woong Kim, Ludmila Cojocaru, Satoshi Uchida *(Research Center for Advanced Science and Technology (RCAST), The University of Tokyo)*, Tomonori Matsushita, Takashi Kondo, Hiroshi Segawa High Resolution TEM Observation of MAPbI3 Perovskite Solar cells with Superlattice
14:45 - 15:00 B3-O8	Eva M. Barea *(Institute of Advanced Materials (INAM), Universitat Jaume I)*, Jesús Rodríguez-Romero, Bruno Clasen Hames, Iván Mora-Seró Conjugated Organic Cations to Improve the Optoelectronic Properties of 2D/3D Perovskites
15:00 - 15:15 B3-O5	alessandra alberti *(Institute for Microelectronics and Microsystems (CNR-IMM), Zona Industriale - VIII Strada 5, Catania 95121, Italy)*, ioannis deretzis, giovanni mannino, emanuele smecca, filippo giannazzo, andrea listorti, silvia colella, sofia masi, antonino la magna Nitrogen soaking promotes lattice recovery in polycrystalline hybrid perovskites
15:15 - 15:30 B3-O6	Yue Hu *(Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology)* Melt processing of phase pure selenium for printable triple mesoscopic solar cells
15:30 - 16:00 B3-IS1	Lioz Etgar *(Institute of Chemistry, The Hebrew University of Jerusalem)* Low Dimensional Perovskite: Stability, Solar Cells and Nanostructures
16:00 - 16:30	**Coffee Break**
16:30 - 16:45 B3-O1	Andrés Burgos-Caminal *(Photochemical Dynamics Group, Institute of Chemical Sciences and Engineering, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland)*, Aurélien Willauer, Ahmad Ajdar Zadeh, Jacques-E. Moser Hot Carrier Dynamics in Lead Halide Perovskites: Mobility and Carrier-Phonon Coupling
16:45 - 17:00 B3-O2	Flurin Eisner *(Department of Physics, Imperial College London, UK)*, Mohammed Azzouzi, Jenny Nelson Hybridization of Local Exciton and Charge-Transfer States Reduces Non-Radiative Voltage Losses in Organic Solar Cells
17:00 - 17:15 B3-O3	Paramvir Ahlawat *(Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne, Switzerland)*, Michele Parrinello, Ursula Rothlisberger Atomistic Simulations of Nucleation of Lead Halide Perovskites
17:15 - 17:30 B3-O4	Kelly Schutt *(University of Oxford, GB)*, Pabitra Nayak, Alexandra Ramadan, Bernard Wenger, Yen-Hung Lin, Henry Snaith Overcoming Zinc Oxide Interface Instability with Methylammonium-free Perovskites for High Performance Solar Cells
	Session C3
14:30 - 14:45 C3-O5	Dominik Kubicki *(Institute of Chemical Sciences and Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), CH-1015 Lausanne, Switzerland)*, Daniel Prochowicz, Albert Hofstetter, Shaik Zakeeruddin, Michael Grätzel, Lyndon Emsley Cadmium Doping: Incorporation and Phase Segregation in Mixed-Cation and Mixed-Halide Lead Perovskites from Solid-State NMR
14:45 - 15:00 C3-O6	Stuart Macpherson *(Cavendish Laboratory, Department of Physics, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, UK.)*, Andrew Winchester, Elizabeth Tennyson, Krzystof Galkowski, Tiarnan Doherty, Miguel Anaya, Christopher Petoukhoff, Michael Man, Keshav Dani, Samuel Stranks Modulating Nanoscale Defect States in Halide Perovskite Films
15:00 - 15:30 C3-IS2	Aditya Mohite *(RICE UNIVERSITY)* From RT hysteresis free FETs to tailoring phase purity and orientation in layered 2D perovskites
15:30 - 15:45 C3-O3	Mathias Uller Rothmann *(Department of Physics, University of Oxford)*, Judy Kim, Juliane Borchert, Kilian Lohmann, Colum O'Leary, Alex Sheader, Michael Johnston, Henry Snaith, Peter Nellist, Laura Herz Reliable Atomic-Resolution Observations of the Nanoscopic Properties of Hybrid Perovskite Thin Films
15:45 - 16:00 C3-O4	Gergely Samu *(Department of Physical Chemistry and Materials Science, Interdisciplinary Excellence Centre, University of Szeged)*, R.A. Scheidt, A. Balog, C. Janáky, P.V. Kamat Modulation of Excited State Dynamics in Lead Halide Perovskite Films with Electrical Bias
16:00 - 16:30	**Coffee Break**

16:30 - 17:00 C3-IS1	Tanja Ivanovska *(Saule Technologies)* Step by Step toward Commercially Available Flexible Perovskite Modules
17:00 - 17:15 C3-O2	Lukas Wagner *(Fraunhofer-Institute for Solar Energy Systems ISE, Heidenhofstrasse 2, D–79110 Freiburg, Germany)*, Simone Mastroianni, Andreas Hinsch The Carbon Footprint of Solar Cells: How the Ultimate Lower Limit Can Be Reached with Perovskites
