International Conference

nanoGe September Meeting 2017 (SeptemberMeeting17)

SF1: Material and Device Innovations for the Practical Implementation of Solar Fuels (SolarFuel17)

Barcelona, Spain, 2017 September 4th - 8th
Conference Chairs: Wilson Smith and Ki Tae Nam

Conference Program

September 4th - Day 1 (Monday)	
08:00 - 09:30	**Registration**
09:30 - 09:45	**Opening**
	SF1.1 Chair: Wilson Smith
09:45 - 10:20 SF1.1-I1	James Durrant *(Imperial College london)* The kinetics of charge separation, recombination and catalysis on photoelectrodes for water oxidation and reduction
10:20 - 10:30	Discussion
10:30 - 11:05 SF1.1-I2	James Thorne, Wei Li, Erik Liu, Yanyan Zhao, Dunwei Wang *(Boston College)* Co-Catalysts on Photoelectrodes: Catalyst or Passivation?
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SF1.1-I3	Kevin Sivula *(École Politechnique Fédérale Lausanne)* Engineering solution-processed semiconductor materials for photoelectrochemical solar fuel production
12:20 - 12:30	Discussion
12:30 - 13:05 SF1.1-I4	Ib Chorkendorff *(The Villum Center for the Science of Sustainable Fuels and Chemicals)* Water splitting and the making of renewable chemicals.

13:05 - 13:15	Discussion
13:15 - 15:00	**Lunch**
	SF1.2 Chair: Shane Ardo
15:00 - 15:35 SF1.2-I1	Daniel Esposito *(Columbia University, US)* Oxide-Encapsulated Electrocatalysts for Solar Fuels Production
15:35 - 15:45	Discussion
	SF1.2.1 Chair: Shane Ardo
15:45 - 16:00 SF1.2.1-O1	Sixto Gimenez *(Institute of Advanced Materials, Universitat Jaume I, Spain)*, Drialys Cardenas-Morcoso Tuning the functionalities of Bismuth Vanadate. From water splitting photoanodes to photocapacitive devices
16:00 - 16:15 SF1.2.1-O2	Morgan Stefik *(University of South Carolina, Department of Chemistry and Biochemistry)* Bismuth Vanadate : SF-ALD and Remarkable Post-Synthetic Treatments
16:15 - 16:30 SF1.2.1-O3	Rajiv Ramanujam Prabhakar, Wilman Septina, Sebastian Siol, René Wick, Thomas Moehl, David Tilley *(University of Zurich, Department of Chemistry)* Highly Active Sb2Se3-based Photocathodes for Solar Hydrogen Production
16:30 - 16:45 SF1.2.1-O4	Silvan Suter, Yannick Gaudy, Sophia Haussener QUANTITATIVE STRUCTURAL AND TRANSPORT ANALYSIS OF MORPHOLOGICALLY-COMPLEX PHOTOELECTRODES
16:45 - 17:00 SF1.2.1-O5	Laia Francas Forcada *(Department of Chemistry, University of Wisconsin–Madison, Madison, WI 53706, USA.)*, Sacha Corby, Shababa Selim, Camilo Mesa, Yimeng Ma, Dongho Lee, Kyoung-Shin Choi, James Durrant Shining light on the role of catalysts layers on BiVO4 for water oxidation.
17:00 - 17:15 SF1.2.1-O6	Martin Rohloff *(Institut für Anorganische und Analytische Chemie, Albert-Ludwigs-Universität Freiburg)*, Björn Anke, Martin Lerch, Anna Fischer Fluorinated BiVO4 – Enhancement of Photoelectrochemical Performance for Water Oxidation by Fluorine Incorporation
	SF1.2.2 Chair: Curtis Berlinguette
15:45 - 16:00 SF1.2.2-O1	Jara Garcia Santaclara *(Chemical Engineering, Delft University of Technology)*, Alma Olivos-Suarez, Sonia Castellanos, Freek Kapteijn, Monique van der Veen, Jorge Gascon Design Guidelines of MOFs for Photocatalytic H2 Production

16:00 - 16:15 SF1.2.2-O2	Idan Hod *(Ben-Gurion University of the Negev)* Metal-Organic Frameworks as an Enzyme-Inspired Heterogeneous Platform for Electrocatalytic CO2 Reduction
16:15 - 16:30 SF1.2.2-O3	Franziska Hegner, Nuria Lopez, Galán Jose-Ramon, Gimenez Sixto Enhanced Photoanode Activity with Co-Fe Prussian blue as genuine Water Oxidation Catalyst
16:30 - 16:45 SF1.2.2-O4	Yihui Zhao *(DIFFER – Dutch Institute for Fundamental Energy Research, the Netherlands, www.differ.nl)*, Shashank Balasubramanyam, Ageeth Bol, Anja Bieberle-Hütter Tungsten trioxide Thin Films Fabricated by Radio Frequency Sputtering and by Atomic Layer Deposition for Water Splitting
16:45 - 17:15 SF1.2.2-I1	Sophia Haussener *(École Polytechnique Fédérale de Lausanne EPFL)* Modelling approaches to guide best conceptual device classes and research pathways for photo-driven processing of chemical commodities
17:15 - 18:45	**Poster Exhibition**

September 5th - Day 2 (Tuesday)

	SF1.3 Chair: Kevin Sivula
09:00 - 09:35 SF1.3-I1	William White, Christopher Sanborn, David Fabian, Ronald Reiter, Shane Ardo *(Department of Chemistry, University of California, Irvine, CA 92617 USA)* Engineering Bipolar Ion-Exchange Membranes to Enable New Functions Relevant to Photoelectrochemical Applications
09:35 - 09:45	Discussion
09:45 - 10:20 SF1.3-I2	Jihun Oh *(Korea Advanced Institute of Science and Technology (KAIST))* Silicon Photosynthetic Cells for Efficient and Selective Solar Chemical Production
10:20 - 10:30	Discussion
10:30 - 11:05 SF1.3-I3	Leif Hammarström *(Uppsala University, Dept. Chemistry Ångström Laboratory)* Molecular Approaches to Solar Fuels
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SF1.3-I4	Byoung Koun MIn *(Clean Energy Research Center, Korea Institute of Science and Technology)*

