

## Online nanoGe Fall Meeting 20 (OnlineNFM20)

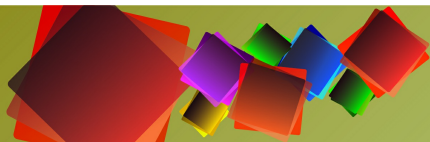
### #PerEmer20. Perovskite III: Emerging Metal Halide Semiconductors

2020 October 21st - 22nd

Conference Chairs: Dmitry Dirin, Jacky Even and Constantinos Stoumpos

### Conference Program

October 21st - Day 2 (Wednesday)	
08:30 - 08:35	<b>PerEmer Opening nanoGe</b>
08:35 - 08:45	<b>PerEmer Session Introduction 1.1 - Constantinos Stoumpos</b>
	<b>PerEmer 1.1</b> Chair: Constantinos Stoumpos
08:45 - 09:05	<u>Nicolas Mercier</u> ( <i>University of Angers, France</i> ) 1.1-11 Lead and halide deficient three-dimensional hybrid perovskites
09:05 - 09:25	<u>Marek Szafranski</u> ( <i>Adam Mickiewicz University in Poznań, Faculty of Physics</i> ) 1.1-12 New Properties of Halide Perovskites under Pressure
09:25 - 09:45	Discussion
	<b>PerEmer 1.2</b> Chair: Omer Yaffe
09:45 - 09:55	<u>Biplab Ghosh</u> ( <i>Energy Research Institute / Nanyang Technological University, Singapore</i> ), Benny Febriansyah, Padinhare Harikesh, Teck Koh, Shreyash Hadke, Lydia Wong, Jason England, Subodh Mhaisalkar, Nripan Mathews 1.2-T1 Direct Band Gap Mixed-Valence Organic–inorganic Gold Perovskite as Visible Light Absorbers
09:55 - 10:05	<u>Kyle McCall</u> ( <i>ETH – Swiss Federal Institute of Technology Zürich, Department of Chemistry and Applied Biosciences, Laboratory of Inorganic Chemistry, Switzerland</i> ), Bogdan Benin, Michael Woerle, Dominique Borgeaud dit Advocat, Thomas Vonderach, Kostiantyn Sakhatskyi, Sergii Yakunin, Detlef Guenther, Maksym Kovalenko 1.2-T2 Lone-Pair-Induced Structural Ordering in the Mixed-Valent 0D Metal-Halides $\text{Rb}_{23}\text{BiIIIxSbIII7-xSbV2Cl}_{54}$ ( $0 \leq x \leq 7$ )
10:05 - 10:15	<u>Wouter Van Gompel</u> ( <i>U Hasselt – Hasselt University, Institute for Materials Research (IMO-IMOMEC), BE</i> ), Roald Herckens, Paul-Henry Denis, Martijn Mertens, Kristof Van Hecke, María Gélvez-Rueda, Bart Rutters, Jan D'Haen, Ferdinand Grozema, Laurence Lutsen, Dirk Vanderzande 1.2-T3 2D layered perovskite containing functionalised benzothieno-benzothiophene molecules: formation, degradation, optical properties and photoconductivity
10:15 - 10:25	<u>Ioannis Spanopoulos</u> ( <i>Department of Chemistry, Northwestern University, United States</i> ), Ido Hadar, Weijun Ke, Peijun Guo, Siraj Sidhik, Mikaël Kepenekian, Jacky Even, Aditya Mohite, Richard Schaller, Mercuri Kanatzidis 1.2-T4 Water Stable 1D Hybrid Tin(II) Iodide Emits Broad Light with 36% Photoluminescence Quantum Yield
10:25 - 10:55	Discussion
10:55 - 12:00	<b>PerEmer Break</b>
12:00 - 12:05	<b>PerEmer Opening nanoGe</b>
12:05 - 12:15	<b>PerEmer Session Introduction 1.3 - Jacky Even</b>
	<b>PerEmer 1.3</b> Chair: Jacky Even
12:15 - 12:35	<u>George Volonakis</u> ( <i>Univ Rennes, ENSCR, INSA Rennes, CNRS, ISCR (Institut des Sciences Chimiques de Rennes)</i> ) 1.3-11 Computational design of semiconducting perovskites from first-principles.