17:15 - 17:30 C3-O1	Claire Burgess *(Department of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands)*, Farzad Mardekatani Asl, Valerio Zardetto, Herbert Lifka, Sjoerd Veenstra, Mariadriana Creatore Interface Studies of Metal Oxides Grown Directly on Hybrid Perovskite by Atomic Layer Deposition

Poster Contribution

001	Priya Shrivastava *(Centre for Research in Nanotechnology and Science, Indian Institute of Technology Bombay, Powai, Mumbai 400076, India)*, K.R. Balasubramaniam, Parag Bhargava Morphological and Electronic Tailoring: Insights into Zero Dimensional Bismuth Based (CH3NH3)3Bi2I9 Lead Free Perovskites
002	Hooman Mehdizadeh Rad *(Charles Darwin University)*, Jai Singh Study of Diffusion Length of Charge Carriers in Perovskite Solar Cells
004	Loreta Angela Muscarella *(AMOLF Institute)*, Sandy Sanchez, Andries Lof, Michael Saliba, Bruno Ehrler Impact of Flash Infrared Annealing on Growth and Photophysics of MAPbI3 Perovskite
005	Loreta Angela Muscarella *(AMOLF Institute)*, Eline M. Hutter, Jan Versluis, Huib Bakker, Bruno Ehrler Carrier cooling in Perovskite under Hydrostatic Pressure Probed by Transient Absorption Spectroscopy
006	Silver-Hamill Turren-Cruz *(Helmholtz-Zentrum Berlin für Materialien und Energie)*, Anders Hagfeldt, Michael Saliba Methylammonium-free, High-performance, and Stable Perovskite Solar Cells on a Planar Architecture
007	BongSoo Kim *(Ulsan National Institute of Science and Technology (UNIST), KR)* Structure-to-photovoltaic property relationships in rhodanine-based small molecule acceptors
008	Jovana Milic *(Laboratory of Photonics and Interfaces, Institute of Chemical Sciences and Engineering, École Polytechnique Fédérale de Lausanne, Lausanne CH-1015, Switzerland)*, Dominik Kubicki, Dongqin Bi, Xiong Li, Lyndon Emsley, Michael Graetzel Multifunctional Molecular Modulation for Stable and Efficient Hybrid Perovskite Solar Cells
009	masoudeh maleki *(Department of Science, Fouman and Shaft Branch, Islamic Azad University)*, seyed mohammad rozati Experimental and theoretical Study of N doped SnO2 by APCVD and DFT method
010	Hye Ri Jung *(Department of Physics, Ewha Womans University)*, William Jo Charge Transfer Mechanism in Transition-metal Dichalcogenide /Organolead Perovskite Heterostructure
011	Alessio Gagliardi *(Technische Universität München)*, Jared Stanley Novel machine learning method for stability and energy bandgap prediction of lead free perovskite materials
012	Silvia Motti *(Department of Physics, University of Oxford)*, Timothy Crothers, Rong Yang, Jianpu Wang, Laura Herz Energy Cascades in Mixed-Phase Perovskite Thin Films: Charge-Carrier Dynamics and Mobilities
018	Dengyang Guo *(Department of Chemical Engineering, Delft University of Technology, 2629 HZ Delft, The Netherlands.)*, Valentina Caselli, Eline Hutter, Tom Savenije Predicting the Maximum Open Circuit Voltage of Perovskite Solar Cells from Time-Resolved Measurements
021	Lucie McGovern *(Center for Nanophotonics, AMOLF, Science Park 104, 1098 XG Amsterdam, The Netherlands)*, Loreta Muscarella, Moritz Futscher, Bruno Ehrler Quantification of Ion Migration in MAPbBr3 Solar Cells with varying Grain Size
022	Nick Vlachopoulos *(Laboratory of Photomolecular Science, Institute of Chemical Sciences and Engineering, École Polytechmique Fédérale de Lausanne, 1015 Lausanne, Switzerland)*, Anders Hagfeldt, Michael Grätzel Electrochemical Methods in Dye-Sensitized and Perovskite Solar Cell Research

024	Cheng-Hung Hou *(Academia Sinica)*, Jing-Jong Shyue, Shu-Han Hung, Li-Ji Jhang Artifact-Free Depth Profiles Acquired by ToF-SIMS and Their Utility in Revealing Perovskite Solar Cells' Natures
026	Andrea Rubino *(Instituto de Ciencia de Materiales de Sevilla (ICMS-CSIC))*, Mauricio Calvo, Juan Galisteo, Hernán Míguez APbX3 Perovskite Nanocrystals in Porous Matrices: Size Control and New Potential Applications
027	Ajay Singh *(Department of Electrical and Computer Engineering, Technical University of Munich)*, Alessio Gagliardi Drift-diffusion and Machine Learning for High Efficiency Perovskite-Perovskite based Tandem Solar Cells