	Bifunctional photoelectrode by bilateral fabrication of photovoltaics and electrocatalyst
12:20 - 12:30	Discussion
12:30 - 12:45 SF1.3-O1	Wei Cui *(Department of Chemistry, University of Zurich)*, David Tilley Deconvolution of Photovoltaic and Electrocatalytic Performance in Water Splitting Photocathodes by Dual Working Electrode Photoelectrochemistry
12:45 - 13:00 SF1.3-O2	Dariusz Mitoraj, Radim Beranek Ultrasmall Cocatalyst Nanoparticles for Efficient Photoelectrocatalysis: Optical Properties and Electrolyte Effects
13:00 - 13:15 SF1.3-O3	Hyacinthe Randriamahazaka *(ITODYS, CNRS UMR 7086, Univ. Paris Diderot, Sorbonne Paris Cité, Paris, France)*, Eswaran Murugasen, Jalal Ghilane Hematite Surface Engineering for Photoelectrochemical Water Splitting
13:15 - 15:00	**Lunch**
	SF1.4.1 Chair: Daniel Esposito
15:00 - 15:15 SF1.4.1-O1	bruce Parkinson *(University of Wyoming)* Solar Fuels: Future Prospects?
15:15 - 15:30 SF1.4.1-O2	Yannick Hermans *(UBordeaux)*, Wolframm Jaegermann, Andreas Klein, Thierry Toupance PES band alignment study of BiVO4 with common oxidation cocatalysts
15:30 - 15:45 SF1.4.1-O3	Teresa Andreu *(Catalonia Institute for Energy Research (IREC), Jardins de les Dones de Negre 1, Sant Adrià del Besòs, 08930 Barcelona)*, Erdem Irtem, Nina Carretero, Felix Urbain, Carles Ros, Maria Dolores Hernández-Alonso, Germán Penelas-Pérez, Joan Ramon Morante A photoelectrochemical flow cell design for the efficient CO2 conversion to fuels
15:45 - 16:00 SF1.4.1-O4	Pieter Westerik *(MESA+ Institute for Nanotechnology, University of Twente)*, Wouter Vijselaar, Erwin Berenschot, Juriaan Huskens, Han Gardeniers Silicon membrane architecture for unassisted solar water splitting with separate product gasses
16:00 - 16:15 SF1.4.1-O5	Rajiv Ramanujam Prabhakar *(Department of Chemistry, University of Zurich)*, Wilman Septina, David Tilley Efficient Earth Abundant Copper Sulphide Photocathodes for Solar Water Splitting
16:15 - 16:30 SF1.4.1-O6	Anton Litke, Yaqiong Su, Emiel J.M. Hensen, Jan Philipp Hofmann *(Eindhoven University of Technology, NL)*

	Stabilization of trapped charge carriers in TiO2 by adsorbed water: a combined time-resolved FTIR spectroscopy and DFT+U study
16:30 - 16:45 SF1.4.1-O7	Akihiro Nakamura, Hiroaki Maruyama, Yoshiaki Nakano, Katsushi Fujii, Masakazu Sugiyama *(The University of Tokyo)* Polarization engineered photocathode using InGaN/AlN heterostructure for zero-bias solar water splitting
16:45 - 17:00 SF1.4.1-O8	Rahman Daiyan *(Particles and Catalysis Research Group, School of Chemical Engineering,)* Tin catalysts for Conversion of Carbon Dioxide into Formate
	SF1.4.2 Chair: Yogesh Surendranath
15:00 - 15:15 SF1.4.2-O1	Dowon Bae *(Department of Physics, Technical University of Denmark)*, Brian Seger, Thomas Pedersen, Ole Hansen, Peter Vesborg, Ib Chorknedorff Strategies for photoelectrode protection: A case study of an extremely stable TiO2 protected c-Si device
15:15 - 15:30 SF1.4.2-O2	Thomas Moehl *(Department of Chemistry, University of Zurich)*, Jihye Suh, Laurent Sévery, René Wick, David Tilley Investigation of ALD TiO2 Protection Layers for Water Splitting Photoelectrodes
15:30 - 15:45 SF1.4.2-O3	Kayo Koike *(Photonics Control Technology Team, Advanced Photonics Technology Development Group, RIKEN, Wako,Japan)*, Kazuhiro Yamamoto, Satoshi Ohara, Masakazu Sugiyama, Satoshi Wada, Katsushi fujii Role and model of NiO on n-type GaN Photoanode for Water Splitting
15:45 - 16:00 SF1.4.2-O4	Shun Kashiwaya *(TU Darmstadt, Surface Science)*, Andreas Klein, Wolfram Jaegermann Work function of the anatase (001) and (101) facet in different surface states
16:00 - 16:15 SF1.4.2-O5	Hiroaki Maruyama *(The University of Tokyo)*, Akihiro Nakamura, Yoshiaki Nakano, Katsushi Fujii, Masakazu Sugiyama Pt co-catalyst by photo-electrodeposition on tandem nitride semiconductor photocathode for zero-bias solar water splitting
16:15 - 16:30 SF1.4.2-O6	Andreas Zeidler, Viktoria Kunzelmann, Martin Stutzmann Photo-catalytic carbon dioxide reduction with InGaN photo-electrodes
16:30 - 17:05	
17:05 - 17:15	Discussion
20:00 - 22:00	**Social Dinner**

September 6th - Day 3 (Wednesday)

	SF1.5 Chair: Dunwei Wang
09:00 - 09:35 SF1.5-I1	Curtis Berlinguette *(The University of British Columbia)* Converting CO2 into something useful
09:35 - 09:45	Discussion
09:45 - 10:20 SF1.5-I2	Marc Koper *(Leiden University)* Mechanisms of electrocatalytic CO2 reduction
10:20 - 10:30	Discussion
10:30 - 11:05 SF1.5-I3	Yogesh Surendranath *(Massachusetts Institute Of Technology)*, Anna Wuttig, Youngmin Yoon, Sahr Khan Mechanistic Insights Into Selective CO2-to-Fuels Catalysis
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SF1.5-I4	ryuhei nakamura *(RIKEN Center for Sustanable Resource Science)* Element Strategy of Oxygen Evolution Electrocatalysis Based on in-situ Identification of Intermediate Species
12:20 - 12:30	Discussion
12:30 - 13:05 SF1.5-I5	Heinz Frei *(Molecular Biophysics and Integrated Bioimaging Division Lawrence Berkeley National Laboratory Berkeley, CA 94720)* Nanoscale Oxide Based Core-Shell Assembly for Photocatalytic Reduction of CO2 by H2O
13:05 - 13:15	Discussion
13:15 - 13:25	**Closing**
16:30 - 18:05	**Registration 7-8 Sept**

20:00 - 22:00	**Social Dinner**
13:15 - 15:00	**Lunch**
17:00 - 17:15	**Closing**

