



# International Conference on Perovskite Thin Film Photovoltaics, Photonics and Optoelectronics (ABXPV18PEROPTO)

Perovskite Thin Film Photovoltaics (ABXPV18). 27-28 Feb

Rennes, France, 2018 February 27th - 28th

Conference Chairs: Jacky Even and Aditya Mohite

## Conference Program

### February 27th - Day 1 (Tuesday)

#### Session G1: GOTSolar Session

- 09:00 - 09:30 Adélio Mendes (*FEUP - Faculdade de Engenharia da Universidade do Porto, University of Porto*)  
Session-I1 New Advancements in Perovskite Solar Cells
- 09:30 - 10:00 Michael Graetzel (*Laboratory of Photonics and Interfaces Ecole Polytechnique Fédérale de Lausanne, Suisse*)  
Session-I2 Metal halide perovskites as powerful light harvesters for the generation of electricity and fuels from sunlight
- 10:00 - 10:30 Michael Saliba (*École Polytechnique Fédérale de Lausanne, CH*)  
Session-I3 Incorporation of multiple cations for Highly Efficient, Phase and Temperature Stable Perovskite Semiconductors
- 10:30 - 11:00 **Coffee Break**
- 11:00 - 11:30 Wanyi Nie (*Los Alamos National Laboratory, Los Alamos, NM 87545, USA*), Hsinhan Tsai, Reza Asadpour, Jean-Christophe Blancon, Jacky Even, Pulickel Ajayan, Muhammad Alam, Mercouri Kanatzidis, Aditya Mohite  
Session-I4 The critical role of structural dynamics on the optoelectronic device performance in hybrid perovskites
- 11:30 - 12:00 Constantinos Stoumpos (*Northwestern University, Department of Chemistry*)  
Session-I5 Halide Perovskites: Unconventional High-Performance Semiconductors
- 12:00 - 12:30 Yixin Zhao (*Shanghai Jiao Tong University, CN*)  
Session-I6 High Performance All-inorganic CsPbI<sub>3</sub> Perovskite Stabilized by (110) Oriented 2D Perovskite

#### Session A1

- 14:00 - 14:15 Shuyan Shao (*Zernike Institute for Advanced Materials, University of Groningen, Nijenborgh 4, 9747 AG, The Netherlands*), Jian Liu, Giuseppe Portale, Hong-Hua Fang, Graeme R. Blake, Gert H. ten Brink, L. Jan Anton Koster, Maria Antonietta Loi  
A1-O1 Sn-based Hybrid Perovskite Solar Cells with 9% Efficiency
- 14:15 - 14:30 Eduardo Menéndez-Proupin (*Universidad de Chile*), Ana L. Montero-Alejo, Pablo Palacios, Perla Wahnón, José C. Conesa  
A1-O2 Hole-electron asymmetry in diffusion pathways induced by ferroelectric nanodomains in CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub>
- 14:30 - 14:45 Maurizio Cossi (*Università del Piemonte Orientale "A. Avogadro"*), Alberto Fraccarollo, Leonardo Marchese  
A1-O3 Ab Initio Design of 2D Hybrid Organohalide Perovskites with Tunable Band Gap
- 14:45 - 15:00
- 15:00 - 15:15 Soline Boyer-Richard (*Laboratoire FOTON, INSA, Université Rennes, F35708 Rennes, France*), Laurent Pédesseau, Arthur Marronnier, Guido Roma, Boubacar Traoré, Claudine Katan, Yvan Bonnassieux, Jean-Marc Jancu, Ram Seshadri, Constantinos Stoumpos, Mercouri Kanatzidis, Jacky Even  
A1-O4 Tight-Binding modeling of CsPbI<sub>3</sub> in several perovskite phases
- 15:15 - 15:30
- 15:30 - 15:45 Antonin LEBLANC (*University of Angers, CNRS UMR 6200, MOLTECH-Anjou, Linear Conjugated Systems*), Nicolas MERCIER, Magali ALLAIN, Jens DITTMER, Vincent FERNANDEZ, Thierry PAUPORTE  
A1-O5 Lead and iodide deficient (CH<sub>3</sub>NH<sub>3</sub>)PbI<sub>3</sub>, d-MAPI: the bridge between 2D and 3D hybrid perovskites



15:45 - 16:00  Davide Bartesaghi  (*1 Department of Chemical Engineering, Delft University of Technology, Delft, Netherlands*),  
 A1-O6 Aniruddha Ray, Benjamin Feleki, Martijn Wienk, Rene Janssen, Tom Savenije  
 Synthesis and characterization of mixed-metal MAPb1-xMnxI3