028	YOUNGU LEE *(Daegu Gyeongbuk Institute of Science and Technology)* Regioregular Terpolymers for High-Performance Organic Photovoltaic Devices
039	Kieran Walsh *(School of Physics, University of Exeter)*, Conor Murphy, Adolfo De Sanctis, Christos Melios, Saverio Russo, Monica Craciun FeCl3 intercalted graphene electrodes for photovoltaic energy harvesting
042	Sameh Hamzawy *(Intelligent Polymer Research Institute, University of Wollongong)*, Pawel Wagner, Attila Mozer, Andrew Nattestad Redox Mediators Effect on The Up-Convesion System Performance for Intermediate Band Dye Solar Cells Applications
047	Isabella Poli *(Dept. of Chemistry & Centre for Sustainable Chemical Technologies, University of Bath, Claverton Down, Bath BA2 7AY, UK)*, Ulrich Hintermair, Miriam Regue, Santosh Kumar, Emma Sackville, Jenny Baker, Trystan Watson, Salvador Eslava, Petra Cameron Inexpensive Metal Free Encapsulation Layers Enable Halide Perovskite Based Photoanodes for Water Splitting
053	Seyedali Emami *(LEPABE, Departamento de Engenharia Química, Universidade do Porto – Faculdade de Engenharia, Rua Dr. Roberto Frias s/n 4200-465 Porto, Portugal)*, Dzmitry Ivanou, Adélio Mendes LASER-ASSISTED GLASS FRIT ENCAPSULATION of HTM-FREE PEROVSKITE SOLAR CELLS
056	Leonardo Buizza *(Clarendon Laboratory, Department of Physics, University of Oxford, Parks Road, Oxford, OX1 3PU, United Kingdom)*, Zhiping Wang, Timothy Crothers, Rebecca Milot, Henry Snaith, Michael Johnston, Laura Herz Charge-Carrier Dynamics, Mobilities and Diffusion Lengths of 2D-3D Lead Halide Perovskites
057	Inseong Cho *(Intelligent Polymer Research Institute, University of Wollongong)*, Peter Innis, Attila Mozer Exploiting intermolecular interaction between alkyl-functionalised electron donor-acceptor pairs as a strategy to enhance electron transfer kinetics
060	Hsin-Hsiang Huang *(Department of Materials Science and Engineering, National Taiwan University, Taipei 10617, Taiwan.)*, Leeyih Wang, King-Fu Lin High-Performance and Robust CH3NH3PbI3/Nanoclay Hybrid Perovskite Solar Cells Under High-Humidity Condition
064	Karen Valadez-Villalobos, Alejandra Castro-Chong, Gerko Oskam *(1 Department of Applied Physics, CINVESTAV-IPN, Mérida, Yuc. 97310, México)*, Tom Aernouts, Juan A. Anta Effect of the Electron Selective Contact Material on the performance and Stability of Hybrid Perovskite Solar Cells
065	Chuantian Zuo *(CSIRO Manufacturing)*, Andrew D. Scully, Doojin Vak, Wenliang Tan, Xuechen Jiao, Christopher R. McNeill, Dechan Angmo, Liming Ding, Mei Gao Self-Assembled Two-Dimensional Perovskites Layers for Efficient Printable Solar Cells
066	O-Pil Kwon *(Department of Molecular Science and Technology, Ajou University, Suwon 443-749 (Korea))*, Su-Kyo Jung, Jong-Bum Lee, Dae Woon Lee, Mojca Jazbinsek, Jong H. Kim Organic Electron Transporting Materials with Naphthalene Diimide Semiconducting Core and Their THz Spectroscopy
067	Diego Di Girolamo *(CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, University of Rome Tor Vergata)*, Aldo Di Carlo, Danilo Dini, Antonio Abate Recombination and Electrical Stability. What Happens at the HSL/Perovskite Interface and How to Solve it
069	Meiqian Tai *(State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science and Engineering, Tsinghua University, Beijing, China)*, Xingyue Zhao, Hong Lin Flash-evaporation Printing Methodology for Perovskite Thin Films and Efficient Solar Cells

070	Alexander Polyakov *(Department of Semiconductor Electronics and Device Physics, National University of Science and Technology MISiS)*, Nickolay Smirnov, Ivan Shcemerov Shchemerov, Danila Saranin, Anna Pozniak, Ali Sehpar Shikoh, Sergey Didenko, Denis Kuznetsov, Antonio Agresti, Sara Pescetelli, Fabio Matteocci, Aldo Di Carlo Admittance spectroscopy and DLTS measurements on multication mesoscopic perovskite solar cells
071	Cristina Teixeira *(FEUP - Faculdade de Engenharia da Universidade do Porto, University of Porto)*, Luísa Andrade, Adélio Mendes Preparation of carbon-based electrodes to be used as back-contact in perovskite solar cells