Poster Contribution

015 Michael Nagli *(Department of Materials Science and Engineering, Technion – Israel Institute of Technology, Haifa 3200003, Israel)*, Maytal Caspary-Toroker
M(OH)2 (M = Ni, Fe, Co) two-dimensional materials and investigation of their electronic properties through computational methods

016 Yannick Gaudy *(EMPA)*, Stefan Dilger, Steve Landsmann, Ulrich Aschauer, Simone Pokrant, Sophia Haussener
Coupled Experimental-Numerical Analysis of LaTiO2N Particle-Based Water-Splitting Photoelectrodes

026 Pramod Patil Kunturu *(University of Twente)*, Jurriaan Huskens
Efficient solar water splitting copper(I) oxide photocathodes protected by carbon materials

028 Daniel Esposito *(Columbia University, US)*
3D Printed Membraneless Electrolyzers for Hydrogen Production

032 Wouter Vijselaar *(University of Twente)*, Pieter Westerik, Janneke Veerbeek, Roald Tiggelaar, Erwin Berenschot, Jurriaan Huskens, Han Gardeniers
Spatial Decoupling of Light Absorption and Catalytic Activity of Nickel-Molybdenum on High-Aspect-Ratio Silicon Microwire Arrays

036 Katsushi Fujii *(Research Cluster for Innovation, Nakamura Lab., RIKEN, Wako, Japan)*, Takenari Goto, Shinichiro Nakamura, Kayo Koike, Takafumi Yao
In-situ Photoluminescence Observation Trial for Photoelectrochemical Water Splitting using with n-type GaN as an Photoanode

043 Carles Ros *(Catalonia Institute for Energy Research (IREC), Jardins de les Dones de Negre 1, Sant Adrià del Besòs, 08930 Barcelona)*, Sergio Giraldo, Edgardo Saucedo, Teresa Andreu, Joan Ramon Morante
TiO2 protective layers for feasible and non-expensive photocathodes based on kesterites for water splitting

044 Carles Ros *(Catalonia Institute for Energy Research (IREC), Jardins de les Dones de*

Negre 1, Sant Adrià del Besòs, 08930 Barcelona), Teresa Andreu, Maria-Dolores Hernández-Alonso, Germán Penleas-Pérez, Jordi Arbiol
Charge transfer characterization on Atomic Layer Deposited TiO2 protective and conductive layers for Photoelectrochemical Solar Fuels

061 Huu Chuong Nguyen *(Institute of Chemical Research of Catalonia (ICIQ))*
Catalytic properties of doped Fe2O3 using DFT+U approach

073 Divya Bohra *(Delft University of Technology, Department of Chemical Engineering, Materials for Energy Conversion and Storage)*, Wilson Smith
Rational design of carbon dioxide electroreduction catalysts using multiscale modeling

107 Florent Yang *(GSI Helmholtz Centre for Heavy Ion Research)*, Jan Kugelstadt, Mercedes Alicia Carrillo-Solano, Wouter Maijenburg, Christina Trautmann, Maria Eugenia Toimil-Molares
Cu2O nanowire arrays electrodeposited in etched ion-track membranes as photocathodes for solar water splitting

156 Rochan Sinha *(DIFFER – Dutch Institute for Fundamental Energy Research, the Netherlands, www.differ.nl)*, Valerio di Palma, Reinoud Lavrijsen, Mariadriana Creatore, Anja Bieberle-Hütter
Improvement In The Water Splitting Activity Of Hematite Thin Films with ZnO Underlayer

157 Jin-Young Yu *(Departments of Chemical Engineering, Hanyang University)*, Jin-Young Jung, Jung-Ho Lee
High open-circuit potential obtained by ion-permeable NiOx on n-Si photoanode for efficient water oxidation

159 Nienke Firet *(Delft University of Technology, Department of Chemical Engineering)*, Wilson Smith
The role of crystal structure in oxide-derived Ag catalysts for CO2 reduction

160 Yuya Uzumaki *(NTT Device Technology Labs, NTT Corporation)*, Yoko Ono, Kazuhide Kumakura, Takeshi Komatsu
Impedance Analysis of Water Oxidation Reaction with a GaN-based Photoanode for Artificial Photosynthesis

162 Ming Ma *(Department of Chemical Engineering, Delft University of Technology)*, Heine Hansen, Marco Valenti, Wilson Smith
Electronic Effects on the Electrochemical Reduction of CO2 on Compositionally Variant Au-Pt Bimetallic Films

164 Yoko Ono *(NTT Device Technology Labs, NTT Corporation)*, Yuya Uzumaki, Kazuhide Kumakura, Takeshi Komatsu

Suppresion of Photocurrent Degradation in an Artificial Photosynthesis System with GaN-based Anode by NiO Protective Layer

165 Dennis Friedrich *(Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Institute for Solar Fuels)*, Mario Borgwardt, Sönke Müller, Hannes Hempel, Roel van de Krol, Rainer Eichberger
Carrier dynamics in metal oxide absorbers for solar fuel production

167 Vladimir Smirnov *(IEK5-Photovoltaik, Forschungszentrum Jülich GmbH)*, Katharina Welter, Jan-Philipp Becker, Wolfram Jaegermann, Friedhelm Finger
Evaluation of annual hydrogen production through integrated silicon based photoelectrochemial (PEC) water splitting devices

169 Bartek J. Trześniewski *(Delft University of technology)*, Ibadillah A. Digdaya, Sandheep P. Ravishankar, Isaac Herraiz-Cardona, Sixto Gimenez, Wilson A. Smith
Photocharged BiVO4 photoanodes for solar water splitting

170 Shababa Selim *(Chemistry Department, Imperial College London)*, Laia Francas, Andreas Kafizas, James Durrant
Charge carrier separation in the BiVO4/WO3 heterojunction

171 Serena Berardi *(Dept. of Chemical and Pharmaceutical Sciences - University of Ferrara, Via Fossato di Mortara 17-19, 44121 – Ferrara, Italy)*, Michele Orlandi, Alberto Mazzi, Nicola Bazzanella, Antonio Miotello, Stefano Caramori, Carlo Alberto Bignozzi
Nickel-Iron oxide-modified Hematites as efficient earth-abundant photoanodes

173 Ludmilla Steier *(Chemistry Department, Imperial College London)*, Matthew Mayer, Sebastiano Bellani, Hansel Comas, Laia Francas, James Durrant, Maria-Rosa Antognazza, Michael Grätzel
Low-temperature Atomic Layer Deposition of TiO2 for Stable High-performance Organic Photocathodes