### Session B1

14:00 - 14:15  Bernard Geffroy  (*LICSEN, NIMBE, CEA, CNRS, Université Paris-Saclay, CEA Saclay, F-91191 Gif-sur-Yvette, France*), Heejae Lee, Sofia Gaiaschi, Patrick Chapon, Arthur Marronnier, Denis Tondelier, Yvan Bonnassieux, Jean-Eric Bourée

Effect of Halide ion migration on current-voltage hysteresis in CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub>-xCl<sub>x</sub> based perovskite solar cells

14:15 - 14:30  Iván Mora-Seró  (*Institute of Advanced Materials, Universitat Jaume I, Spain*)  
 B1-O2 Hole Selective Contacts in Perovskite Solar Cells

14:30 - 14:45  Samuel D. Stranks  (*3Cavendish Laboratory, University of Cambridge*), Mojtaba Abdi-Jalebi, Zahra Andaji-Garmaroudi, Stefania Cacovich, Camille Stavarakas, Eline H. Hutter, Tom J Savenije, Giorgio Divitini, Richard H. Friend

Passivation approaches to eliminate non-radiative losses and inhibit ion migration in halide perovskites

14:45 - 15:00

15:00 - 15:15

15:15 - 15:30  Alexey Tarasov  (*3Laboratory of New Materials for Solar Energetics, Faculty of Materials Science, Lomonosov Moscow State University (MSU)*), Ivan Turkevych, Said Kazaoui, Nikolai Belich, Aleksei Grishko, Sergey Fateev, Andrey Petrov, Michael Graetzel, Eugene Goodilin

Strategic advantages of reactive polyiodide melts for scalable perovskite photovoltaics

15:30 - 15:45  Ihtezaz Muhaimeen Hossain  (*Institute of Microstructure Technology, Karlsruhe Institute of Technology*), Florian Mathies, Tobias Abzieher, Somayeh Moghadamzadeh, Bryce S. Richards, Uli Lemmer, Damien Hudry, Ulrich W. Paetzold, Afshin Hadipour

Printable Low-temperature TiO<sub>2</sub> Nanoparticles for High Efficiency Stable Perovskite Solar Cells

15:45 - 16:00  Dibyajyoti Ghosh  (*Physics, University of Bath*)

B1-O6 Good Vibrations: Locking of Octahedral Tilting in Mixed-Cation Iodide Perovskites for Solar Cells

## February 28th - Day 2 (Wednesday)

### Session G2

09:00 - 09:30  Maria Antonietta Loi  (*Zernike Institute for Advanced Materials, University of Groningen, Nijenborgh 4, 9747 AG, The Netherlands*)

Sn-based Hybrid Perovskite Solar Cells from solar cells to hot electrons

09:30 - 10:00  Qing Shen  (*The University of Electro-Communications, Japan*), Yuhei Ogomi, Chao Ding, Taro Toyoda, Kenji Yoshino, Takashi Minemoto, Shuzi Hayase

Effects of Interface Engineering on Photoexcited Carrier Dynamics and Photovoltaic Performance in Perovskite Solar Cells

10:00 - 10:30  Lioz Etgar  (*Institute of Chemistry, Casali Center for Applied Chemistry, The Hebrew University of Jerusalem*)

Two Dimensional organic-inorganic perovskite from nanostructures to solar cells

10:30 - 11:00 **Coffee Break**

11:00 - 11:30  Aldo Di Carlo  (*CHOSE – Centre for Hybrid and Organic Solar Energy, University of Rome Tor Vergata, Roma, Italy*)

Scaling perovskite cells to large area modules

11:30 - 12:00  Satishchandra Ogale  (*Indian Institute of Science Education and Research (IISER) Pune*)

G2-15 Molecular Engineering of the dimensionality and properties of hybrid perovskite systems in search of novel functionalities and applications

12:00 - 12:30  Matthieu Manceau  (*CEA-LITEN ; Univ. Grenoble Alpes*), Solenn Berson, Ibrahim Bulut, Noëlla Lemaître

