



**3rd INTERNATIONAL SYMPOSIUM
ON SINGLET FISSION AND PHOTON FUSION**
Emerging Solar Energy Technologies Milano, 10th-13rd October 2022



SPONSORED by:



		Monday 10/10/2022
10:30 - 13:00		REGISTRATION
14:00 - 14:10		OPENING REMARKS
14:10 - 14:50	PL	N. Yanai (Kyushu University, Fukuoka, JAP). <i>New chromophores and assemblies showing photon upconversion and singlet fission.</i>
14:50 - 15:10	CT	L. Naimovičius (Vilnius University, Vilnius, Lithuania) <i>Functionalized diketopyrrolopyrrole emitters for NIR-to-visible photon upconversion.</i>
15:10 - 15:30	CT	O. Millington (University of Cambridge, Cambridge, UK) <i>Diphenylhexatriene dimers toward higher energy intramolecular singlet fission.</i>
15:30- 16:00		COFFEE BREAK
16:00 - 16:30	IT	D. M. Guldi (Friedrich-Alexander Universität Erlangen-Nürnberg, GER) <i>Towards Adaptive Down- and Up-Converters.</i>
16:30 - 16:50	CT	D. R. Maslennikov (Imperial College London, London, UK) <i>Ultrafast singlet fission dynamics in high quality rubrene single crystals.</i>
16:50 - 17:10	CT	B. Carlotti (University of Perugia, Perugia, Italy) <i>A New Class of Singlet Fission Fluorene Derivatives with High-Energy Triplets under the Gaze of Fast and Ultrafast Spectroscopy.</i>
17:10 - 17:30	CT	A. J. Baldacchino (University of South Wales, Sydney, AUS) <i>Development of a Time Resolved Terahertz Spectrometer to Study Singlet Fission Systems.</i>
19.30 – 21.30		WELCOME DINNER BUFFET (HANGAR PIRELLI BICOCCA)

		Tuesday 11/10/2022
9:20 - 10:00	PL	M. Baldo (Massachusetts Institute of Technology, USA) Addressing Fundamental Limits in Excitonic Upconversion.
10:00 -10:20	CT	<u>F. Edhborg</u> (Chalmers University of Technology, Gothenburg, SWE) <i>New method for determining key photophysical parameters in photon upconversion.</i>
10:20- 10:40	CT	<u>D. Congrave</u> (University of Cambridge, United Kingdom) <i>Precise Narrowband Spectral Matching for Back-Transfer Elimination in Solid-State Triplet-Triplet Annihilation Upconversion</i>
10:40- 11:00	CT	<u>R. Forecast</u> (ARC Centre of Excellence, Melbourne, Victoria, AUS) <i>Triplet-Triplet Annihilation: Magnetic Field Effects in Solution.</i>
11:00- 11:30		COFFEE BREAK
11:30 - 12:00	IT	L. M. Campos (Columbia University, New York, NY, USA) Manipulating Multiexciton Mechanisms in Molecules and Macromolecules.
12:00 - 12:20	CT	<u>M.J.Y. Tayebjee</u> (University of South Wales, Sydney, Australia) <i>Who, What, When, Why, and How of Quintets in Singlet Fission.</i>
12:20 - 12:40	CT	<u>K. Majumder</u> (Indian Institute of Science, Bangalore, India) <i>A molecular approach to tune the electronic coupling for singlet fission.</i>
12:40 - 13:00	CT	<u>S. Wang</u> (University of Sheffield, UK) <i>Carotenoid..Bacteriochlorophyll Triplet Pairs Formed via Heterofission Contribute to Energy Transfer in Photosynthetic Purple Bacteria.</i>
13.00 - 14.00		LUNCH
14:00 - 14:30	IT	C. WEDER (Adolphe Merkle Institute, University of Fribourg, SUI) Upconversion in nanostructured polymer systems.
14:30 - 14:50	CT	<u>A. Olesund</u> (Chalmers University of Technology, Goteborg, SWE). <i>Approaching the Spin-Statistical Limit in Visible-to-Ultraviolet Photon Upconversion.</i>
14:50 - 15:10	CT	<u>T. J. B. Zähringer</u> (Johannes Gutenberg University Mainz, Mainz, GER) <i>Blue-to-UV upconversion enabled by novel annihilators and subsequent FRET activation of UV absorbing compounds.</i>
15.10 – 15:30		COFFE BREAK
15:30 - 16:00	IT	K. Börjesson (University of Gothenburg, Gothenburg, SWE) The effect of aggregation on the triplet surface in TTA-UC.
16:00 - 16:20	CT	<u>S. Raišys</u> (Vilnius University, Vilnius, LITHUANIA) <i>High efficiency photon upconversion in large-area amorphous films based on DPA</i>
16:20 – 16:40	CT	<u>A. R. Collins</u> (University of Cambridge, UK) <i>Green-to-Blue Photon Upconversion for Solar Energy Harvesting using Organic-Inorganic Polymer Hosts</i>
16:40 – 17:00	CT	<u>H. Tunstall-Garcia</u> (University of Cambridge, U.K) <i>Polymer-POSS Composites as Hosts for Luminescent Solar Downshifters</i>