073	Jay Patel *(Clarendon Laboratory, Department of Physics, University of Oxford, Parks Road, Oxford, OX1 3PU, United Kingdom)*, Qianqian Lin, Olga Zadvorna, Christopher Davies, Laura Herz, Michael Johnston Utilizing Temperature-Dependent Photocurrent Spectroscopy to Extract the Exciton Binding Energy of CH3NH3PbI3 Perovskite Thin-Films
075	Sandy Sanchez *(École Polytechnique Fédérale de Lausanne EPFL, CH)* Flash infrared annealing method: the pulse time to control the perovskite crystal nucleation and growth from solution
079	Eike Köhnen *(Helmholtz-Zentrum Berlin für Materialien und Energie, Institut für Si-Photovoltaik)*, Marko Jošt, Anna Belen Morales-Vilches, Philipp Tockhorn, Amran Al-Ashouri, Bart Macco, Lukas Kegelmann, Lars Korte, Bernd Stannowski, Bernd Rech, Rutger Schlatmann, Steve Albrecht Highly Efficient Monolithic Perovskite Silicon Tandem Solar Cells: Analysing Current-Mismatch Conditions
080	Askhat Jumabekov *(Department of Physics, School of Science and Technology, Nazarbayev University, Astana 010000, Kazakhstan)*, Giovanni DeLuca, Yinghong Hu, Gede Adhyaksa Transparent Quasi-Interdigitated Electrodes for Semitransparent Perovskite Back-Contact Solar Cells
081	Ludmila Cojocaru, Karl Wienands *(Freiburg Center for Interactive Materials and Bioinspired Technologies (FIT), Laboratory for Photovoltaic Energy Conversion, Institute for Sustainable Systems Engineering (INATECH), University of Freiburg, Germany)*, Matthias Breitwieser, Alexander J. Bett, Patricia S. C. Schulze, Jan Christoph Goldschmidt, Stefan W. Glunz Evaporation-based techniques for high quality absorbers (Pb and Pb-free) prepared on structured substrates
082	Isabel Mesquita *(LEPABE - Laboratory for Process Engineering, Environment, Biotechnology and Energy, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal)*, Luísa Andrade, Adélio Mendes Impact of Environmental Conditions in Perovskite Solar Cells: Relative Humidity and Oxygen
084	Narges Yaghoobi Nia *(CHOSE - Centre for Hybrid and Organic Solar Energy, University of Rome "Tor Vergata")*, Enrico Lamanna, Mahmoud Zendehdel, Alessandro Lorenzo Palma, Francesca Zurlo, Aldo Di Carlo Doping strategy for high efficiency Triple Cation Hybrid Perovskite Solar Cell and Module based on Poly(3-Hexylthiophene)[P3HT] Hole Transport Layer
085	Blaise Godefroid *(Université libre de Bruxelles)*, Gregory Kozyreff Optimisation of Metallic Interconnecting Layer in Homo-Tandem Cells
088	Laura Canil *(Helmholtz-Zentrum Berlin für Materialien und Energie)*, Antonio Abate Work Function Tuning through Self-Assembling Monolayers of Fluorinated Molecules
089	Giuliana Giuliano *(Dipartimento di Fisica e Chimica (DiFC), Università degli Studi di Palermo, Viale delle Scienze, Ed. 17-18, 90128 Palermo, Italy)*, Sebastiano Cataldo, Michelangelo Scopelliti, Tiziana Fiore, Bruno Pignataro Multilayer Copper-Rich Transparent Electrode as an Alternative Top Anode for High-Performance Semitransparent Perovskite Solar Cells
092	Chi-Yuan Chang *(Center for Condensed Matter Sciences, National Taiwan University, Taipei 10617, Taiwan.)*, Leeyih Wang, Yang-Fang Chen, Fang-Chi Hsu Perovskite Solar Cells Based on Self-assembled Hole-Extraction Monolayer with Conjugated Polyelectrolyte
096	Lukas Helmbrecht *(AMOLF)*, Hans C. Hendrikse, Tim Holtus, Iaroslav Baglai, Sophie Meuret, Gede W. P. Adhyaska, Erik C. Garnett, Wim L. Noorduin A Bio-Inspired Route to 3D Lead-Halide Perovskites
097	Wolfgang Köntges *(Centre for Advanced Materials (CAM), Heidelberg University, Heidelberg, Germany)*, Pavlo Perkhun, Rasmus R. Schröder, Riva Alkarsifi, Olivier Margeat, Christine Videlot-Ackermann, Jörg Ackermann, Martin Pfannmöller Real-Space Correlation of Crystallinity and Material Phase Distribution in Non-Fullerene Acceptor Blends

098	Rúben Madureira *(LEPABE - Laboratory for Process Engineering, Environment, Biotechnology and Energy, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal)*, Jorge Martins, Seyedali Emami, Joaquim Mendes, Adélio Mendes Hermetic Sealing of Perovskite Solar Cells at Process Temperature Lower than 85 °C
103	Vsevolod Mazov *(LASE–Laboratory for Advanced Solar Energy, National University of Science and Technology MISiS)*, Pavel Gostishchev, Saranin Danila, Denis Kuznetsov, Aldo Di Carlo Increase of halide perovskite stability with piperidine derivatives in 2D/3D structures