174 Kai Liu *(Chemical Engineering, Delft University of Technology)*, Ming Ma, Sixto Gimenez Julia, Wilson Smith
Au-Cu bimetallic thin film for CO2 reduction

176 Sacha Corby *(Department of Chemistry, Imperial College London)*, Laia Francas Forcada, Andreas Kafizas, James Durrant
Evaluation of water oxidation kinetics and charge trapping in nanostructured WO3 photoanodes

178 Dong-Hyung Kim *(Department of Materials and Chemical Engineering, Hanyang University, Ansan, Kyunggido, 426-791, Republic of Korea.)*, Sambhaji S Shinde, Jin-Young Jung, Jin-Young Yu, Sung-Hae Kim, Jung-Ho Lee
Noble metal free Co-Sn-Sx chalcogel hybrids for high performance hydrogen evolution

180 Jin-Young Jung *(Departments of Materials and Chemical Engineering, Hanyang University, 55 Hanyangdaehak-ro, Sangnok-gu, Ansan, Kyeonggi-do 426-791, Republic of Korea)*, Jin-Young Yoo, Jung-Ho Lee
Photoelectrochemical hydrogen evolution reactions using electrolyte-permeable NiOx coated Si photocathodes

International Conference

nanoGe September Meeting 2017 (SeptemberMeeting17)

SF2 Solution Processed Innovative Solar Cells

Barcelona, Spain, 2017 September 4th - 8th
Conference Chairs: Garry Rumbles and Emilio Palomares

Conference Program

September 4th - Day 1 (Monday)	
08:00 - 09:30	**Registration**
09:30 - 09:45	**Opening**
	SF2.1
09:45 - 10:20 SF2.1-I1	Paul Burn *(The University of Queensland)* Interlayer engineering for high Voc perovskite solar cells
10:20 - 10:30	Discussion
10:30 - 11:05 SF2.1-I2	Kai Zhu, joseph Berry *(National Renewable Energy Laboratory Denver)* Controlling Solution Chemistry towards Upscaling of Perovskite Photovoltaics
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SF2.1-I3	Mario Caironi *(Center for Nano Science and Technology@PoliMi, Istituto Italiano di Tecnologia, via Giovanni Pascoli 70/3, I-20133 Milan, Italy)* Ion migration effects and photoconductivity in hybrid perovskite optoelectronic devices
12:20 - 12:30	Discussion
12:30 - 13:05 SF2.1-I4	James Ryan *(National Institute for Materials Science, Japan)* Transient optoelectronic studies of inverted perovskite solar cells
13:05 - 13:15	Discussion
13:15 - 15:00	**Lunch**

	SF2.2
15:00 - 15:30 SF2.2-O1	Ivan Mora-Sero *(Institute of Advanced Materials, Universitat Jaume I, Spain)* Tailoring Properties in Perovskite Solar Cells
15:30 - 16:00 SF2.2-O2	Joseph Luther *(National Renewable Energy Laboratory)* Influence of Electrode Interfaces on the Stability of Perovskite Solar Cells: Unencapsulated Perovskite Solar Cells for >1000 Hours of Ambient Operational Stability
16:00 - 16:30 SF2.2-O3	Juan Bisquert *(Institute of Advanced Materials, Universitat Jaume I, Spain)* Optoelectronic impedances of thin film solar cells
16:30 - 17:00 SF2.2-O4	Antonio Guerrero *(Institute of Advanced Materials, Universitat Jaume I, Spain)* Ion Migration in Perovskite Solar Cells
	SF2.3
09:00 - 09:35 SF2.3-I1	Natalie Stingelin *(Georgia Tech)* Solution-Processed Photovoltaics: Opportunities provided by Use of Material Science Tools
09:35 - 09:45	Discussion
09:45 - 10:20 SF2.3-I2	juan luis Delgado *(POLYMAT, University of the Basque Country UPV/EHU, Avenida de Tolosa 72, 20018 Donostia-San Sebastián, Spain.)*, Ivet Kosta, Silvia Collavini, Sebastian völker, Hans Grande, Ramón Tena-Zaera, Jorge Pascual Perovskite:fullerene blend films for halide perovskite solar cells
10:20 - 10:30	Discussion
10:30 - 11:05 SF2.3-I3	Andrew Ferguson *(National Renewable Energy Laboratory)*, Bryon Larson, Bertrand Tremolet de Villers, Ross Larsen RAMP-ing the discovery of high-performance organic photovoltaic materials
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SF2.3-I4	Simona Fantacci *(Computational Laboratory of Hybrid/Organic Photovoltaics (CLHYO), CNR - ISTM)* Modeling organic and metallorganic hole-transporting materials for solid-state (dye-sensitized) solar cells
12:20 - 12:30	Discussion
12:30 - 13:05 SF2.3-I5	Karsten Walzer *(Heliatek GmbH)* Organic Solar Films: From the Lab to the Field

13:05 - 13:15	Discussion
13:15 - 15:00	**Lunch**
	SF2.4
15:00 - 15:35 SF2.4-I1	Annamaria Petrozza *(Istituto Italiano di Tecnologia (IIT))* Understanding Defect Physics in Metal-halide Perovskites for Optimizing Optoelectronic Devices
15:35 - 15:45	Discussion
15:45 - 16:20 SF2.4-I2	Hyun Suk Jung *(School of Advanced Materials Science & Engineering, Sungkyunkwan University)* Exploitation of Nanomaterials and Process for Facilitating Commercialization of Perovskite Solar Cells
16:20 - 16:30	Discussion
16:30 - 16:45 SF2.4-O1	Udayabhaskararao Thumu *(1Department of Physics of Complex Systems, Weizmann Institute of Science, Rehovot 76100, Israel.)*, Miri Kazes, Lothar Houben, Ayelet Teitelboim, Dan Oron Dynamic ligand control of crystalline phase and habit in cesium lead halide nanoparticles
20:00 - 22:00	**Social Dinner**
	SF2.5
09:00 - 09:35 SF2.5-I1	John de Mello *(Norwegian University of Science and Technology (NTNU))* Flow-based synthesis of electronic materials
09:35 - 09:45	Discussion
09:45 - 10:20 SF2.5-I2	Michael Chabinyc *(Materials, University of California Santa Barbara)* Transport and Microstructure in Materials for Solution Processable Solar Cells
10:20 - 10:30	Discussion
10:30 - 11:05 SF2.5-I3	Matt Law *(Department of Chemistry, University of California, Irvine, CA 92617 USA)* Developing quantum dot solids for next-generation photovoltaics
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:15 SF2.5-O1	Shane Ardo *(University of California Irvine)*, Joseph M. Cardon, Kevin Tkacz, Jacqueline Angsono, Gregory Krueper, Hsiang-Yun Chen

