

Materials for Sustainable Development Conference (MAT-SUS) (NFM22)

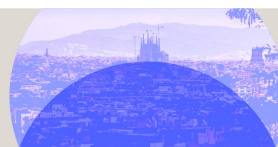
#STAPOS - Stability of perovskite and organic solar cells

Barcelona, Spain, 2022 October 24th - 27th

Conference Chairs: Carsten Deibel and Qiong Wang

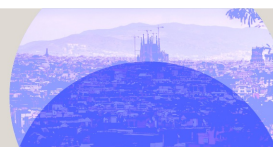
Conference Program

October 24th - Day 1 (Monday)	
08:55 - 09:00	Room A4 - Chair Introduction
	Session 1.1 Chair: Carsten Deibel
09:00 - 09:30 1.1-I1	Jenny Nelson, Xueyan Hou, <u>Mohammed Azzouzi</u> (<i>Department of Physics Imperial College London</i>), Jun Yan, Flurin Eisner, Zhe Li Chemical structure-property relationships in organic photovoltaics and their impact on device stability
09:30 - 10:00 1.1-I2	<u>Eva M. Herzig</u> (<i>Dynamics and Structure Formation - Herzig Group, Universität Bayreuth</i>) Slow nanostructural changes in active layers for PV applications
10:00 - 10:30 1.1-I3	<u>Harald Ade</u> (<i>North Carolina State University</i>) Morphological and Mechanical Stability of Non-Fullerene Organic Solar Cells
10:30 - 11:15	Coffee Break
	Session 1.2 Chair: Carsten Deibel
11:15 - 11:30 1.2-T1	<u>Aren Yazmaciyan</u> (<i>KAUST Solar Center (KSC), Physical Sciences and Engineering Division (PSE), King Abdullah University of Science and Technology (KAUST), Thuwal 23955-6900, Kingdom of Saudi Arabia</i>), Han Xu, Sri Harish Kumar Paleti, Maxime Babics, Stefaan De Wolf, Derya Baran A novel strategy to improve the operational and outdoor stability of non-fullerene acceptor-based organic solar cells
11:30 - 11:45 1.2-T2	<u>Christopher Wöpke</u> (<i>Chemnitz University of Technology, Institute of Physics</i>), Clemens Göhler, Maria Saladina, Xiaoyan Du, Li Nian, Christopher Greve, Chenhui Zu, Kayla Yallum, Yvonne Hofstetter, David Becker-Koch, Ning Li, Thomas Heumüller, Ilya Milekhin, Dietrich Zahn, Christoph Brabec, Natalie Banerji, Yana Vaynzof, Eva Herzig, Roderick MacKenzie, Carsten Deibel Traps and Transport Resistance - the Next Frontiers for Stable Organic Solar Cells
11:45 - 12:00 1.2-T3	<u>David Mueller</u> (<i>Fraunhofer Institute for Solar Energy Systems ISE, Heidenhofstrasse 2, 79110 Freiburg, Germany</i>), Laura Campos Guzmán, Paula Rivas Lazaro, Ershuai Jiang, Birger Zimmermann, Uli Wuerfel Long-term stability of flexible ITO-free inverted OPV cells and modules from non-halogenated solvents for powering IoT devices with artificial indoor light
12:00 - 12:15 1.2-T4	<u>Han Xu</u> (<i>KAUST Solar Center, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia.</i>), Jianhua Han, Derya Baran Understanding of Y-series Electron Acceptors Structure Affection on Photostability and Outdoor Performance of Organic Solar Cells
12:15 - 12:30 1.2-T5	<u>David Garcia Romero</u> (<i>University of Groningen</i>), Lorenzo Di Mario, Feng Yan, Petra Rudolf, Maria Antonietta Loi Simultaneous light-soaking release and lifetime expansion in non-fullerene solar cells
12:30 - 12:45 1.2-T6	<u>Juan Bisquert</u> (<i>Institute of Advanced Materials, Universitat Jaume I</i>) Hysteresis effects of halide perovskite solar cells and memristors investigation by neuron-model equations and impedance spectroscopy
12:45 - 13:00 1.2-T7	<u>Manuel Kober-Czerny</u> (<i>Department of Physics, University of Oxford</i>), Silvia G. Motti, Philippe Holzhey, Bernard Wenger, Laura M. Herz, Jongchul Lim, Henry Snaith Excellent Long-Range Charge-Carrier Mobility in 2D Perovskites
13:00 - 15:25	Lunch
15:25 - 15:30	Room A4 - Chair Introduction
	Session 1.3 Chair: Carsten Deibel
15:30 - 16:00 1.3-I1	<u>Derya Baran</u> (<i>KAUST Solar Center, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia.</i>), Jianhua Han, Han Xu, Juls Bertrandie Strategies to improve the thermal and operational stability of nonfullerene electron acceptors
16:00 - 16:30 1.3-I2	<u>Christoph Brabec</u> (<i>HI ERN, High Throughput Photovoltaics, Forschungszentrum Jülich</i>) Spectrally induced degradation mechanisms in organic solar cells - the last hurdle on the road to longevity?