104	Emanuele Smecca, Ajay Jena, Ioannis Deretzis, Gyu Min Kim, Yohuei Numata, Silvia Scalese, Giovanni Mannino, Corrado Bongiorno, Antonino La Magna, Tsutomu Miyasaka, Alessandra Alberti *(CNR-IMM, Istituto per la Microelettronica e Microsistemi)* Fully solvent-free preparation of MAPbI3 films for photovoltaic application
106	Natalie Mica *(Organic Semiconductor Centre, SUPA, School of Physics and Astronomy, St Andrews, Fife, KY16 9SS, UK)*, Stuart Thomson, Ifor Samuel Mobility of Non-fullerene Acceptors Using a Time of Flight Method
110	Lukas Kegelmann *(Young Investigator Group Perovskite Tandem Solar Cells, Helmholtz-Zentrum Berlin)*, Philipp Tockhorn, Max Grischek, José A. Márquez, Thomas Unold, Wilfried Lövenich, Dieter Neher, Steve Albrecht SpiDOT: mixtures of undoped Spiro-OMeTAD and PEDOT to reduce charge recombination and absorption losses in monolithic perovskite/silicon tandem solar cells
113	Yuriy Karpov, Danila Saranin *(LASE–Laboratory for Advanced Solar Energy, National University of Science and Technology MISiS)*, Lev Luchnikov, Vsevolod Mazov, Inga Ermanova, Pavel Gostischev, Sergey Didenko, Denis Kuznetsov, Aldo Di Carlo High-performing, hysteresis-free perovskite solar cells with inverted structure for indoor application
114	Jhon Puerres-Puerres *(Chemistry Department, Universidad de los Andes)*, Pablo Ortiz-Herrera, María T. Cortés M. Photoelectrochemical Hydrogen Production Using Thin Films of Polypyrrole Electrochemically Synthesized
116	Pavao Andričević *(Laboratory of Physics of Complex Matter (LPMC), Ecole Polytechnique Fédérale de Lausanne, Centre Est, Station 3, CH-1015 Lausanne, Switzerland)*, Pavel Frajtag, Vincent Pierre Lamirand, Andreas Pautz, Márton Kollár, Bálint Náfrádi, Andrzej Sienkiewicz, Tonko Garma, László Forró, Endre Horváth 100 Hours Operation of Large Perovskite Single Crystals for Gamma Dose-rate Measurements
118	Pavlo Perkhun *(Aix-Marseille Univ., UMR CNRS 7325, Centre Interdisciplinaire de Nanosciences de Marseille (CINaM), 13009 Marseille Cedex 09, France)*, Elena Barulina, Sadok Ben Dkhil, Pascal Pierron, Wolfgang Köntges, Martin Pfannmöller, Christine Videlot-Ackermann, Olivier Margeat, Jean-Jacques Simon, Jörg Ackermann Digital printing of polymer solar cells based on non-fullerene acceptors: from spin coating to digital printing
122	G.Dinesha M. R. Dabera, H. Jessica Pereira, Jaemin Lee, Ross Hatton *(Department of Chemistry, University of Warwick, CV4 7AL, Coventry, United Kingdom)* An electrode design rule for high performance solution processed organic photovoltaics
123	H.Jessica Pereira, Jaemin Lee, Silvia Varagnolo, G. Dinesha M.R. Dabera, Ross Hatton *(Department of Chemistry, University of Warwick, CV4 7AL, Coventry, United Kingdom)* Copper window electrodes with 100 million apertures cm-2 for high performance flexible organic photovoltaics
126	Fabian Schackmar *(Karlsruhe Institute of Technology (KIT), Light Technology Institute (LTI), Engesserstrasse 13, 76131 Karlsruhe, Germany)*, Helge Eggers, Tobias Abzieher, Gerardo Hernandez-Sosa, Bryce S. Richards, Uli Lemmer, Ulrich W. Paetzold Inkjet-Printed Micron-Thick Triple-Cation Absorber Layers with Columnar Crystals in Perovskite Solar Cells Exceeding 18% Stabilized Power Conversion Efficiency
127	Dmitry Baranov *(Istituto Italiano di Tecnologia (IIT))*, Stefano Toso, Liberato Manna Cesium Lead Bromide Nanocrystal Superlattices: from Optical Properties to Applications
130	Naveen Venkatesan *(Materials, University of California Santa Barbara)*, John Labram, Rhys Kennard, Ryan DeCrescent, Hidenori Nakayama, Clayton Dahlman, Erin Perry, Jon Schuller, Michael Chabinyc Charge Carrier Dynamics and Structural Defects in Layered Hybrid Perovskites

131	Jangwon Seo *(Division of Advanced Materials, Korea Research Institute of Chemical Technology (KRICT))* Interfacial control between perovskite and charge transporting materials for efficient and stable perovskite solar cells
133	Nga Phung *(Helmholtz-Zentrum Berlin)*, Aboma Merdasa, Antonio Abate Real-time observation of ion migration interaction with grain boundaries in methylammonium lead iodide by photoluminescence imaging