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Online Conference

20<sup>th</sup>-23<sup>rd</sup> October, 2020

nanoGe

12:35 - 12:55	<u>Oleksandr Voznyy</u> ( <i>University of Toronto</i> )
1.3-I2	Machine Learning Assisted Search for More Stable and Less Toxic PV Perovskites
12:55 - 13:15	<u>Yanfa Yan</u> ( <i>The University of Toledo, OH, USA</i> )
1.3-I3	Influence of Charge Transport Layers on Capacitance Measured in Halide Perovskite Solar Cells
13:15 - 13:35	Discussion

### October 22nd - Day 3 (Thursday)

08:30 - 08:35	<b>PerEmer Opening nanoGe</b>
	<b>PerEmer 2.1</b> Chair: George Volonakis
08:35 - 08:45 2.1-T1	<u>Seán R. Kavanagh</u> ( <i>Department of Chemistry, University College London</i> ), Zewei Li, Robert Palgrave, Robert Hoye, Aron Walsh, David O. Scanlon Bandgap Lowering in Lead-Free Cs <sub>2</sub> Ag(SbxBi <sub>1-x</sub> )Br <sub>6</sub> Double Perovskite Alloys
08:45 - 08:55 2.1-T2	<u>Dibyayoti Ghosh</u> ( <i>Los Alamos National Laboratory, Physics and Chemistry of Materials</i> ) Charge Carrier Dynamics in Two-Dimensional Hybrid Perovskites: Impact of Spacer Cations
08:55 - 09:05 2.1-T3	<u>Aikaterini Argyrou</u> ( <i>Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas</i> ), Konstantinos Brintakis, Athanasia Kostopoulou, Emmanouel Stratakis Ligand-free metal halide microcrystals with superior stability and gas sensing capability
09:05 - 09:15 2.1-T4	<u>Ivan Turkevych</u> ( <i>National Institute of Advanced Industrial Science and Technology, Tsukuba</i> ), Said Kazaoui, Alexey Tarasov, Eugene Goodilin, Andrei Shevelkov, Naoki Shirakawa, Nobuko Fukuda Rudorffite solar cells based on silver iodobismutates fabricated by iodination of Ag-Bi bimetallic films
09:15 - 09:45	Discussion
09:45 - 09:50	<b>PerEmer Short Break</b>
09:50 - 10:00	<b>PerEmer Session Introduction 2.2 -Dmitry Dirin</b>
	<b>PerEmer 2.2</b> Chair: Dmitry Dirin
10:00 - 10:20 2.2-I1	<u>Omer Yaffe</u> ( <i>Weizmann Institute of Science</i> ) Anharmonic semiconductors - Lessons Learned from Halide perovskites
10:20 - 10:40 2.2-I2	<u>Claudine KATAN</u> ( <i>Institut des Sciences Chimiques de Rennes, CNRS, Université de Rennes 1, Ecole Nationale Supérieure de Chimie de Rennes, INSA Rennes</i> ) Insight into the Versatility of Layered Metal Halide Perovskites Based on Atomic Scale Modeling
10:40 - 11:00	
11:00 - 11:20	Discussion
11:20 - 11:25	<b>PerEmer Closing</b>
15:00 - 16:30	<b>ePoster Session</b>

### Poster Contribution

217	<u>MARISE GARCIA BATLLE</u> ( <i>Universitat Jaume I, Institute of Advanced Materials (INAM) - Spain</i> ), Oriane Baussens, Smaïl Amari, Eric Gros-Daillon, Jean-Marie Verilhac, Julien Zaccaro, Antonio Guerrero, Germà Garcia-Belmonte Moving Ions Vary Electronic Conductivity in Lead Bromide Perovskite Single Crystals through Dynamic Doping
270	<u>Andrea Rubino</u> ( <i>Instituto de Ciencia de Materiales de Sevilla (CSIC-US), ES</i> ), Mauricio E. Calvo, Hernan Miguez APbX <sub>3</sub> perovskites in mesoporous matrices
273	<u>Konstantinos Brintakis</u> ( <i>Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, 71110 Heraklion, Crete, Greece</i> ), Athanasia Kostopoulou, Emmanouel Stratakis Laser-Assisted Fabrication for Metal Halide Perovskite-2D Nanoconjugates: Control on the Nanocrystal Density and Morphology
274	<u>Athanasia Kostopoulou</u> ( <i>Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, 71110 Heraklion, Crete, Greece</i> ), Konstantinos Brintakis, Dimitra Vernardou, Emmanouel Stratakis All-inorganic Metal Halide Perovskites for Energy Storage Applications