G2-16 Processing of Large area Perovskite-based Solar Modules

### Session A2



14:00 - 14:15	
14:15 - 14:30	
14:30 - 14:45 A2-O1	<p><u>Hao-Yi Wang</u> (<i>Department of Chemistry, Renmin University of China, Beijing 100872, P. R. China</i>), Yi Wang, Man Yu, Yujun Qin, Xi-Cheng Ai, Jian-Ping Zhang</p> <p>Interpretation of the Biphasic Charge Carrier Recombination Process Observed in Mesoporous-Structured Perovskite Solar Cells</p>
14:45 - 15:00 A2-O2	<p><u>Shrabani Panigrahi</u> (<i>Departamento de Ciência dos Materiais, CENIMAT/i3N, Faculdade de Ciências e Tecnologia—Universidade Nova de Lisboa and CEMOP/Uninova, Caparica, Portugal.</i>), Santanu Jana, Tomás Calmeiro, Daniela Nunes, Rodrigo Martins, Elvira Fortunato</p> <p>Cross-sectional Analysis of Surface Potential inside Solar Cells Using Kelvin Probe Force Microscopy</p>
15:00 - 15:15 A2-O3	<p><u>Clara Aranda</u> (<i>Institute of Advanced Materials, Universitat Jaume I, ES</i>), Juan Bisquert, Antonio Guerrero</p> <p>High open – circuit voltatge of pure bromide perovskite solar cells using spiro-ometad as a hole-selective material</p>
15:15 - 15:30 A2-O4	<p><u>Moitaba Abdi-Jalebi</u> (<i>Department of Physics, Cavendish Laboratory, University of Cambridge</i>), Zahra Andaji-Garmaroudi, Stefania Cacovich, Giorgio Divitini, Samuel D. Stranks, Richard H. Friend</p> <p>Enhanced optoelectronic quality of metal halide perovskite via additive engineering</p>
15:30 - 15:45 A2-O5	<p><u>Sampson Adjokatse</u> (<i>Zernike Institute for Advanced Materials, University of Groningen, Nijenborgh 4, 9747 AG, The Netherlands</i>), Jane Kardula, Hong-Hua Fang, Maria Antonietta Loi</p> <p>A comparative Study of Mixed-cation Lead Mixed-halide Planar Perovskite Solar Cells in Conventional and Inverted Device Architecture</p>
15:45 - 16:00 A2-O6	<p><u>Satoshi Uchida</u> (<i>The University of Tokyo</i>), Tae Woong Kim, Ludmila Cojocaru, Takashi Kondo, Hiroshi Segawa</p> <p>A new discovery of double phase coexistence inside the perovskite solar cells</p>
	<b>Session B2</b>
14:00 - 14:15	
14:15 - 14:30 B2-O1	<p><u>James McGettrick</u> (<i>Specific, Swansea University</i>), Trystan Watson, Katherine Hooper, Adam Pockett, Matthew Carnie, Joel Troughon</p> <p>Perovskite Materials for Scale-Up: Surface Analysis of a Range of Scalable Architectures</p>
14:30 - 14:45 B2-O2	<p><u>Isabel Mesquita</u> (<i>LEPABE, Departamento de Engenharia Química, Universidade do Porto – Faculdade de Engenharia, Rua Dr. Roberto Frias s/n 4200-465 Porto, Portugal</i>), Luísa Andrade, Adélio Mendes</p> <p>Temperature influence in the perovskite solar cell operation</p>
14:45 - 15:00 B2-O3	<p><u>Pia Dally</u> (<i>CEA Liten/DTS/SMPV/LMPO</i>), Noella Lemaitre, Stéphanie Pouget, Stéphane Cros, Serge Gambarelli, Solenn Berson</p> <p>Advanced characterization of Perovskite systems: Understanding and improving the performance and stability of photovoltaic devices</p>
15:00 - 15:15 B2-O4	<p><u>Dengyang Guo</u> (<i>Chemical Engineering, Optoelectronic Materials, Delft University of Technology, Van der Maasweg 9, 2629 HZ Delft, The Netherlands</i>), Zahra Garmaroudi, Samuel Stranks, Tom Savenije</p> <p>How Charge Dynamics Change in Mixed Halide Perovskites on Light Soaking</p>
15:15 - 15:30 B2-O5	<p><u>Pietro Caprioglio</u> (<i>University of Potsdam Institut für Physik und Astronomie Physik weicher Materie, Potsdam</i>), Fengshuo Zu, Christian M. Wolff, Martin Stolterfhot, Norbert Koch, Bernd Rech, Steve Albrecht, Dieter Neher</p> <p>Reducing recombination and enhancing open circuit voltage by Strontium-alloying in multiple cation perovskite solar cells</p>
15:30 - 15:45	
15:45 - 16:00 B2-O6	<p><u>F. Javier Ramos</u> (<i>IPVF, Institut Photovoltaïque d’Ile-de-France, 30 RD 128, 91120 Palaiseau, France</i>), Sebastien Jutteau, Jorge Posada, Amelle Rebai, Thomas Guillemot, Adrien Bercegol, Romain Bodeux, Nathanaelle Schneider, Nicolas Loones, Daniel Ory, Cedric Broussillou, Laurent Lombez, Jean Rousset</p> <p>A 22.42 % 4-terminal perovskite/silicon tandem device with a 3 % boost over commercially available silicon cell.</p>
16:15 - 17:45	<b>Poster session ABXPV and PEROPTO</b>



