

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	
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
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09:30 - 10:00 1.1-I1	<u>Christophe Delerue</u> (<i>IEMN, UMR-CNRS 8520, Villeneuve d'Ascq, France</i>), Maryam Alimoradi Jazi, Tim Prins, 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 1.1-I2	<u>Gianluca Fiori</u> (<i>Dipartimento di Ingegneria dell'Informazione, Universita' di Pisa, Via Caruso 16, 56122, Pisa, Italy</i>) On the Perspectives of Graphene and Related Materials for Nanoelectronics Applications
10:30 - 11:00	Coffee Break
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11:00 - 11:30 1.2-I1	<u>Xavier MARIE</u> (<i>Université de Toulouse, INSA-CNRS-UPS, Toulouse, France</i>) Control of the Exciton Radiative Lifetime in van der Waals Heterostructures
11:30 - 12:00 1.2-I2	<u>Maya Bar Sadan</u> (<i>Department of Chemistry, Ben Gurion University, Beer sheva, Israel</i>) Transition Metals Dichalcogenides: Growth mechanism, Structure and Catalytic Activity
12:00 - 12:30 1.2-I3	<u>Gloria Platero</u> (<i>Instituto de Ciencia de Materiales de Madrid, CSIC</i>) Simulation of Chiral Topological Phases in Driven Low Dimensional Systems
12:30 - 14:00	Lunch
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14:00 - 14:15 1.3-O1	Riccardo Scott, Judith Specht, Juan Climente, Marta Corona-Castro, Anatol Prudnikau, Artsiom Antanovich, Nina Owschimikow, 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 1.3-O2	<u>Alina Schimpf</u> (<i>University of California San Diego</i>), Jessica Geisenhoff Modulation of Precursor Reactivity for Colloidally Synthesized WSe ₂ Nanocrystals and Heterostructures
14:30 - 15:00 1.3-I1	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>) Strain Engineering in 2D Materials: Towards Strain Tunable Optoelectronic Devices
15:00 - 15:30 1.3-I2	<u>Ariel Ismach</u> (<i>Department of Materials Science and Engineering, Tel Aviv University</i>) Chemical Vapor Deposition of 2D Materials and Heterostructures
15:30 - 16:00	Coffee Break

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16:00 - 16:30	<u>Jacky Even</u> (<i>Univ Rennes, INSA Rennes, CNRS, Institut FOTON - UMR6082, F-35000 RENNES</i>)
1.4-I1	Physical Properties of Pure 2D Layered Hybrid Perovskites: Recent Results
16:30 - 16:45	<u>Juan Ignacio Climente</u> (<i>Department of Physical and Analytical Chemistry, Universitat Jaume I</i>), José Luis
1.4-O1	Movilla, Josep Planelles Signatures of Molecular Coupling between Semiconductor Colloidal Nanoplatelets
16:45 - 17:00	<u>Teresa Gatti</u> (<i>Institute of Physical Chemistry and Center for Materials Research, Justus Liebig University</i>
1.4-O2	<i>Giessen</i>), Francesco Lamberti, Meng Zheng, Lorenzo Franco, Michele Maggini A Photostable, Semi-transparent Cross-linked Dye-graphene Hybrid
November 5th - Day 3 (Tuesday)	
Plenary Session	
08:30 - 09:00	<u>Juan Bisquert</u> (<i>1 Institute of Advanced Materials (INAM), Universitat Jaume I, Castellon, 12006 (Spain)</i>)
Session-K1	Understanding Time Scales of Ionic and Electronic Phenomena in Perovskite Solar Cells
08:30 - 09:00	<u>William Tisdale</u> (<i>Massachusetts Institute Of Technology</i>)
Session-K2	Nonequilibrium Dynamics of Excitons and Charges in Semiconductor Nanomaterials
Sol2D 2.1	
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.
2.1-I2	Prins, M. Alimoradi Jazi, A. J. Houtepen, W. Heiss, C. Delerue Quantum and Dielectric Confinement Effects on the Absorption Strength in Semiconductors
10:30 - 11:00	Coffee Break
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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 Klinke</u> (<i>University of Rostock</i>)
2.2-I2	Synthesis and Optoelectronic Properties of Two-dimensional Colloidal Nanomaterials
12:00 - 12:15	<u>Michele Failla</u> (<i>Delft University of Technology (TU Delft)</i>), Bastiaan Salzmänn, Daniel Vanmaekelbergh, Laurens
2.2-O1	Siebbeles Room Temperature Evidence of Multiple Heavy-hole Excitonic States and Biexciton-phonon Coupling in CdSe Nanoplatelets
12:15 - 12:30	
12:30 - 14:00	Lunch
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14:00 - 14:30	<u>Laurens Siebbeles</u> (<i>Delft University of Technology (TU Delft)</i>)
2.3-I1	Nature and Dynamics of Charge Carriers and Excitons in Colloidal 2D Materials
14:30 - 14:45	<u>Faris Horani</u> (<i>Schulich Faculty of Chemistry, Solid State Institute, Russell Berrie Nanotechnology Institute, Nancy</i>
2.3-O1	<i>and Stephen Grand Technion Energy Program, Quantum Information Center, Technion-Israel Institute of Technology, Haifa 3200003, Israel</i>), Efrat Lifshitz Deciphering the evolution mechanism of 3D β -In ₂ S ₃ nanoclusters

14:45 - 15:00 2.3-O2	<u>Giorgio Giuffredi</u> (<i>Center for Nano Science and Tecnology, 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 Puzos, 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
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16:00 - 16:30 2.4-I1	<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 The Exciton Spectrum in Transition-Metal Dichalcogenides: a Quantum-Electrodynamics Approach

Poster Contribution

195	<u>Jordi Llusar</u> (<i>University Jaume I</i>), Josep Planelles, Juan I. Climente Effect of Strain on the Exciton Emission in CdSe-based Heteronanoplatelets
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