

## nanoGe Fall Meeting19 (NGFM19)

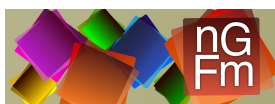
#Exciup19. Excitonic up-downconversion

Berlin, Germany, 2019 November 6th - 7th

Conference Chairs: Bruno Ehrler and Akshay Rao

### Conference Program

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



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

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

**Exciup 1.4**

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  
1.4-O1 Buchanan, Milena Jovanović  
Singlet Fission: Chromophores for Exciton Downconversion

**November 7th - Day 5 (Thursday)**

08:45 - 09:00 **Announcement of the day**

**Exciup 2.1**

Chair: Luis Campos  
Room: Breakout 5

09:00 - 09:30 Kazuhiko Seki (*National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba Central 5, 1-  
2.1-O1 1-1 Higashi, Tsukuba, Ibaraki 305-8565, Japan*), Tomoaki Yago, Ryuzi Katoh  
Diffusion-limited Geminate 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*)  
2.1-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  
2.1-O2 Harnessing Singlet Fission for Perovskite Photovoltaic Applications

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

**Exciup 2.2**

Chair: Ferdinand Grozema  
Room: Breakout 5

11:00 - 11:30 Jonas Sandby Lissau (*SDU NanoSYD, Mads Clausen Institute, University of Southern Denmark*), Malika  
2.2-O1 Khelfallah, Morten Madsen  
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*)  
2.2-I1 Photochemical upconversion and photovoltaics

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

**Exciup 2.3**

Chair: Ferdinand Grozema  
Room: Breakout 5

13:30 - 14:00 Sarah Wieghold, Alexander Bieber, Zachary VanOrman, Lea Nienhaus (*Florida State University*)  
2.3-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  
2.3-O2 Dowland, Zhilong Zhang, James Xiao, Neil Greenham, Akshay Rao  
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  
2.3-O3 Boom, Sidharam Pujari, Han Zuilhof, Bruno Ehrler, Sachin Kinge, Laurens D. A. Siebbeles  
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,  
2.3-O4 Rowan MacQueen (*Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany*)  
Thin film halide perovskite as a triplet fusion sensitizer: present status and open questions

14:45 - 15:15	<u>Felix Castellano</u> ( <i>North Carolina State University</i> )
2.3-11	Triplet Migration Across Quantum Dot-Molecular Interfaces
15:30 - 16:00	<b>Coffee Break</b>
17:00 - 19:00	<b>Poster Session</b>