

nanoGe Fall Meeting19 (NGFM19)

#CharDy19. Charge Carrier Dynamics

Berlin, Germany, 2019 November 4th - 5th

Conference Chairs: Marcus Scheele, Vanessa Wood and Maksym Yarema

Conference Program

November 4th - Day 2 (Monday)	
Plenary Session	
09:00 - 09:30 Session-K1	<u>Efrat Lifshitz</u> (<i>Schulich Faculty of Chemistry, Solid State Institute, Russell Berrie Nanotechnology Institute and the Helen Diller Quantum Information Center; Technion, Haifa, Israel</i>), Maksym Kovalenko, Andrew Rappe The Effect of Magnetism on the Optical Properties of Bulk and Confined Perovskite Structures
09:00 - 09:30 Session-K2	<u>Daniel Nocera</u> (<i>Harvard University</i>) Sustainable and Renewable Carbon and Nitrogen Cycles for Fuel and Crop Production
CharDy 1.1	
09:30 - 10:00 1.1-I1	<u>Dmitri Talapin</u> (<i>Department of Chemistry, University of Chicago, Chicago, Illinois 60637, USA</i>) Electronic Coupling and Transport in Non-covalent Inorganic Nanoscale Assemblies
10:00 - 10:30 1.1-I2	Bertille martinez, Clement Livache, Charlie Greboval, Audrey Chu, nicolas goubet, <u>Emmanuel Lhuillier</u> (<i>Sorbonne Université, CNRS, Institut des NanoSciences de Paris, INSP, F-75005 Paris, France.</i>) Designing Photovoltaic Devices Using HgTe Nanocrystals for SWIR and MWIR Detection
10:30 - 11:00	Coffee Break
CharDy 1.2	
11:00 - 11:30 1.2-I2	<u>Frank Schreiber</u> (<i>Institute of Applied Physics, Tuebingen University, 72076 Tuebingen, Germany</i>) Coupled Organic-Inorganic Nanostructures (COINs): From Complex Structure Formation to Advanced Functional Properties
11:30 - 12:00 1.2-O1	<u>Arianna Marchioro</u> (<i>Laboratory for fundamental BioPhotonics, Ecole Polytechnique Fédérale de Lausanne, 1015 Lausanne, Switzerland</i>), Marie Bischoff, Sylvie Roke Surface Characterization of Colloidal Nanoparticles by Second Harmonic Scattering: Surface Potential and Interfacial Water Order
12:00 - 12:30 1.2-I1	<u>Sabrina Disch</u> (<i>Department für Chemie, Universität zu Köln</i>) Spatially Resolved Magnetization and Spin Disorder in Magnetic Nanoparticles
12:30 - 14:00	Lunch
CharDy 1.3	
14:00 - 14:30 1.3-I1	Ali Khan, Valerio Pinchetti, Ivo Tanghe, Zhiya Dang, Beatriz Martín-García, Zeger Hens, Dries Van Thourhout, Pieter Geiregat, Sergio Brovelli, <u>Iwan Moreels</u> (<i>Department of Chemistry, Ghent University, Krijgslaan 281-S3, 9000 Ghent, Belgium</i>) Silver Doping in Cadmium Chalcogenide Colloidal Nanoplatelets
14:30 - 15:00 1.3-O1	<u>Maria Wächter</u> (<i>Leibniz Institute of Photonic Technology</i>) Charge-separation in Ni-tipped CdSe@CdS Nanorods for Hydrogen Evolution
15:00 - 15:30	
15:30 - 16:00	Coffee Break
CharDy 1.4	
16:00 - 16:30 1.4-I1	<u>Matthias Wuttig</u> (<i>RWTH Aachen University - Germany</i>) Phase Change Materials by Design: Taming Bond No. 6

16:30 - 17:00 Maria Ibáñez (*IST Austria*)
 1.4-I2 High-Performance Thermoelectric Nanocomposites from Nanocrystal Building Blocks

November 5th - Day 3 (Tuesday)

