

nanoGe Fall Meeting 2018 (FallMeeting18)

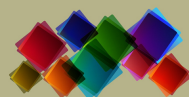
S4 Nanophotonics by Nanocrystals

Torremolinos, Spain, 2018 October 24th - 26th

Conference Chairs: Daniel Vanmaekelbergh and Zeger Hens

Conference Program

October 24th - Day 3 (Wednesday)	
<p>Plenary session 3 Chair: Shannon Boettcher Room: Mediterraneo ABC</p>	
09:00 - 09:30 3-K1	<p><u>Francesca Maria Toma</u> (<i>Chemical Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, California 94720, United States</i>) A New Portrait of Functional Complex Interfaces for Solar Fuel Devices</p>
<p>Plenary Session 4 Chair: David Egger Room: Mediterraneo DEF</p>	
09:00 - 09:30 4-K1	<p><u>Vanessa Wood</u> (<i>Laboratory for Interfacial Chemistry, ETH Zurich</i>) Charge Transport in Nanocrystal Solids</p>
<p>NCPHOT S4.1 Chair: Daniel Vanmaekelbergh Room: Torremolinos AB</p>	
09:30 - 10:00 S4.1-O1	<p><u>Darius Urbonas</u> (<i>IBM Research-Zurich, Säumerstrasse 4, 8803 Rüschlikon, Switzerland</i>), Thilo Stöferle, Fabio Scafirimuto, Rainer F. Mahrt Tunable Nanoscale defect Cavities for Exciton-Polariton Condensates at Room Temperature</p>
10:00 - 10:30 S4.1-O2	<p><u>Vigneshwaran Chandrasekaran</u> (<i>Physics and Chemistry of Nanostructures, Ghent University, 9000 Ghent, Belgium</i>), Lorenzo Scarpelli, Francesco Masia, Dorian Dupont, Mickäel D. Tessier, Pieter Geiregat, Iwan Moreels, Wolfgang Langbein, Zeger Hens Spectral Dynamics of Linearly Polarized Bright Exciton in InP/ZnSe Colloidal Quantum Dots</p>
10:30 - 11:00	Coffee Break
<p>NCPHOT S4.2 Chair: Marcus Scheele Room: Torremolinos AB</p>	
11:00 - 11:30 S4.2-O1	<p><u>Efrat Lifshitz</u> (<i>Schulich Faculty of Chemistry, Russell Berrie Nanotechnology Institute, Solid State Institute, Technion, Haifa 32000</i>), Joanna Dehnel, Alyssa Kostadinov, Yahel Barak Spin Properties in II-VI and Perovskites Colloidal Quantum Dots</p>
11:30 - 12:00 S4.2-I1	<p>Gabriele Rainò, Michael Becker, Maryna Bodnarchuk, Rainer Mahrt, Maksym Kovalenko, <u>Thilo Stöferle</u> (<i>IBM Research – Zurich, Säumerstrasse 4, 8803 Rüschlikon, Switzerland</i>) Superfluorescence from Lead Halide Perovskite Quantum Dot Superlattices</p>
12:00 - 12:30 S4.2-I2	<p><u>Wolfgang Langbein</u> (<i>Cardiff University, School of Physics and Astronomy</i>) Coherent Exciton Dynamics in Colloidal Quantum Dots</p>
12:30 - 14:30	Lunch
<p>NCPHOT S4.3 Chair: Efrat Lifshitz Room: Torremolinos AB</p>	
14:30 - 15:00 S4.3-I1	<p>Athmane Tadjine, <u>Delerue Christophe</u> (<i>IEMN, UMR-CNRS 8520, Villeneuve d'Ascq, France</i>) Theory of Optical Properties of 2D Semiconductor Nanocrystal Lattices</p>



15:00 - 15:30 **Adam K. Budniak** (*Technion – Israel Institute of Technology*), Niall A. Killilea, Amir Abbas Yousefi Amin, Szymon S4.3-O1 J. Zelewski, Jan Kopaczek, Esty Ritov, Yaron Amouyal, Wolfgang Heiss, Robert Kudrawiec, Efrat Lifshitz
Investigation of CrPS4 in Bulk and Few-Layers Form

October 25th - Day 4 (Thursday)