	Using Electrocatalysis to Overcome Efficiency Bottlenecks in Iodine-Based Dye-Sensitized Solar Cells
12:15 - 12:30 SF2.5-O2	Shrabani Panigrahi *(Departamento de Ciência dos Materiais, CENIMAT/i3N, Faculdade de Ciências e Tecnologia–Universidade Nova de Lisboa and CEMOP/Uninova, Caparica, Portugal.)*, Tomás Calmeiro, Daniela Nunes, Rodrigo Martins, Elvira Fortunato Imaging the Charge Carrier Distribution inside Solar Cell Using Kelvin Probe Force Microscopy
12:30 - 12:45 SF2.5-O3	Quan Liu *(ICFO-Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology)*, Johann Toudert, Silvia Colodrero, Jordi Martorell, Jordi Martorell Two-resonance tapping cavity for broadband light confinement in thin film photovoltaic cells
12:45 - 13:00 SF2.5-O4	Beatriz Martín-García *(Istituto Italiano di Tecnologia (IIT))*, Yu Bi, Mirko Prato, Davide Spirito, Roman Krahne, Gerasimos Konstantatos, Iwan Moreels PbS QD solar cells with improved stability under ambient conditions through integration of reduced graphene oxide
13:00 - 13:15 SF2.5-O5	Luis Lanzetta *(Imperial College london)*, Jose Manuel Marin-Beloqui, Irene Sanchez-Molina, Dong Ding, Saif A. Haque Visible Emitting 2D Hybrid Tin Halide Perovskites for Use in Light-Emitting Devices
13:15 - 13:25	**Closing**

International Conference

nanoGe September Meeting 2017 (SeptemberMeeting17)

SE1: Fundamental Processes in Semiconductor Nanocrystals

Barcelona, Spain, 2017 September 4th - 8th
Conference Chairs: Arjan Houtepen and Zeger Hens

Conference Program

September 7th - Day 4 (Thursday)	
07:30 - 08:45	**Registration**
08:45 - 09:00	**Opening**
	SE1.1
09:00 - 09:35 SE1.1-I1	Dmitri Talapin *(University of Chicago)* Synthetic methodology for semiconductor nanomaterials: challenges and opportunities
09:35 - 09:45	Discussion
09:45 - 10:20 SE1.1-I2	Sandrine Ithurria *(ESPCI, Laboratory of Physics and Study of Materials)* 2D nanoplatelets of II-VI semiconductors: from material synthesis to

	optoelectronic devices
10:20 - 10:30	Discussion
10:30 - 11:05 SE1.1-I3	Maksym Kovalenko *(Department of Chemistry and Applied Biosciences, Institute of Inorganic Chemistry, ETH Zürich)* Colloidal APbX3 nanocrystals [A=Cs+, CH3NH3+, CH(NH2)2+, X=Cl, Br, I] with bright photoluminescence spanning from ultraviolet to near-infrared spectral regions
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SE1.1-I4	Christopher B. Murray *(University of Pennsylvania)*, Yaoting Wu, Blaise Fleury, Stan Najmr, Davit Jishkariani, Katherine C Elbert, Cherie R. Kagan, Da Wang, Alfons van Blaaderen Design and assembly of coupled multicomponent nanocrystal superlattices and quasicrystalline assemblies and superparticles
12:20 - 12:30	Discussion
12:30 - 12:45 SE1.1-O1	Anne Berends *(Molecular Catalysis, Department of Chemical Engineering and Chemistry, Eindhoven University of Technology)*, Ward van der Stam, Jan Philipp Hofmann, Eva Bladt, Johannes Meeldijk, Sara Bals, Celso de Mello Donega Surface chemistry determines fate of shell overgrowth or alloying reactions in CuInS2 nanocrystals
12:45 - 13:00 SE1.1-O2	Jakub Jagielski *(Institute for Chemical & Bioengineering, Department of Chemistry & Applied Biosciences, ETH Zurich)*, Sudhir Kumar, Chih-Jen Shih Colloidal Quantum Confined Perovskites for Ultrapure Green Optoelectronics: Synthesis and Applications
13:00 - 13:15 SE1.1-O3	Youngjin Jang *(Schulich Faculty of Chemistry, Russell Berrie Nanotechnology Institute, Solid State Institute, Technion-Israel Institute of Technology)*, Arthur Shapiro, Aldona Sashchiuk, Efrat Lifshitz Colloidal synthesis of SnTe nanocrystals and SnTe-based core/shell nanocrystals by cation exchange combined with Kirkendall effect
13:15 - 15:00	**Lunch**
	SE1.2
15:00 - 15:35 SE1.2-I1	Jonathan Owen *(Department of Chemistry, Columbia University)* The coordination chemistry of colloidal quantum dots.
15:35 - 15:45	Discussion

15:45 - 16:20 SE1.2-I2	Ivan Infante *(Vrije Universiteit Amsterdam)* Trap States in Colloidal II-VI and IV-VI Semiconductor Nanocrystals
16:20 - 16:30	Discussion
16:30 - 16:45 SE1.2-O1	Jun Pan *(Division of Physical Sciences and Engineering, Solar and Photovoltaic Engineering Research Center (SPERC),King Abdullah University of Science & Technology (KAUST))*, Osman Bakr Surface passivation of perovskite quantum dots for high photo-stability and efficient light emitting diodes
16:45 - 17:00 SE1.2-O2	Stephanie ten Brinck *(Vrije Universiteit Amsterdam)*, Ivan Infante Surface Termination, Morphology and Bright Photoluminescence of Cesium Lead Halide Perovskite Nanocrystals
17:00 - 18:30	**Poster exhibition**
20:00 - 22:00	**Social Dinner**

September 8th - Day 5 (Friday)