October 25th - Day 2 (Tuesday)

08:55 - 09:00	Room A4 - Chair Introduction
	Session 2.1 Chair: Qiong Wang
09:00 - 09:30 2.1-11	<u>Paola Vivo</u> (<i>Hybrid Solar Cells, Faculty of Engineering and Natural Sciences, Tampere University, P.O. Box 541, FI-33014 Tampere University, Finland</i>) Hole-transport materials: design and doping strategies for stable perovskite solar cells
09:30 - 10:00 2.1-12	<u>Marina Leite</u> (<i>University of California Davis</i>) Tackling Perovskites' Instability from the Nano- to the Macroscale
10:00 - 10:30 2.1-13	<u>Feng Gao</u> (<i>Department of Physics Chemistry and Biology Linköping University</i>) A new doping strategy of spiro-OMeTAD for instantly efficient and stable perovskite solar cells
10:30 - 11:15	Coffee Break
	Session 2.2 Chair: Qiong Wang
11:15 - 11:45 2.2-11	<u>Antonio Abate</u> (<i>Department Novel Materials and Interfaces for Photovoltaic Solar Cells, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany.</i>) Lead-free perovskite solar cells
11:45 - 12:15 2.2-12	<u>Iván Mora-Seró</u> (<i>Institute of Advanced Materials (INAM), University Jaume I, Av. Vicent Sos Baynat, s/n, 12071, Castellón de la Plana, Spain.</i>) Stabilization of Perovskite Solar Cells and LEDs by Additive Incorporation
12:15 - 12:45 2.2-13	<u>Michael Saliba</u> (<i>Institute for Photovoltaics (ipv), University of Stuttgart</i>) The Versatility of Perovskite Materials for Optoelectronics
12:45 - 13:15 2.2-14	<u>Martin Stollerfoht</u> (<i>Institute of Physics and Astronomy, University of Potsdam, Karl-Liebknecht-Str. 24-25, D-14476 Potsdam-Golm, Germany</i>) The role of mobile ions in performance degradation of perovskite solar cells
13:15 - 15:25	Lunch
15:25 - 15:30	Room A4 - Chair Introduction
	Session 2.3 Chair: Qiong Wang
15:30 - 16:00 2.3-11	<u>Samuel Stranks</u> (<i>Department of Chemical Engineering & Biotechnology University of Cambridge</i>) The impact of nanoscale traps on the stability of halide perovskite solar cells
16:00 - 16:15 2.3-T1	<u>Moritz C. Schmidt</u> (<i>Center for Nanophotonics, AMOLF</i>), Bruno Ehrler Using transient capacitance measurements to characterise mobile ions in perovskite solar cells
16:15 - 16:30 2.3-T2	<u>David McMeekin</u> (<i>Department of Physics University of Oxford</i>), Philippe Holzhey, Udo Bach, Henry Snaith Intermediate-Phase Engineering via Dimethylammonium Cation Additive for Stable Perovskite Solar Cells
16:30 - 16:45 2.3-T3	<u>Zafar Iqbal</u> (<i>Department of Novel Materials and Interfaces for Photovoltaic Solar Cells, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH</i>), Artem Musiienko, Hans Köbler, Antonio Abate, Qiong Wang Band banding at CsPbI ₃ and hole transport layer interface
16:45 - 17:00 2.3-T4	<u>Loreta A. Muscarella</u> (<i>Center for Nanophotonics, AMOLF</i>), Algirdas Dučinskas, Mathias Dankl, Michał Andrzejewski, Nicola Pietro Maria Casati, Ursula Rothlisberger, Joachim Maier, Michael Graetzel, Bruno Ehrler, Jovana Milic Correlation of Structural and Optical Properties in Layered 2D Perovskites: a Pressure-dependent Study
17:00 - 17:05	Symposium Closing
17:15 - 20:00	Poster Session