134	Diego De Girolamo, Ibrahim M. Dar, Danilo Dini, Lorenzo Gontrani, Ruggero Caminiti, Alessandro Mattoni, Michael Graetzel, Simone Meloni *(Dept. of Mechanical and Aerospace Engineering, Sapienza University of Rome, via Eudossiana 18, 00184, Rome, Italy)* Dual Effect of Positive and detrimental effects of humidity on cesium lead bromide
135	Davide Moia *(Department of Physics, Imperial College London, UK)*, Ilario Gelmetti, Phil Calado, William Fisher, Michael Stringer, Onkar Game, Yinghong Hu, Pablo Docampo, David Lidzey, Emilio Palomares, Joachim Maier, Jenny Nelson, Piers Barnes The device physics of metal halide perovskite interfaces, part 2: equivalent circuit model
137	Simon Ternes *(Light Technology Institute, Karlsruhe Institute of Technology, Engesserstr. 13, 76131 Karlsruhe, Germany)*, Tobias Börnhorst, Jonas A. Schwenzer, Ihteaz M. Hossain, Waldemar Mehlmann, Philip Scharfer, Wilhelm Schabel, Uli Lemmer, Bryce S. Richards, Ulrich W. Paetzold In-situ analysis of the drying process in blade-coated perovskite absorber layers for efficient solar cells
138	David O. Tiede *(Instituto de Ciencia de Materiales de Sevilla (ICMS-CSIC))*, Juan F. Galisteo-López, Maurico E. Calvo, Hernán Míguez Improving the Bulk Emission Properties of CH3NH3PbBr3 by Modifying the Halide-Related Defect Structure
142	Gregor Trimmel *(Institute for Chemistry and Technology of Materials (ICTM), NAWI Graz, Graz University of Technology)*, Thomas Rath, Stefan Weber, Jasmin Handl, Theodoros Dimopoulos, Birgit Kunert Investigation of Triple Cation Tin Perovskite Solar Cells
143	TAUHEED MOHAMMAD *(Photovoltaic Laboratory, Centre for Energy Studies, Indian Institute of Technology Delhi New Delhi-110016, India)*, Viresh Dutta, Mahesh Kumar, Suresh Chand Spray Deposition Technique for Utilizing Förster Energy Transfer in Bulk Heterojunction Organic Solar Cells: Role of Applied Voltage
144	Tetsuhiko Miyadera *(Research Center for Photovoltaics (RCPV), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan)*, Yuto Auchi, Kohei Yamamoto, Noboru Ohashi, Tomoyuki Koganezawa, Yuji Yoshida, Masayuki Chikamatsu Real-Time Crystallization Analysis of Organolead-Halide Perovskite
145	Christof Schultz, Andreas Bartelt *(University of Applied Sciences – HTW Berlin)*, Antje Neubauer, Cornelia Junghans, Marko Jost, Lukas Kegelmann, Rutger Schlatmann, Steve Albrecht, Bert Stegemann Time-resolved photoluminescence imaging reveals material modifications of laser scribes in perovskite solar cells
146	Stefania Cacovich *(IPVF, Institut Photovoltaïque d'Ile-de-France, 30 RD 128, 91120 Palaiseau, France)*, Adrien Bercegol, Daniel Ory, Daniel Suchet, Olivier Fournier, Jean-François Guillemoles, Jean Rousset, Laurent Lombez Quantitative Assessment of Photonic and Electronic Properties in Multi-Cation Halide Perovskites through Multi-Dimensional Luminescence Imaging
147	Allan Starkholm *(RISE Surface, Process and Formulation, Forskargatan 20J, 15136 Södertälje, Sweden)*, Per H Svensson, Lars Kloo Approaches for Performance Improvement of Low-Dimensional Perovskite Systems as Photovoltaic Materials
149	Richard Ciesielski *(Department of Chemistry and Center for NanoScience (CeNS), LMU Munich, 80539 Munich, Germany)*, Alexander Biewald, Frank Schäfer, Pablo Docampo, Achim Hartschuh Temperature Dependent Charge Carrier Diffusion and the Role of Grain Boundaries in Thin Film Perovskites
150	Anurag Krishna *(Laboratoire de Réactivité et Chimie des Solides (LRCS) UMR CNRS 7314 - Institut de Chimie de Picardie FR 3085 Université de Picardie Jules Verne 33 rue Saint Leu, FR-80039 Amiens Cedex, France)*, MohammadAli Akhavan Kazemi, Sébastien Gottis, Frédéric Sauvage Molecularly Engineered 2D /3D Perovskites Based on Quaternary Ammonium Cation for Stable and Efficient Perovskite Solar Cells

152	Artiom Magomedov *(Department of Organic Chemistry, Kaunas University of Technology)*, Amran Al-Ashouri, Ernestas Kasparavicius, Gediminas Niaura, Tadas Malinauskas, Steve Albrecht, Vytautas Getautis Hole-Selective Monolayers: Synthesis, Deposition, and Application in Efficient Perovskite Solar Cells.