NCPHOT S4.4

Chair: Zeger Hens
Room: Torremolinos AB

09:00 - 09:30

09:30 - 10:00 **Michael A. Becker** (*IBM Research – Zurich Research Laboratory, Säumerstrasse 4, 8803 Rüschlikon, Switzerland*), Roman Vaxenburg, Georgian Nedelcu, Loredana Protesescu, Andrew Shabaev, Peter Sercel, S4.4-O1 Michael J. Mehl, John G. Michopoulos, Samuel G. Lambrakos, Noam Bernstein, John L. Lyons, Maryna I. Bodnarchuk, Rainer F. Mahrt, Thilo Stoeflerle, Maksym V. Kovalenko, David J. Norris, Gabriele Raino, Alexander L. Efros
Bright Triplet Emission from Lead Halide Perovskite Nanocrystals

10:00 - 10:30 **RENU TOMAR** (*Ghent university*), ADITYA KULKARNI, KAI CHEN, SHALINI SINGH, LAURENS SIEBBELES, S4.4-O2 JUSTIN HODGKISS, PIETER GEIREGAT, ZEGER HENS
A Quantitative Study of Optical Gain Mechanisms in Quasi-2D Solution Processable Materials

Plenary Session 5

Chair: Daniel Vanmaekelbergh
Room: Torremolinos AB

09:00 - 09:30 **Maksym Kovalenko** (*Institute of Inorganic Chemistry, Department of Chemistry and Applied Bioscience, ETH 5-K1 Zurich, 8093 Zurich, Switzerland*)
Colloidal Nanocrystals of APbX₃ Perovskites [A=Cs⁺, CH₃NH₂²⁺, X=Cl⁻, Br⁻, I⁻]: Surface Chemistry, Self-Assembly and Potential Applications

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

NCPHOT S4.5

Chair: David Cheyns
Room: Torremolinos AB

11:00 - 11:30 **Freddy Rabouw** (*ETH Zürich*), Raphael Brechbühler, Patrik Rohner, Boris le Feber, Tim Prins, Dimos S4.5-O1 Poulidakos, David Norris
Probing Electromagnetic Modes at Optical Frequencies with Eu³⁺-Doped Nanocrystals

11:30 - 12:00 **Bogdan Benin** (*Institute of Inorganic Chemistry, Department of Chemistry and Applied Bioscience, ETH Zurich, 8093 Zurich, Switzerland*), Dmitry Dirin, Maksym Kovalenko S4.5-O2
Highly Emissive Self-Trapped Excitons in Fully Inorganic Zero-Dimensional Tin Halides

12:00 - 12:30 **Sotirios Christodoulou** (*ICFO – The Institute of Photonic Sciences, Mediterranean Technology Park*), Francesco S4.5-O3 Di Stasio, Santanu Pradhan, Inigo Ramiro, Yu Bi, Aleksandros Stavrinadis, Gerasimos Konstantatos
High Performance Optoelectronic Devices Based on Bright Perovskite Nanocrystals Synthesized at Room Temperature

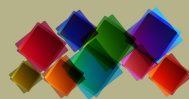
12:30 - 14:30 **Lunch**

NCPHOT S4.6

Chair: Maksym Kovalenko
Room: Torremolinos AB

14:30 - 15:00 **Shuchi Gupta** (*The institute of photonic sciences, The Barcelona institute of science and technology, Av. Carl S4.6-O1 Friedrich Gauss 3, Castelldefels (Barcelona), Spain*), Stijn Goossens, Gabriele Navickaite, Carles Monasterio, Juan José Piqueras, Raúl Pérez, Gregory Burwell, Ivan Nikitskiy, Tania Lasanta, Teresa Galán, Eric Puma, Alba Centeno, Amaia Pesquera, Amaia Zurutuza, Frank Koppens, Gerasimos Konstantatos
Colloidal Quantum Dots-Graphene based Broadband Photodetector

15:00 - 15:30 **Marcus Scheele** (*University of Tuebingen*) S4.6-O2
Coupled Organic-Inorganic Nanostructures for Optical Switches



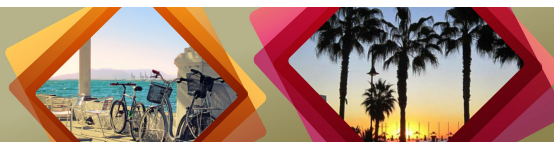
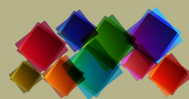
15:30 - 16:00 S4.6-03	<u>Santanu Pradhan</u> (<i>11CFO-Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology, 08860 Castelldefels (Barcelona), Spain</i>), Francesco DiStasio, Yu Bi, Shuchi Gupta, Sotirios Christodoulou, Alexandros Stavrinadis, Gerasimos Konstantatos Highly Efficient PbS Colloidal Quantum Dot Based Infrared Light Emitting Diodes through Suprananocrystalline Matrix Engineering
16:00 - 16:30 S4.6-12	<u>Emmanuel Ihuillier</u> (<i>Sorbonne Universités, UPMC Univ. Paris 06, CNRS-UMR 7588, Institut des NanoSciences de Paris, 4 place Jussieu, 75005 Paris, France</i>), Adrien Robin, Clement Livache, Bertille Martinez, Nicolas goubet Intraband transition in narrow band gap nanocrystals
16:30 - 17:00 S4.6-11	<u>David Cheyns</u> (<i>Imec vzw</i>), Epimitheas Georgitzikis, Pawel Malinowski Quantum Dot Based Imagers: the Route to Wafer Scale Production
17:30 - 19:00	Poster session