October 26th - Day 3 (Wednesday)

19:30 - 22:00 **Social Dinner**

October 27th - Day 4 (Thursday)

17:15 - 17:30 **General Closing**

Poster Contribution

223	<u>Emil G. Dyrvik</u> (<i>Clarendon Laboratory, University of Oxford</i>), Henry J. Snaith Halide segregation and degradation trends in formamidinium-based, 70% bromide, lead-halide perovskite absorbers
279	<u>Yakun He</u> (<i>Institute of Materials for Electronics and Energy Technology (i-MEET), Friedrich-Alexander-Universität Erlangen-Nürnberg, Martensstrasse 7, 91058 Erlangen, Germany</i>), Ning Li, Thomas Heumüller, Jonas Wortmann, Benedict Hanisch, Anna Aubele, Sebastian Lucas, Guitao Feng, Xudong Jiang, Weiwei Li, Peter Bäuerle, Christoph Brabec Industrial viability of single-component organic solar cells
293	<u>Aida Drevilkaukaitė</u> (<i>Department of Organic Chemistry, Kaunas University of Technology, Radvilenu pl. 19, Kaunas 50254, Lithuania</i>), Amran Al-Ashouri, Steve Albrecht, Artiom Magomedov, Vytautas Getautis Structural Investigation of Hole Transporting Monolayers for Perovskite Photovoltaic Devices
294	<u>Hyang Mi Yu</u> (<i>Sungkyunkwan University, Department of Energy Science, South Korea</i>), Seong Chu Lim Investigation of FAxMAx1-xPb13-x Conductive Filament Formation with controlled FA Configuration Using Conductive Force Microscopy
309	<u>Laurence Lutsen</u> (<i>Hasselt University, Institute for Materials Research IMO-IMOMEC, Hybrid Material Design HyMaD, Martelarenlaan 42, 3500 Hasselt, Belgium</i>), Wouter Van Gompel, Paul-Henry Denis, Stijn Lammar, Stijn Lenaers, Martijn Mertens, Arthur Maufort, Anurag Krishna, koen Vandewal, tom Aernouts, Dirk Vanderzande A Large Polyheterocyclic Aromatic Ammonium Cation To Stabilize Hybrid Perovskites For Solar Cells And Photodetectors
312	<u>Sittan Wongcharoen</u> (<i>Information Device Science Laboratory, Division of Materials Science, Graduated school of Science and Technology, Nara Institute of Science and Technology, 8916-5, Takayama, Ikoma, Nara, 630-0192 Japan</i>), Itaru Raifuku, Goda Tomoya, Yvan Bonnassieux, Pere Roca Cabarrocas, Yukiharu Uraoka Effect of Pressure and Temperature on RF-Sputtered Perovskite Films on Textured Silicon Substrate
350	<u>Diego Iglesias</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I, Avda Sos Baynat s/n, 12071, Castellón, Spain</i>), Victor Sans Development of a 3D printed flow platform for the synthesis of perovskite single crystals
351	<u>Sara Miralles-Comins</u> (<i>Institute of Advanced Materials (INAM), Universitat Jaume I (UJI), Avenida de Vicent Sos Baynat, s/n, 12071 Castelló de la Plana, Castellón, Spain.</i>), Marcileia Zanatta, Andrés Gualdrón-Reyes, Iván Mora-Seró, Víctor Sans STABILIZATION OF PEROVSKITES INTO POLYMERIC IONIC LIQUIDS FOR PHOTOCATALYTIC APPLICATIONS
364	<u>Mahdi Malekshahi Byranvand</u> (<i>Institute for Photovoltaics (ipv), University of Stuttgart, Pfaffenwaldring 47, 70569, Stuttgart, Germany</i>), Weiwei Zuo, Tim Kodalle, Mohammadreza Zohdi, Michael Saliba Green Solvent Engineering for Highly Efficient Perovskite Solar Cells