153	Nourdine Zibouche *(Department of Chemistry, University of Bath, Bath BA2 7AY, UK)*, M. Saiful Islam 2D and 3D tin-based perovskites and their defect-induced optoelectronic properties
156	Ahmed Said *(School of Materials Science and Engineering, Nanyang Technological University)*, Qichun Zhang, Dada Shaikh, Sidhanath Bhosale, Yang Wang, Tsuyoshi Michinobu Organic Non-Fullerene Acceptors as Efficient Electron Transporting Materials in Inverted Perovskite Solar Cells
157	Arup Mahata *(D3-CompuNet, Istituto Italiano di Tecnologia, Via Morego 30, 16163 Genova, Italy)*, Daniele Meggiolaro, Filippo De Angelis Rationalizing Polaron Formation in 3D ABX3 [A=FA, MA, Cs, Cs+MA; B=Pb, Sn, Pb+Sn; X=I, Br] Perovskites
158	Ula Yasin *(Berlin Joint EPR Lab, Freie Universität Berlin, Berlin (Germany))*, Lukas Kegelmann, Felix Kraffert, Steve Albrecht, Jan Behrends Quantitative EPR Analysis of Doped Spiro-OMeTAD
159	Damiano Ricciarelli *(Computational Laboratory for Hybrid/Organic Photovoltaic (CLHYO), Istituto CNR di Scienze e Tecnologie Molecolari (ISTM-CNR), Via Elce di Sotto 8, 06123 Perugia, Italy)*, Daniele Meggiolaro, Filippo De Angelis Computational Modelling of Defect Chemistry of Tin Halide Perovskites for Solar Cells Applications
160	Giulia Lucarelli *(CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, University of Rome Tor Vergata)*, Sergio Castro-Hermosa, Michiel Top, Matthias Fahland, John Falteich, Thomas M. Brown Ultra-Thin Flexible Glass Perovskite Solar Cells as Outstanding Photovoltaic Light Harvesters Under Indoor Illumination
164	Florent Sahli *(Ecole Polytechnique Fédérale de Lausanne (EPFL), Institute of Microengineering (IMT) Photovoltaics and Thin-Film Electronics Laboratory (PV-Lab), Neuchâtel, Switzerland)*, Gizem Nogay, Jérémie Werner, Fan Fu, Arnaud Walter, Saeid Rafizadeh, Vincent Paratte, Raphäel Monnard, Brett A. Kamino, Peter Fiala, Terry Chien-Jen Yang, Matthias Bräuninger, Ricardo A. Z. Razera, Matthieu Despeisse, Sylvain Nicolay, Mathieu Boccard, Andrea Ingenito, Quentin Jeangros, Christophe Ballif Perovskite/Silicon Monolithic Tandem Based on a P-type High-temperature Tolerant Silicon Bottom Cell
167	Paolo Mariani *(Department of Electronics Engineering, University of Rome "Tor Vergata", via del Politecnico 1 00133 Rome – ITALY / CHOSE- Centre for Hybrid and Organic Solar Energy)*, Babak Taheri, Maryam Esmaeilzadeh, Sara Pescetelli, Antonio Agresti, Aldo Di Carlo Automatized Low Temperature Deposition of Blocking TiO2 Layer for Large Area Perovskite Solar Devices
170	Dmitry Bogachuk *(Fraunhofer-Institute for Solar Energy Systems ISE, Heidenhofstrasse 2, D–79110 Freiburg, Germany)*, Simone Mastroianni, Lukas Wagner, Michael Daub, Andreas Hinsch The Principle of Ionic Liquefaction of MALI by Introducing Methylamine Gas as a Structural Modifier Causing Lowering of the Ionic Strength between the Cation and the PbI6 Octahedra
171	Amran Al-Ashouri *(Young Investigator Group Perovskite Tandem Solar Cells, Helmholtz-Zentrum Berlin)*, Artiom Magomedov, Marcel Roß, Marko Jošt, Ganna Chistiakova, Eike Köhnen, Sergiu Levcenco, José A. Márquez Prieto, Tadas Malinauskas, Charles J. Hages, Thomas Unold, Lars Korte, Bernd Rech, Vytautas Getautis, Steve Albrecht Universal Self-Assembled Monolayer Contacts for >20% Efficient Perovskite Solar Cells