October 26th - Day 5 (Friday)

Plenary session 6

Chair: Sascha Sadewasser
Room: Torremolinos AB

09:00 - 09:30 6-K1	<u>Marina Leite</u> (<i>University of Maryland</i>) Probing Solar Cells at the Nanoscale through Real-Time Functional Imaging
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Poster Contribution

213	<u>Federico Montanarella</u> (<i>Universiteit Utrecht</i>), Darius Urbonas, Luke Chadwick, Thilo Stoferle, Patrick Baesjou, Rainer Mahrt, Alfons van Blaaderen, Daniel Vanmaekelbergh Room Temperature Whispering Gallery Modes Lasing in Self-Assembled Nanocrystal Supraparticles
288	<u>Rasmus Himstedt</u> (<i>Institute of Physical Chemistry and Electrochemistry, Leibniz Universität Hannover, Germany</i>), Dominik Hinrichs, Dirk Dorfs Light Extinction Properties of Plasmonic Nickel Sulfide Nanostructures
296	<u>Lukas Elsinger</u> (<i>Photonics Research Group, Ghent University – imec, 9052 Ghent, Belgium</i>), Ronan Gourgues, Iman E. Zadeh, Jorick Maes, Vigneshwaran Chandrasekaran, Pieter Geiregat, Gabriele Bulgarini, Val Zwiller, Zeger Hens, Dries Van Thourhout On-chip Spectroscopy of PbS/CdS Colloidal QDs Integrated into Plasmonic Gap Antennas using superconducting Nanowire Detectors on a Silicon Nitride Photonic Platform
298	<u>Annalisa Brodu</u> (<i>Debye Institute for Nanomaterials Science, Utrecht University, The Netherlands</i>), Mariana V. Ballottin, Jonathan Buhot, Dorian Dupont, Zeger Hens, Freddy T. Rabouw, Peter C. M. Christianen, Celso de Mello Donega, Daniel Vanmaekelbergh Exciton Fine-Structure of InP (core)/Cd, Zn, S, Se (shell) QDs: Bright and Dark States and the Role of Phonons
302	Oleksandr Mashkov, Mykhailo Sytnyk, <u>Wolfgang Heiss</u> (<i>Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)</i>) Organic Pigments Nanoarchitectures for Heavy Metal Removal from Water
303	<u>Niall Killilea</u> (<i>Institute of Materials for Electronics and Energy Technology (i-MEET), Friedrich-Alexander Universität Erlangen-Nürnberg, Martensstr. 7, 91058 Erlangen, Germany</i>), Mingjian Wu, Mykhailo Sytnyk, Amir Amin, Erdmann Spieker, Wolfgang Heiss Bulk-like PbS Nanocrystals with Epitaxial Ligands Providing Photodetection Beyond 3000nm
307	<u>Ivo Tanghe</u> (<i>Photonics Research Group, Ghent University – imec, 9052 Ghent, Belgium</i>), Lukas Elsinger, Suzanne Bisschop, Zeger Hens, Pieter Geiregat, Dries Van Thourhout Continuous Wave On-Chip Lasers Enabled by Colloidal Quantum Dots
310	<u>Joanna Dehnel</u> (<i>aculty of Chemistry, Solid State Institute, Russell Berrie Nanotechnology Institute and Grand Technion Energy Program, Technion – Israel Institute of Technology, Haifa, 32000, Israel</i>), Yahel Barak, Efrat Lifshitz Optically Detected Magnetic Resonance of Mn ²⁺ doped CdSe/CdS Core-Shell Seeded Nanorods
324	<u>Nayyera Mahmoud</u> (<i>Photonics Research Group, Ghent University, Ghent, Belgium</i>), Willem Walravens, Jakob Kuhs, Christophe Detavernier, Zeger Hens, Gunther Roelkens Microtransfer Printing Of Al ₂ O ₃ -Passivated SWIR-PbS QDs Photoconductors