

nanoGe Fall Meeting19 (NGFM19)

#Exciup19. Excitonic up-downconversion

Berlin, Germany, 2019 November 6th - 7th

Conference Chairs: Bruno Ehrler and Akshay Rao

Conference Program

November 6th - Day 4 (Wednesday)	
08:45 - 09:00	Announcement of the day & Presentation of NFM20 /Plenum-Room B4
	Plenary Session 5 / Plenum Chair: Jacky Even Room: Plenum
09:00 - 09:30	<u>David Mitzi</u> (<i>Duke University</i>)
Plenum-K1	Organic-Inorganic Perovskites: Unrivaled Versatility for Semiconductor Design and Fabrication
	Plenary Session 6 / Room B4 Chair: Erwin Reisner Room: Breakout 4
09:00 - 09:30	<u>Jenny Zhang</u> (<i>Department of Chemistry, University of Cambridge - UK</i>)
B4-K1	Semi-artificial Photosynthesis: a Platform for Studying and Wiring Photosynthesis
	Exciup 1.1 / Room B5 Chair: Bruno Ehrler Room: Breakout 5
09:30 - 10:00	<u>Richard Friend</u> (<i>Cavendish Laboratory, Department of Physics, University of Cambridge, UK</i>)
B5-I1	New materials for singlet exciton fission to triplet pairs
10:00 - 10:30	<u>Benjamin Daiber</u> (<i>Center for Nanophotonics, AMOLF, Science Park 104, The Netherlands</i>), Koen v.d. Hoven,
B5-O1	Joris Y. Bodin, Stefan Luxembourg, Moritz Futscher, Bruno Ehrler Efficiency Potential and Application of Singlet Fission Enhanced Silicon Solar Cells using Different Energy Transfer
10:30 - 11:00	Coffee Break
	Exciup 1.2 / Room B5 Chair: Timothy Schmidt Room: Breakout 5
11:00 - 11:30	<u>Raj Pandya</u> (<i>Optoelectronics Group, Cavendish Laboratory, University of Cambridge, UK.</i>), Akshay Rao
B5-O1	Optical Projection and Spatial Separation of Spin Entangled Triplet-Pairs from the S1 (21Ag-) State of Pi-Conjugated Systems
11:30 - 12:00	<u>Xiaoyang Zhu</u> (<i>Department of Chemistry, Columbia University, New York, New York 10027, United States</i>)
B5-I1	Understanding and Controlling the Triplet Pair States in Singlet Fission
12:00 - 13:30	Lunch
	Exciup 1.3 / Room B5 Chair: Artem Bakulin Room: Breakout 5
14:00 - 14:15	<u>David Jones</u> (<i>School of Chemistry, Bio21 Institute, University of Melbourne, , Parkville, VIC 3010, Australia.</i>)
B5-O1	Non-traditional Singlet Fission Materials
14:15 - 14:30	Elham M. Gholizadeh, <u>Timothy Schmidt</u> (<i>PhD student</i>)
B5-O2	Oxygen-Enhanced Upconversion of near Infrared Light from Below the Silicon Band Gap
14:30 - 15:00	<u>Ferdinand Grozema</u> (<i>Delft University of Technology (TU Delft), The Netherlands</i>)
B5-I1	Triplet Dynamics in Perylenediimides

15:00 - 15:30 Luis Campos (*Department of Chemistry, Columbia University, New York, New York 10027, United States*)
 B5-I2 Materials Design for Third Generation Solar Cells

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

Exciup 1.4 / Room B5

Chair: Artem Bakulin
 Room: Breakout 5

16:00 - 16:30 Alexandr Zaykov (*Institute of Organic Chemistry and Biochemistry of the CAS*), Josef Michl, Zdeněk Havlas, Eric Buchanan, Milena Jovanović
 B5-O1 Singlet Fission: Chromophores for Exciton Downconversion

November 7th - Day 5 (Thursday)

Exciup 2.1 / Room B5

Chair: Luis Campos
 Room: Breakout 5

09:00 - 09:30 Kazuhiro Seki (*National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba Central 5, 1-1-1 Higashi, Tsukuba, Ibaraki 305-8565, Japan*), Tomoaki Yago, Ryuzi Katoh
 B5-O1 Diffusion-limited Geminant Delayed Fluorescence by Singlet Fission and Triplet Fusion

09:30 - 10:00 Artem Bakulin (*Department of Chemistry and Centre for Plastic Electronics, Imperial College London*)
 B5-I1 Carrier-Carrier vs Carrier-Phonon Interactions in Lead-halide Perovskite Materials: Role of Carrier Density, Nanoconfinement, and Surface Ligands

10:00 - 10:30 Silvia Ferro (*Institute AMOLF*), Bruno Ehrler
 B5-O2 Harnessing Singlet Fission for Perovskite Photovoltaic Applications

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

Exciup 2.2 / Room B5

Chair: Ferdinand Grozema
 Room: Breakout 5

11:00 - 11:30 Jonas Sandby Lissau (*SDU NanoSYD, Mads Clausen Institute, University of Southern Denmark*), Malika Khelifallah, Morten Madsen
 B5-O1 Routes towards Improved Solar Energy Conversion in Organic and Hybrid Solar Cells via Photon Upconversion

11:30 - 12:00 Timothy Schmidt (*ARC Centre of Excellence in Exciton Science, School of Chemistry, UNSW Sydney, Australia*)
 B5-I1 Photochemical upconversion and photovoltaics

12:00 - 13:30 **Lunch**

Exciup 2.3 / Room B5

Chair: Ferdinand Grozema
 Room: Breakout 5

13:30 - 14:00 Sarah Wieghold, Alexander Bieber, Zachary VanOrman, Lea Nienhaus (*Florida State University*)
 B5-O1 NIR-to-visible Upconversion Sensitized by Bulk Lead Halide Perovskites

14:00 - 14:15 Victor Gray (*Department of Chemistry, Ångström Laboratory, Uppsala University*), Jesse Allardice, Simon Dowland, Zhilong Zhang, James Xiao, Neil Greenham, Akshay Rao
 B5-O2 Energetic Dependence of Triplet Energy Transfer to PbS Quantum Dots for Singlet-Fission Based Photo-multiplication

14:15 - 14:30 Sourav Maiti (*Delft University of Technology, The Netherlands*), Silvia Ferro, Benjamin Daiber, Alyssa van den Boom, Sidharam Pujari, Han Zuilhof, Bruno Ehrler, Sachin Kinge, Laurens D. A. Siebbeles
 B5-O3 Dynamics of Singlet Fission in Tetracene and Triplet Transfer to Silicon

14:30 - 14:45 Frederik Eistrup, Klaus Schwarzburg, Sergiu Levenco, Dennis Friedrich, Thomas Unold, Klaus Lips, Eva Unger, Rowan MacQueen (*Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany*)
 B5-O4 Thin film halide perovskite as a triplet fusion sensitizer: present status and open questions

14:45 - 15:15 Felix Castellano (*North Carolina State University*)
 B5-I1 Triplet Migration Across Quantum Dot-Molecular Interfaces

15:30 - 16:00	Coffee Break
17:00 - 19:00	Poster Session