	SE1.3
09:00 - 09:35 SE1.3-I1	Marcus Scheele *(University of Tübingen)* Living on the Edge: Excitons at the Quantum Dot/Organic Semiconductor Interface
09:35 - 09:45	Discussion
09:45 - 10:20 SE1.3-I2	Cherie Kagan *(University of Pennsylvania)* Role of Surface Chemistry on Charge Carrier Transport in Quantum Dot Solids
10:20 - 10:30	Discussion
10:30 - 11:05 SE1.3-I3	Joey Luther *(NREL)* to be announced
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SE1.3-I4	Frank Wise *(Cornell University US)* To be announced
12:20 - 12:30	Discussion
12:30 - 12:45 SE1.3-O1	marcel bohmer *(Lumileds, Device Architecture, Netherlands)*, jacques heuts, stefan grabowski, sumit gangwal, danielle chamberlin, daniel estrada, ken

	shimizu On chip quantum dots for efficient white LEDs
12:45 - 13:00 SE1.3-O2	Ward van der Stam *(Chemical Engineering, Optoelectronic Materials, TU Delft)*, Solrun Gudjonsdottir, Wiel Evers, Arjan Houtepen Electrochemically Tuning the Doping Density, Crystal Structure and Radiative Recombination of Cu2-xS Nanocrystals
13:00 - 13:15 SE1.3-O3	Mahdi Samadi Khoshkhoo *(University of Tübingen)*, Santanu Maiti, Frank Schreiber, Thomas Chassé, Marcus Scheele Tunable Charge Transport by Multiple Inelastic Cotunneling in ITO Nanocrystal Superlattices
13:15 - 15:00	**Lunch**
	SE1.4
15:00 - 15:35 SE1.4-I1	Patanjali Kambhampati *(McGill University)* On the nature of the surface of semiconductor nanocrystals
15:35 - 15:45	Discussion
15:45 - 16:20 SE1.4-I2	Vanessa Wood *(Laboratory for Nanoelectronics, Department of Information Technology and Electrical Engineering, ETH Zurich)* Nanocrystal Surface Engineering
16:20 - 16:30	Discussion
16:30 - 16:45 SE1.4-O1	Freddy Rabouw *(ETH Zurich)*, Felipe Antolinez, David Norris Trapping and charging in individual quantum dots studied using fluorescence correlation analysis
16:45 - 17:00 SE1.4-O2	Carlo Giansante *(Istituto di Nanotecnologia CNR-Nanotec)* On How Surface Chemistry Affects the Ground State Optoelectronic Properties of Colloidal Quantum Dots
17:00 - 17:15	**Closing**

Poster Contribution

003	Klaus Boldt *(University of Konstanz)*, Florian Enders, Peng Zeng, Trevor A. Smith Ultrafast Carrier Relaxation and Extraction in Semiconductor Nanoheterostructures
037	Rotem Strassberg *(Technion – Israel Institute of Technology)*, Yahel Barak, Svas

Delikanli, Efrat Lifshitz, Hilmi Volkan Demir
Optically Detected Magnetic Resonance studies of CdSe/CdMnS core/shell colloidal nanoplatelets

060 Itay Meir *(Technion – Israel Institute of Technology)*, Joanna Dehnel, Efrat Lifshitz
Optical properties of alloyed CdSe/CdS CQDs heterostructure

068 Juan Ignacio Climente, Josep Planelles, Fernando Rajadell
Quantum Mechanical Origin of Linearly Polarized Emission in CdSe/CdS Dot-in-Rod Heterostructures

083 Jannika Lauth *(Delft University of Technology, Department of Chemical Engineering)*, Francisco Manteiga Vázquez, Ryan W. Crisp, Sachin Kinge, Arjan J. Houtepen, Laurens D. A. Siebbeles
Tuning the Photoluminescence and Carrier Multiplication Properties in Ultrathin 2D PbS Nanoplatelets

104 Satria Zulkarnaen Bisri *(RIKEN Center for Emergent Matter Science)*, Daiki Shin, Sunao Shimizu, Maria Ibanez, Maksym V. Kovalenko, Yoshihiro Iwasa
Charge Carrier Doping Control and Thermoelectricity of Colloidal Nanocrystal Assemblies

110 Ivan Mora-Sero *(Institute of Advanced Materials, Universitat Jaume I, Spain)*, Bruno Clasen Hames
Perovskite Quantum Dots for LED applications

006 Yarimeth A. Alarcón *(Instituto de Energias Renovables - UNAM)*, Oscar A. Jaramillo-Quintero, Marina E. Rincón
Thermographic Analysis of Perovskite Solar Cells Degradation Induced by Light

151 Nicholas Kirkwood *(Chemical Engineering, Optoelectronic Materials, TU Delft)*, Francesca Pietra, Luca De Trizio, Anne Hoekstra, Lennart Kleibergen, Rolf Koole, Patrick Baesjou, Nicolas Renaud, Liberato Manna, Arjan Houtepen
Preferential gallium for zinc cation exchange in InZnP nanocrystals leads to photoluminescence enhancement

154 Solrun Gudjonsdottir *(Chemical Engineering, Optoelectronic Materials, Delft University of Technology, Van der Maasweg 9, 2629 HZ Delft, The Netherlands)*, Ward van der Stam, Nick Kirkwood, Wiel Evers, Arjan Houtepen
The role of ion diffusion in electrochemical doping of ZnO Nanocrystal assemblies

155 Laura Piveteau *(Department of Chemistry and Applied Biosciences, Institute of Inorganic Chemistry, ETH Zürich)*, Ta-Chung Ong, Brennan J. Walder, Aaron J. Rossini, Dmitry Dirin, Lindon Emsley, Christophe Copéret, Maksym V. Kovalenko
Dynamic Nuclear Polarization NMR Spectroscopy for Atomistic Understanding of

Colloidal Nanocrystal Surfaces

158 Fabio Gabelloni *(Department of Physics and Astronomy, University of Florence and LENS, via G. Sansone 1, Sesto Fiorentino (FI), Italy)*, Giulia Andreotti, Francesco Biccari, Massimo Gurioli, Marco Pagliai, Alessio Milanesi, Nicola Calisi, Stefano Caporali, Anna Vinattieri
Anomalous increase of the photoluminescence decay time with the temperature in CsPbBr3 nanocrystals: role of the thermally activated transfer from the surface states

161 Santanu Jana *(Laboratoire de Physique des Solides, Université Paris-Saclay, Université Paris-Sud, Orsay, France.)*, Patrick Davidson, Benjamin Abécassis
2D CdSe Nanoplatelets – Self-assembly and Living polymerization

166 Pieter Schiettecatte *(Physics and Chemistry of Nanostructures (PCN), Ghent University, Belgium)*, Pengshang Zhou, Shalini Singh, José Martins, Zeger Hens
Surface chemistry of molybdenum disulfide nanosheets

168 Willem Walravens *(Physics and Chemistry of Nanostructures (PCN), Department of Inorganic and Physical Chemistry, Ghent University, Belgium)*, Jolien Dendooven, Eduardo Solano, Athmane Tadjine, Christophe Delerue, Christophe Detavernier, Zeger Hens
In-gap Minibands in Epitaxial Quantum Dot Superlattices

