

nanoGe Fall Meeting19 (NGFM19)

#Sol2D19. Two Dimensional Layered Semiconductors

Berlin, Germany, 2019 November 4th - 5th

Conference Chairs: Efrat Lifshitz, Cristiane Morais Smith and Doron Naveh

Conference Program

November 4th - Day 2 (Monday)	
	Plenary Session 1 Chair: Roel van de Krol Room: Plenum 09:00 - 09:30 <u>Daniel Nocera</u> (<i>Harvard University</i>) 1-K1 Sustainable and Renewable Carbon and Nitrogen Cycles for Fuel and Crop Production
	Plenary Session 2 Chair: Cristiane Morais Smith Room: Breakout 1 09:00 - 09:30 <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 2-K1 The Effect of Magnetism on the Optical Properties of Bulk and Confined Perovskite Structures
	Sol2D 1.1 Chair: Doron Naveh Room: Breakout 3 09:30 - 10:00 <u>Christophe Delerue</u> (<i>IEMN, UMR-CNRS 8520, Villeneuve d'Ascq, France</i>), Maryam Alimoradi Jazi, Tim Prins, 1.1-I1 Niall Killilea, Wiel Evers, Peter Geiregat, Zeger Hens, Wolfgang Heiss, Arjan Houtepen, Daniel Vanmaekelbergh Theory of optical absorption in semiconductor nanocrystals: From single nanocrystals to superlattices 10:00 - 10:30 <u>Gianluca Fiori</u> (<i>Dipartimento di Ingegneria dell'Informazione, Universita' di Pisa, Via Caruso 16, 56122, Pisa, Italy</i>) 1.1-I2 On the Perspectives of Graphene and Related Materials for Nanoelectronics Applications
10:30 - 11:00	Coffee Break
	Sol2D 1.2 Chair: Christian Klinke Room: Breakout 3 11:00 - 11:30 <u>Xavier MARIE</u> (<i>Université de Toulouse, INSA-CNRS-UPS, Toulouse, France</i>) 1.2-I1 Control of the Exciton Radiative Lifetime in van der Waals Heterostructures 11:30 - 12:00 <u>Maya Bar Sadan</u> (<i>Department of Chemistry, Ben Gurion University, Beer sheva, Israel</i>) 1.2-I2 Transition Metals Dichalcogenides: Growth mechanism, Structure and Catalytic Activity 12:00 - 12:30 <u>Gloria Platero</u> (<i>Instituto de Ciencia de Materiales de Madrid, CSIC</i>) 1.2-I3 Simulation of Chiral Topological Phases in Driven Low Dimensional Systems
12:30 - 14:00	Lunch
	Sol2D 1.3 Chair: Daniel Vanmaekelbergh Room: Breakout 3 14:00 - 14:15 Riccardo Scott, Judith Specht, Juan Climente, Marta Corona-Castro, Anatol Prudnikau, Artsiom Antanovich, 1.3-O1 Nina Owschikow, Sotirios Christodoulou, Laurens Siebbeles, Michael Quick, Guillaume Bertrand, Iwan Moreels, Mikhail Artemyev, Ulrike Woggon, Joseph Planelles, Marten Richter, <u>Alexander Achtstein</u> (<i>Institute of Optics and Atomic Physics, Technical University of Berlin, Strasse des 17. Juni 135, 10623, Berlin, Germany</i>) Tunable Emission Fine Structure and Origin of Quadratic TPA in 2D CdSe Nanoplatelets

14:15 - 14:30	<u>Alina Schimpf</u> (<i>University of California San Diego</i>), Jessica Geisenhoff
1.3-O2	Modulation of Precursor Reactivity for Colloidally Synthesized WSe ₂ Nanocrystals and Heterostructures
14:30 - 15:00	Patricia Gant, Riccardo Frisenda, <u>Andres Castellanos-Gomez</u> (<i>Materials Science Factory, Instituto de Ciencia de Materiales de Madrid (ICMM-CSIC), Madrid E-28049, Spain.</i>)
1.3-I1	Strain Engineering in 2D Materials: Towards Strain Tunable Optoelectronic Devices
15:00 - 15:30	<u>Ariel Ismach</u> (<i>Department of Materials Science and Engineering, Tel Aviv University</i>)
1.3-I2	Chemical Vapor Deposition of 2D Materials and Heterostructures
15:30 - 16:00	Coffee Break

Sol2D 1.4

Chair: Efrat Lifshitz

Room: Breakout 3

16:00 - 16:30	<u>Eduardo Marino</u> (<i>Institute of Physics, UFRJ, Cx.P. 68528, Rio de Janeiro, Brazil</i>), Leandro O. Nascimento, Van Sérgio Alves, N. Menezes, C. Morais Smith
1.4-I1	The Exciton Spectrum in Transition-Metal Dichalcogenides: a Quantum-Electrodynamics Approach
16:30 - 16:45	<u>Juan Ignacio Climente</u> (<i>University Jaume I, Spain</i>), José Luis Movilla, Josep Planelles
1.4-O1	Signatures of Molecular Coupling between Semiconductor Colloidal Nanoplatelets
16:45 - 17:00	