172	Maning Liu *(Faculty of Engineering and Natural Sciences, Tampere University, Tampere FI-33014, Finland)*, Zhifeng Deng, Haichang Zhang, Paola Vivo Dopant-free Hole-transporting Materials Via Thionation Approach Towards Stable and Efficient Perovskite Solar Cells
173	Elizabeth Tennyson *(Cavendish Laboratory, Department of Physics, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, UK.)*, Kyle Frohna, William Drake, Quentin Jeangros, Chien-Jen Yang, Fan Fu, Jérémie Werner, Christophe Ballif, Samuel Stranks Spatially-Resolving the Optoelectronic Properties in Textured, Multi-junction Perovskite/Si Solar Cells
176	Eros Radicchi *(Department of Chemistry, Biology and Biotechnologies, University of Perugia & Computational Laboratory of Hybrid/Organic Photovoltaics (CLHYO), CNR - ISTM)*, Edoardo Mosconi, Fausto Elisei, Francesca Nunzi, Filippo De Angelis Understanding the Solution Chemistry of Lead Halide Perovskite Precursors

177	Eider A. Erazo Erazo *(Ph.D. student, Bogotá, Universidad de los Andes, 11711, Colombia)*, Daniel Castillo-Bendeck, Pablo Ortiz, María T. Cortés Electrodeposited PEDOT:DS-ClO4 as a Promising Hole Transporting Material
178	Piers Barnes *(Department of Physics, Imperial College London, UK)*, Davide Moia, Ilario Gelmetti, Phil Calado, William Fisher, Michael Stringer, Onkar Game, Yinghong Hu, Pablo Docampo, David Lidzey, Emilio Palomares, Nelson Jenny The Device Physics of Metal Halide Perovskite Interfaces, Part 1: Drift-diffusion Simulations and Underlying Physics
180	Babak Taheri *(CHOSE - Centre for Hybrid and Organic Solar Energy, Department of Electronic Engineering, University of Rome Tor Vergata)*, Giorgio Cardone, Aldo Di Carlo, Francesca Brunetti Automated Scalable Spray Coating of SnO2 Colgel and SnO2 Nano Particles for the Realization of Low Temperature and Large Area Perovskite Solar Cells
181	Tiarnan Doherty *(Cavendish Laboratory, Department of Physics, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, UK.)*, Duncan Johnstone, Felix Utama Kosasih, Stuart Macpherson, Andrew Wincheser, Giorgio Divitini, Keshav Dani, Caterina Ducati, Paul Midgley, Sam Stranks The Effect of Nanoscale Structural and Compositional Heterogeneities on the Photophysical Properties of Triple Cation Perovskite Films
184	Miguel Anaya *(Cavendish Laboratory, University of Cambridge, JJ Thomson Ave, Cambridge CB3 0HE, UK)*, Krzysztof Galkowski, Edoardo Ruggeri, Tiarnan Doherty, Stuart Macpherson, Sam Stranks Controlling Structural and Photophysical Properties of Triple Cation Perovskites by Light Soaking in Various Environmental Conditions
186	Zahra Andaji-Garmaroudi *(Cavendish Laboratory, Department of Physics, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, UK.)*, Mojtaba Abdi-Jalebi, Stuart Macpherson, Alan Bowman, Richard H. Friend, Samuel D. Stranks Highly Stable Light Emitting Diodes via Potassium Passivation
190	Enzo Menna *(University of Padova, Department of Chemical Sciences)*, Teresa Gatti Chemical Modification of Carbon Nano Structures Leading to Hybrid Materials for Photovoltaics
192	Alessandro Senocrate *(Max Planck Institute for Solid State Research, Heisenbergstrasse 1, 70569, Stuttgart)*, Igor Moudrakovski, Joachim Maier Short-Range Methylammonium Dynamics in Methylammonium Lead Iodide
193	Udo Bach *(ARC Centre of Excellence in Exciton Science, Department of Chemical Engineering, Monash University, Clayton, VIC, Australia)*, Wenxin Mao Towards Single-Crystalline Perovskite Devices