172 Dmitry Dirin *(Laboratory of Inorganic Chemistry, Department of Chemistry & Applied Biosciences, ETH Zurich)*, Ryan Dragoman, Marcel Grogg, Maryna Bodnarchuk, Peter Tiefenboeck, Donald Hilvert, Maksym Kovalenko
Surface-engineered cationic nanocrystals stable in high ionic strength solutions

175 Mona Rafipoor *(Institute of Physical Chemistry University of Hamburg)*, Rieke koll, Jan Niehaus, Horst Weller, Holger Lange
Auger Recombination and Charge Transfer in CdSe/CdS Core/Shell Quantum Dot/Quantum Rod ensembles

177 Valeriia Grigel *(Physics and Chemistry of Nanostructures, Ghent University, Ghent, Belgium,)*, Laxmi Kishore Sagar, Kim De Nolf, Jonathan De Roo, Qiang Zhao, Andre Vantomme, Zeger Hens
The surface chemistry of HgSe Quantum Dots

179 Gianluca Grimaldi *(1 Department of Chemical Engineering, Delft University of Technology, Delft, Netherlands)*, Ryan Crisp, Nick Kirkwood, NIcolas Renaud, Sachin Kinge, Harjan Houtepen, Laurens Siebbeles
Hot electron transfer in bi-component Quantum-Dot solids

International Conference

nanoGe September Meeting 2017 (SeptemberMeeting17)

SE2: Opto-electronics of 2-D Nanostructured Semiconductors: Parabolic vs. Linear Dirac Bands

Barcelona, Spain, 2017 September 4th - 8th
Conference Chairs: Cherie Kagan and Daniel Vanmaekelbergh

Conference Program

September 7th - Day 4 (Thursday)	
07:30 - 08:45	**Registration**
08:45 - 09:00	**Opening**
	SE2.1 Chair: Daniel Vanmaekelbergh
09:00 - 09:35 SE2.1-I1	Christophe Delerue *(IEMN - UMR 8520)*, Athmane Tadjine Electronic structure and optical properties of 2D nanostructured semiconductors
09:35 - 09:45	Discussion
09:45 - 10:20	Christiane deMorais

SE2.1-I2	Graphene: the good, the bad, the nano & the pseudo
10:20 - 10:30	Discussion
10:30 - 11:05 SE2.1-I3	vittorio pellegrini *(IIT Graphene Labs, Istituto Italiano di Tecnologia, Genova (Italy))* Dirac Bands in Artificial Graphene Realized in Nano-patterned GaAs Quantum Wells
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20	
12:20 - 12:30	Discussion
12:30 - 13:05 SE2.1-I4	Alberto Morpurgo *(University of Genève, CH)* Transport through ionic liquid gated 2D materials
13:05 - 13:15	Discussion
13:15 - 15:00	**Lunch**
	SE2.2 Chair: Christopher B. Murray
15:00 - 15:35 SE2.2-I1	Iwan Moreels *(Istituto Italiano di Tecnologia (IIT))* Band Structure Engineering in Core/Shell and Core/Crown CdSe-Based Nanoplatelets
15:35 - 15:45	Discussion
15:45 - 16:20 SE2.2-I2	Riccardo Scott, Anatol Prudnikau, Artsiom Antanovich, Sotirios Christodoulou, Iwan Moreels, Mikhail Artemyev, Laurens Siebbeles, Andrei Schliwa, Ulrike Woggon, Alexander W. Achtstein *(Institue for Physico-Chemical Problems, Belorussian State University)* Tuning the excitonic properties of CdSe nanoplatelets
16:20 - 16:30	Discussion
16:30 - 16:45 SE2.2-O1	Marlou Slot, Thomas Gardenier, Peter Jacobse, Guido van Miert, Sander Kempkes, Stephan Zevenhuizen, Cristiane Morais Smith, Daniel Vanmaekelbergh, Ingmar Swart Experimental realization and characterization of an electronic Lieb lattice
16:45 - 17:00 SE2.2-O2	Christiaan Post Fabrication of honeycomb semiconductors using electron beam lithography
17:00 - 18:30	**Poster exhibition**

20:00 - 22:00	**Social Dinner**
	SE2.3 Chair: Dmitri Talapin
09:00 - 09:35 SE2.3-I1	Christopher B. Murray *(Department of Chemical & Biological Engineering, Drexel University)*, Yaoting Wu, Siming Li, Blaise Fleury, Stan Najmr, Natalie Gogtsi, Cherie R. Kagan, Jason B. Baxter Building modular 2D systems though nanocrystal assembly and surface exchange.
09:35 - 09:45	Discussion
09:45 - 10:20 SE2.3-I2	Frank Wise *(Cornell University US)* Role of Disorder in Atomically-Coherent Quantum-Dot Solids
10:20 - 10:30	Discussion
10:30 - 11:05 SE2.3-I3	Steven G. Louie *(University of California at Berkeley and Lawrence Berkeley National Laboratory)* Quantum Phenomena in Atomically Thin Two-Dimensional Materials
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SE2.3-I4	Laurens Siebbeles *(Chemical Engineering, Optoelectronic Materials, TU Delft)* Effects of Nanogeometry on Carrier Multiplication in 2D Lead Chalcogenide Materials
12:20 - 12:30	Discussion
12:30 - 13:05 SE2.3-I5	Efrat Lifshitz *(Israel Institute of Technology, Haifa, Israel)* Rashba effect as a source for a long carrier diffusion length in nanostructures assembly and bulk halide perovskites
13:05 - 13:15	Discussion
13:15 - 15:00	**Lunch**
	SE2.4 Chair: Cherie Kagan
15:00 - 15:35 SE2.4-I1	Dmitri Talapin *(University of Chicago)* Colloidal nanocrystals for thin-film optoelectronics
15:35 - 15:45	Discussion
15:45 - 16:00 SE2.4-O1	Miri Kazes *(School of materials science and engineering, Tsinghua University)*, Songping Luo, Dan Oron, Hong Lin