November 5th - Day 3 (Tuesday)

Plenary Session 3

Chair: Marcus Scheele

Room: Plenum

08:30 - 09:00	<u>William Tisdale</u> (<i>Massachusetts Institute Of Technology</i>)
3-K1	Nonequilibrium Dynamics of Excitons and Charges in Semiconductor Nanomaterials

Plenary Session 4

Chair: Pablo P. Boix

Room: Breakout 4

08:30 - 09:00	<u>Juan Bisquert</u> (<i>Universitat Jaume I, Institute of Advanced Materials (INAM) - Spain</i>)
4-K1	Understanding Time Scales of Ionic and Electronic Phenomena in Perovskite Solar Cells

Sol2D 2.1

Chair: Cristiane Morais Smith

Room: Breakout 3

09:00 - 09:30	<u>Gerd Bacher</u> (<i>Werkstoffe der Elektrotechnik and CENIDE, University Duisburg-Essen</i>)
2.1-I3	Growth and Device Integration of 2D Materials for Optoelectronic Applications
09:30 - 10:00	<u>Alexander Khajetoorians</u> (<i>Institute for Molecules and Materials (IMM), Radboud University</i>)
2.1-I1	Probing Electronic and Magnetic Behavior of Black Phosphorus at the Single Atom Level
10:00 - 10:30	<u>Daniel Vanmaekelbergh</u> (<i>Debye Institute for Nanomaterials Science, Utrecht University, The Netherlands</i>), T. Prins, M. Alimoradi Jazi, A. J. Houtepen, W. Heiss, C. Delerue
2.1-I2	Quantum and Dielectric Confinement Effects on the Absorption Strength in Semiconductors

10:30 - 11:00	Coffee Break
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Sol2D 2.2

Chair: Maya Bar Sadan

Room: Breakout 3

11:00 - 11:30	<u>Anna Rodina</u> (<i>Ioffe Institute</i>)
2.2-I1	Bright and Dark Exciton Emission in Two Dimensional Nanostructures
11:30 - 12:00	<u>Christian Klink</u> (<i>University of Rostock</i>)
2.2-I2	Synthesis and Optoelectronic Properties of Two-dimensional Colloidal Nanomaterials

12:00 - 12:30 2.2-O1	<u>Michele Failla</u> (<i>Delft University of Technology (TU Delft)</i>), Bastiaan Salzmann, Daniel Vanmaekelbergh, Laurens Siebbeles Room Temperature Evidence of Multiple Heavy-hole Excitonic States and Biexciton-phonon Coupling in CdSe Nanoplatelets
12:30 - 14:00	Lunch
	Sol2D 2.3 Chair: Xavier MARIE Room: Breakout 3
14:00 - 14:30 2.3-I1	<u>Laurens Siebbeles</u> (<i>Delft University of Technology (TU Delft)</i>) Nature and Dynamics of Charge Carriers and Excitons in Colloidal 2D Materials
14:30 - 14:45 2.3-O1	<u>Faris Horani</u> (<i>Technion, Schulich Faculty of Chemistry, Solid State Institute, Russell Berrie Nanotechnology Institute</i>), Efrat Lifshitz Deciphering the evolution mechanism of 3D β-In₂S₃ nanoclusters
14:45 - 15:00 2.3-O2	<u>Giorgio Giuffredi</u> (<i>Center for Nano Science and Technology, Istituto Italiano di Tecnologia</i>), Alessandro Mezzetti, Andrea Perego, Piero Mazzolini, Greta Tirelli, Mirko Prato, Francesco Fumagalli, Yu-Chuan Lin, Chenze Liu, Ilia Ivanov, Alex Belianinov, Alex Poretzky, Gerd Duscher, David Geohegan, Fabio Di Fonzo Nanocrystalline, Mixed-Phase Transition Metal Oxide/Oxy-Chalcogenide Nanostructures for Efficient Hydrogen Evolution Electrocatalysis
15:00 - 15:30 2.3-I2	<u>Xiaoyang Zhu</u> (<i>Department of Chemistry, Columbia University, New York, New York 10027, United States</i>) Excitons, Phonons, and Electrons in Two-dimensional Semiconductors and Heterojunctions
15:30 - 16:00	Coffee Break
	Sol2D 2.4 Chair: Efrat Lifshitz Room: Breakout 3
16:00 - 16:30 2.4-I1	<u>jacky even</u> (<i>Univ Rennes, INSA Rennes, CNRS, Institut FOTON - UMR6082, F-35000 RENNES</i>) Physical Properties of Pure 2D Layered Hybrid Perovskites: Recent Results
17:00 - 19:00	Poster Session