## Poster Contribution

004	<u>Shuxia Tao</u> ( <i>Applied Physics, Eindhoven University of Technology</i> ), Jie Cao, Ni Zhao, Peter Bobbert Atomistic View of Interstitial Occupation of Small Alkali Cations in Perovskites and Its Impact on Ion Migration
006	<u>Afonso da Cunha Ferreira</u> ( <i>Laboratoire Léon Brillouin, CEA-CNRS, Université Paris-Saclay, CEA Saclay, 91191 Gif-sur-Yvette, France</i> ), Antoine Létoublon, Serge Paofai, Stéphane Raymond, Claude Ecolivet, Benoit Rufflé, Stéphane Cordier, Claudine Katan, Makhsud Saidaminov, Ayan Zhumekenov, Osman Bakr, Philippe Bourges, Jacky Even Elastic softness of hybrid lead halide perovskites
016	<u>Manon Spalla</u> ( <i>LEPMI / Université Savoie Mont Blanc</i> ), Emilie Planes, Lara Perrin, Muriel Matheron, Matthieu Manceau, Solenn Berson, Lionel Flandin Perovskite solar cell intrinsic stability: elucidation of degradation processes using a combination of characterization techniques
022	<u>Man Yu</u> ( <i>Department of Chemistry, Renmin University of China, Beijing 100872, P. R. China</i> ), Hao-Yi Wang, Xi-Cheng Ai, Yujun Qin, Jian-Ping Zhang Power Output, Carrier Dynamics, Hysteresis Studies of Perovskite Solar Cells
035	<u>Boubacar Traore</u> ( <i>Institut des Sciences Chimiques de Rennes (ISCR), UMR 6226, CNRS, Université de Rennes 1, Ecole Nationale Supérieure de Chimie de Rennes INSA Rennes, France</i> ), Laurent Pedesseau, Linda Assam, Xiaoyang Che, Jean-Christophe Blancon, Hsinhan Tsai, Wanyi Nie, Constantinos C. Stoumpos, Mercouri G. Kanatzidis, Sergei Tretiak, Aditya D. Mohite, Jacky Even, Mikael Kepenekian, Claudine Katan Composite approach towards layered hybrid perovskites: Implications on band alignment and quantum and dielectric confinements
040	<u>Yong Huang</u> ( <i>UMR FOTON CNRS 6082, INSA, 35708 Rennes, France</i> ), Sigalit Aharon, Alexandre Gheno, Sylvain Vedraïne, Laurent Pedesseau, James Connolly, Claudine Katan, Mikael Kepenekian, Jean-Philippe Burin, Oliver Durand, Johann Bouclé, Lioz Etgar, Jacky Even, Alain Rolland Numerical investigation of the effect of interface conditions in HTM-free, printable WO <sub>x</sub> based and inverted perovskite solar cells
047	<u>Alain Rolland</u> ( <i>UMR FOTON CNRS 6082, INSA, 35708 Rennes, France</i> ), L. Pédesseau, Y. Huang, S. Wang, D. Saporì, C. Cornet, O. Durand, J. Even, M. Kepenekian, C. Katan Computational design of high performance hybrid perovskite on silicon 2-T tandem solar cells based on a tunnel junction
054	<u>Merabet Boualem</u> ( <i>University of Mascara</i> ) Effects of Bismuth Incorporation in CsPbI <sub>3</sub> on All Inorganic Perovskite Solar Cells Performances
061	<u>Li-Li Gao</u> ( <i>Xi'an Jiaotong University</i> ), Guan-Jun Yang Small molecule-driven directional movement enabling pin-hole free perovskite film via fast solution engineering
072	<u>Carlos Echeverría-Arondo</u> ( <i>Institute of Advanced Materials, Universitat Jaume I, Spain</i> ), Juan Bisquert Surface Polarization by Schottky Disorder in Perovskite Solar Cells from First Principles
088	<u>Nilesh Manwar</u> ( <i>Chemical Sciences Division, CSIR-Indian Institute of Petroleum (CSIR-IIP), Dehradun, India-248005</i> ), Suman Jain, Nitin Labhsetwar Crystallization and optical properties of Lead Free Organic-Inorganic Cu(II) Perovskites