	Strain Induced Type-II Band Alignment Control in CdSe Nanoplatelets / ZnS Sensitized Solar Cells
16:00 - 16:15 SE2.4-O2	Udayabhaskararao Thumu *(1Department of Physics of Complex Systems, Weizmann Institute of Science, Rehovot 76100, Israel.)*, Miri Kazes, Lothar houben, Ayelet Teitelboim, Dan Oron, Rafal Klajn New approaches to control the self-assembly of gold nanoparticles and their surface-enhanced Raman scattering properties
16:15 - 16:30 SE2.4-O3	Jannika Lauth *(Delft University of Technology, Department of Chemical Engineering)*, Francisco Manteiga Vázquez, Ryan W. Crisp, Sachin Kinge, Arjan J. Houtepen, Laurens D. A. Siebbeles Tuning the Photoluminescence and Carrier Multiplication Properties in Ultrathin 2D PbS Nanoplatelets
16:30 - 16:45 SE2.4-O4	Juan Ignacio Climente, Fernando Rajadell, Josep Planelles Excitons in core-only, core-shell and core-crown nanoplatelets: lateral confinement and correlation
16:45 - 17:00	
17:00 - 17:15	**Closing**

International Conference

nanoGe September Meeting 2017 (SeptemberMeeting17)

SE3: 2D Nanomaterials Synthesis and Applications

Barcelona, Spain, 2017 September 4th - 8th
Conference Chairs: Hermenegildo García and Ana Primo

Conference Program

September 7th - Day 4 (Thursday)	
07:30 - 08:45	**Registration**
08:45 - 09:00	**Opening**
	SE3.1 Chair: Bruce Parkinson
09:00 - 09:35 SE3.1-I4	Hongwei Zhu *(School of materials science and engineering, Tsinghua University)* Graphene-on-surfaces: structural design and multifunctional applications
09:35 - 09:45	Discussion
09:45 - 10:00 SE3.1-O2	Guoke Zhao *(Tsinghua University)*, Hongwei Zhu Integration of Perovskite Quantum Dots into Graphene-Si Heterojunction Solar

	cells
10:00 - 10:35 SE3.1-I1	Bruce Parkinson *(University of Wyoming)* Van der Waals Epitaxial Growth, Patterning and Properties of 2D Transition Metal Dichalcogenides
10:35 - 10:45	Discussion
10:45 - 11:15 SE3.1-O1	Rosanna Mastria *(IMM-CNR, Institute for Microelectronics and Microsystems – Unit of Lecce)*, Salvatore Gambino, Riccardo Scarfiello, Adriano Cola, Concetta Nobile, Cinzia Giannini, P. Davide Cozzoli, Aurora Rizzo Synthesis and characterization of two-dimensional colloidal WS2 nanosheets as promising building blocks for highly conductive WS2 thin-films
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SE3.1-I2	Diego Mateo, Ivan Esteve-Adell, Josep Albero *(ITQ (UPV-CSIC))*, Ana Primo, Hermenegildo Garcia Oriented 2.0.0 Cu2O nanoplatelets supported on few-layers graphene as efficient visible light photocatalyst for overall water splitting
12:20 - 12:30	Discussion
12:30 - 13:05 SE3.1-I3	Leonid Ponomarenko *(Lancaster University, UK)*, Roshan Krishna Kumar, Xi Chen, Gregory Auton, Artem Mishchenko, Denis Bandurin, Sergey Morozov, Yang Cao, Katya Khestanova, Moshe Ben Shalom, Vladimir Falko, Andre Geim High-temperature quantum oscillations in graphene superlattices
13:05 - 13:15	Discussion
13:15 - 15:00	**Lunch**
	SE3.2 Chair: Tierui Zhang
15:00 - 15:30 SE3.2-O1	Riccardo Scarfiello Direct synthesis and characterization of colloidal WS2nanoplatelets
15:30 - 15:45 SE3.2-O4	Jing Li *(Tsinghua University)*, Hongwei Zhu Nanofibrous Membrane of Graphene Oxide/Polyacrylonitrile Composite with a Low Filtration Resistance for the Effective Capture of PM2.5
15:45 - 16:00 SE3.2-O5	Diego Mateo *(ITQ (UPV-CSIC))*, Ivan Esteve-Adell, Josep Albero, Ana Primo, Hermenegildo Garcia 111 oriented Au nanoplatelets on multilayer graphene as visible light photocatalyst for overall water splitting
16:00 - 16:15 SE3.2-O2	Min Wang *(Tsinghua University)*, Hongwei Zhu Safe synthesis and application of two-dimensional MXene Ti3C2Tx

16:15 - 16:30 SE3.2-O3	Huan Ren *(University of Limerick, Ireland)* Synthesis and characterization of Cu2ZnSnSe4 tetrapod nanocrystals
17:00 - 18:30	**Poster exhibition**
20:00 - 22:00	**Social Dinner**
	SE3.3 Chair: Hongwei Zhu
09:00 - 09:35 SE3.3-I1	Tierui Zhang *(Technical Institute of Physics and Chemistry, Chinese Academy of Sciences)* 2D nanostructured photocatalysts for efficient solar fuels
09:35 - 09:45	Discussion
09:45 - 10:20 SE3.3-I2	Pagona Papakonstantinou *(Engineering Research Institute (ERI), School of Engineering, Ulster University, Newtownabbey, BT37 0QB, UK)* 2D crystals for Electrocatalysis
10:20 - 10:30	Discussion
10:30 - 11:05 SE3.3-I3	Menny Shalom *(Chemistry Department, Ben Gurion University of the Negev)* Carbon Nitride Materials for Artificial Photosynthesis
11:05 - 11:15	Discussion
11:15 - 11:45	**Coffee Break**
11:45 - 12:20 SE3.3-I4	Ester Vázquez *(Instituto Regional de Investigación Científica Aplicada (IRICA), Universidad de Castilla-La Mancha, Ciudad Real, (Spain))* Graphene for Bioapplications: Preparation, Cytotoxicity and In-tegration in 3D-scaffolds
12:20 - 12:30	Discussion
12:30 - 12:45 SE3.3-O1	Ruirui Hu *(School of materials science and engineering, Tsinghua University)*, Hongwei Zhu A Graphene Oxide Controlled Wrinkled and Sandwich-Structured Nanofiltration Composite Membrane with Ultrafast Water Transport
12:45 - 13:00 SE3.3-O2	Meirong Huang *(Tsinghua University)*, Hongwei Zhu Gradient-doped bulky crystalline BiVO4 for water splitting
13:00 - 13:15 SE3.3-O3	Guilherme Almeida *(Department of Nanochemistry, Istituto Italiano di Tecnologia (IIT), via Morego 30, I-16163 Genova, Italy)*, Sedat Dogan, Giovanni Bertoni, Cinzia Giannini, Roberto Gaspari, Stefano Perissinotto, Roman Krahne, Liberato Manna Colloidal Monolayer β-In2Se3 Nanosheets with High Photoresponsivity

13:15 - 15:00	**Lunch**
17:00 - 17:15	**Closing**