Plenary Session

08:30 - 09:00 Juan Bisquert (*1 Institute of Advanced Materials (INAM), Universitat Jaume I, Castellon, 12006 (Spain)*)
 Session-K1 Understanding Time Scales of Ionic and Electronic Phenomena in Perovskite Solar Cells

08:30 - 09:00 William Tisdale (*Massachusetts Institute Of Technology*)
 Session-K2 Nonequilibrium Dynamics of Excitons and Charges in Semiconductor Nanomaterials

CharDy 2.1

09:00 - 09:30 David Cahen (*Weizmann Institute and Bar-Ilan University*)
 2.1-I1 Proteins can be "Good" Electronic Conductors !

09:30 - 10:00 Mathieu Luisier (*Swiss Federal Institute of Technology (ETH) Zurich*), Aron Szabo, Cedric Klinkert, Christian Stieger, Martin Rau, Tarun Agarwal, Youseung Lee
 2.1-I2 Carrier Transport in 2-D Materials: an Ab Initio Study

10:00 - 10:15 Raj Pandya (*Optoelectronics Group, Cavendish Laboratory, University of Cambridge, UK.*), Akshay Rao
 2.1-O1 Ultrafast Long-Range Energy Transport via Strong Light-Matter Coupling in Organic Semiconductor Films

10:15 - 10:30 Oskar Sandberg (*Swansea University, Department of Physics, Swansea, United Kingdom.*), Kristofer Tvingstedt, Paul Meredith, Ardan Armin
 2.1-O2 A Theoretical Perspective on Transient Photovoltage and Charge Extraction Techniques

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

CharDy 2.2

11:00 - 11:30 Jenny Nelson (*Department of Physics and Centre for Plastic Electronics, Imperial College London, London, SW7 2AZ, UK.*)
 2.2-I1 Charge Carrier Dynamics at Molecular Heterojunctions in Organic Photovoltaic and Photocatalytic Systems

11:30 - 11:45 Stefan Zeiske (*Sêr Cymru Chair in Sustainable Advanced Materials Department of Physics, Swansea University, Singleton Park Swansea SA2 8PP*), Oskar Sandberg, Nasim Zarrabi, Paul Meredith, Ardan Armin
 2.2-O1 Quantifying Trap-assisted Recombination in Thin Film Solar Cells from Intensity Dependent Photocurrent Measurements

11:45 - 12:00 Ankita Kolay (*Department of Chemistry, Indian Institute of Technology Hyderabad, Kandi, Sangareddy*), Melepurath Deepa
 2.2-O2 Nickel Oxide Based Photocathode and Selenium Nanowires Coated Photoanode for a Highly Efficient Tandem Quantum Dot Solar Cell

12:00 - 12:30 Grigorios Itkos (*Experimental Condensed Matter Physics Lab, Department of Physics, University of Cyprus*)
 2.2-I2 Photophysics and Optoelectronic Applications of Lead Halide Perovskite Nanocrystals

12:30 - 14:00 **Lunch**

CharDy 2.3

14:00 - 14:30

14:30 - 14:45

14:45 - 15:00 Katarzyna Pydzinska (*Adam Mickiewicz University in Poznan, Faculty of Physics, Uniwersytetu Poznanskiego 2, 61-614 Poznan, Poland.*), Jesus Idigoras, Juan Anta, Victoriia Durshliak, Marcin Ziółek
 2.3-O1 Charge Dynamics, Absorption and Emission Spectra of Triple Cation Perovskite Solar Cells under Different Place of Excitation, Illumination and Applied Potential.

15:00 - 15:30 Thomas Kirchartz (*IEK-5 Photovoltaics, Forschungszentrum Jülich*)
 2.3-I1 Combination of Transient and Steady-state Photoluminescence for the Characterization of Halide Perovskite-based Layer Stacks

15:30 - 16:00 **Coffee Break**

16:00 - 17:00	CharDy 2.4
17:00 - 19:00	Poster Session