# International Conference on Perovskite Thin Film Photovoltaics, Photonics and Optoelectronics (ABXPV18PEROPTO)

Perovskite Photonics and Optoelectronics (PEROPTO18). 1st March

Rennes, France, 2018 February 28th - March 1st

Conference Chairs: Jacky Even and Samuel D. Stranks

## Conference Program

February 28th - Day 2 (Wednesday)	
16:15 - 17:45	Poster session ABXPV and PEROPTO
March 1st - Day 3 (Thursday)	
Session H1	
09:00 - 09:30	<u>Maksym Kovalenko</u> ( <i>ETH Zurich &amp; EMPA</i> )
H1-11	Colloidal nanocrystals of APbX <sub>3</sub> [A=Cs <sup>+</sup> , CH <sub>3</sub> NH <sub>2</sub> <sup>2+</sup> , X=Cl <sup>-</sup> , Br <sup>-</sup> , I <sup>-</sup> ] perovskites with bright photoluminescence spanning the entire visible spectral range
09:30 - 10:00	<u>Barry Rand</u> ( <i>Department of Electrical Engineering, Princeton University</i> )
H1-12	Light emitting devices and lasers from metal halide perovskites
10:00 - 10:30	<u>Laura Herz</u> ( <i>Clarendon Laboratory, Department of Physics, University of Oxford, Parks Road, Oxford, OX1 3PU, United Kingdom</i> )
H1-13	Fundamental mechanisms determining charge-carrier recombination and mobility in hybrid perovskites at the intrinsic limit
10:30 - 11:00	<b>Coffee Break</b>
11:00 - 11:30	<u>Hemamala Karunadasa</u> ( <i>Chemistry, Stanford University</i> ), Matthew Smith
H1-14	White-light emission from layered perovskites
11:30 - 12:00	<u>Tze Chien Sum</u> ( <i>Nanyang Technological University, Singapore</i> )
H1-15	Towards Hot Carrier Perovskite Solar Cells
12:00 - 12:30	<u>Paul Meredith</u> ( <i>Swansea University</i> ), Qianqian Lin, Paul Burn, Ardalan Armin
H1-16	Organohalide Perovskite Photodetectors
Session C1	
14:00 - 14:15	<u>Iván Mora-Seró</u> ( <i>Institute of Advanced Materials, Universitat Jaume I, Spain</i> )
C1-O1	Perovskite Optical Amplifying Waveguides
14:15 - 14:30	
14:30 - 14:45	<u>Pierfrancesco Aversa</u> ( <i>LSI, UMR 7642 /CEA - CNRS - Ecole Polytechnique</i> ), Hejee Lee, Minjin Kim, Olivier Plantevin, Olivier Cavani, Nadège Ollier, Bernard Geffroy, Catherine Corbel
C1-O2	Effect of Defect Production on Photoluminescence Properties in He ion Implanted Methylammonium Lead Tri-iodide Perovskite Layers
14:45 - 15:00	Hiba Diab, Christophe Arnold, Ferdinand Lédée, Gaëlle Trippé-Allard, Géraud Delport, Christèle Vilar, Fabien Bretenaker, Julien Barjon, Jean-Sébastien Lauret, Emmanuelle Deleporte, <u>Damien Garrot</u> ( <i>Groupe d'Etude de la Matière Condensée (GEMAC)</i> )
C1-O3	Impact of Reabsorption on the Emission Spectra and Recombination Dynamics of Hybrid Perovskite Single Crystals
15:00 - 15:15	<u>María Gélvez-Rueda</u> ( <i>Chemical Engineering, Optoelectronic Materials, Delft University of Technology, Van der Maasweg 9, 2629 HZ Delft, The Netherlands</i> ), Eline Hutter, Duyen Cao, Nicolas Renaud, Constantinos Stoumpos, Joseph Hupp, Tom Savenije, Mercouri Kanatzidis, Ferdinand Grozema
C1-O4	Effect of the organic cation on 2D organic-inorganic Perovskites



- 15:15 - 15:30 Ivy ASUO (*Département de Génie Électrique, École de Technologie Supérieure, 1100 rue Notre-Dame Ouest, Montréal, QC, Canada*), Dawit Gedamu, Ibrahima Ka, Sylvain G. Cloutier, Riad Nechache  
 C1-O5 High performance and stable pseudohalide perovskite nanowires photodetector
- 15:30 - 15:45 Laurent PEDESSEAU (*Fonctions Optiques pour les Technologies de l'information (FOTON), UMR 6082 INSA de Rennes - CNRS, France*), Daniel SAPORI, Boubacar TRAORE, Roberto ROBLES, Hong Hua FANG, Maria A LOI, Hsinhan TSAI, Wanyi NIE, Jean Christophe BLANCON, Amanda NEUKIRCH, Sergei TRETIAK, Aditya MOHITE, Claudine KATAN, Jacky EVEN, Mikael KEPENEKIAN  
 C1-O6 Layered/3D Halide Hybrid Perovskite Semiconductors: Advances and Promises
- 15:45 - 16:00

### Session D1

- 14:00 - 14:15 Adam Wright (*Clarendon Laboratory, Department of Physics, University of Oxford, Parks Road, Oxford, OX1 3PU, United Kingdom*), Rebecca Milot, Giles Eperon, Henry Snaith, Michael Johnston, Laura Herz  
 D1-O1 Band Tail States in FAPbI<sub>3</sub>: Characterization and Simulation
- 14:15 - 14:30 Xiaoyang CHE (*Institut des Sciences Chimiques de Rennes (ISCR), UMR 6226, CNRS, Université de Rennes 1, Ecole Nationale Supérieure de Chimie de Rennes INSA Rennes, France*), Hong-Hua Fang, Maria Antonietta Loi, Claudine Katan, Mikael Kepenekian, Jacky Even  
 D1-O2 First principles study of surface defects and luminescence recovery of CH<sub>3</sub>NH<sub>3</sub>PbBr<sub>3</sub> by H<sub>2</sub>O and O<sub>2</sub> gas
- 14:30 - 14:45 Ivan Infante (*Department of Chemistry and Pharmaceutical Sciences, Division of Theoretical Chemistry, Vrije Universiteit Amsterdam, De Boelelaan 1081, 1081 HV Amsterdam, The Netherlands*), Simon Boehme  
 D1-O3 Computational Chemistry to Design Colloidally Stable and Trap-free Perovskite Nanocrystals
- 14:45 - 15:00 Laurent Legrand (*Sorbonne Universités, UPMC Université Paris 06, CNRS-UMR 7588, Institut des NanoSciences de Paris, 4 place Jussieu, 75005 Paris, France*), Julien Ramade, Léon Marcel Andriambariarijaona, Violette Steinmetz, Thierry Barisien, Frédéric Bernardot, Christophe Testelin, Emmanuel Lhuillier, Quentin Glorieux, Alberto Bramati, Maria Chamarro  
 D1-O4 Fine Structure of Excitons and their Interactions with Phonons in Polymorphic CsPbBr<sub>3</sub> Single Nanocrystals
- 15:00 - 15:15 Shuxia Tao (*Department of Applied Physics, Eindhoven University of Technology (TU/e), the Netherlands*), Xi Cao, Peter Bobbert  
 D1-O5 Accurate and efficient band gap predictions of metal halide perovskites using the DFT-1/2 method: GW accuracy with DFT expense
- 15:15 - 15:30 Mikaël Kepenekian (*Institut des Sciences Chimiques de Rennes (ISCR), UMR 6226, CNRS, Université de Rennes 1, Ecole Nationale Supérieure de Chimie de Rennes INSA Rennes, France*), Boubacar Traore, Jean-Christophe Blancon, Hsinhan Tsai, Wanyi Nie, Constantinos Stoumpos, Laurent Pedesseau, Claudine Katan, Sergei Tretiak, Mercouri Kanatzidis, Jacky Even, Aditya Mohite  
 D1-O6 Making and breaking of the exciton in layered halide hybrid perovskites
- 15:30 - 15:45 Alyssa Kostadinov - Mutzafi (*Technion – Israel Institute of Technology*), Maya Isarov, Liang Zheng Tan, Andrew Rappe, Efrat Lifshitz  
 D1-O7 Rashba effect as a source for a long carrier diffusion length in nanostructures assembly and bulk halide perovskites
- 15:45 - 16:00