		Wednesday 12/10/2022
9:20 - 10:00	IT	A. J. Musser (Cornell University, Ithaca, NY, USA) <i>Manipulating triplet dynamics with strong light-matter coupling.</i>
10:00 - 10:20	CT	<u>M. Hertzog</u> (Universität Heidelberg, Heidelberg, GER) <i>Singlet Fission in the Strong Coupling Regime.</i>
10:20 - 10:40	CT	<u>M. I. Collins</u> (University of South Wales, Sydney, Australia) <i>Quintet formation and exchange fluctuations: The role of stochastic resonance in singlet fission.</i>
10:40 - 11:00	CT	<u>M. Purdy</u> (University of Cambridge, Cambridge, UK) <i>Aza-Cibalackrot: Turning on Singlet Fission through Crystal Engineering.</i>
11:00 - 11:30		COFFEE BREAK
11:30 - 12:00	IT	K. Hanson (Florida State University, Tallahassee, FL, USA) <i>TTA-UC Solar Cells: Understanding and Controlling the Structure of Metal Ion Linked Multilayer Photoanodes.</i>
12:00 - 12:20	CT	<u>P. E. Keivanidis</u> (Cyprus University of Technology, Limassol, Cyprus) <i>Fusion of Triplet Emissive States as a Tool to Drive Photocurrent Generation in Vertically Stacked Organic Photodetectors.</i>
12:20 - 12:40	CT	<u>A. Danos</u> (Durham University, South Road, Durham, UK) <i>TADF and TTA for blue OLEDs: Current challenges, future opportunities</i>
12.40 - 14.00		LUNCH
14:00 - 14:40	PL	M-L. Tang (University of Utah, Salt Lake City, UT, USA) <i>Molecular access to the high density of states in nanocrystals for photon upconversion.</i>
14:40 - 15:00	CT	<u>N. J. L. K. Davis</u> (Victoria University of Wellington, Wellington, NZL) <i>Hybrid organic/inorganic nanomaterials for singlet fission and TTA-based upconversion.</i>
15:00 - 15:20	CT	<u>R. W. MacQueen</u> (HZB für Materialien und Energie, Berlin, GER) <i>Perturbing triplet formation in halide perovskite-driven TTA upconverters.</i>
15:20 - 15:40	CT	<u>N. Pompetti</u> (NREL, University of Colorado, Boulder, USA) <i>Unraveling hydrogen bond aggregation of carboxylated tetracene derivatives and its impact on surface functionalization.</i>
15:40 - 16:00	CT	<u>P. Karunanantharajah</u> (HZB für Materialien und Energie, Berlin, GER) <i>Spectroscopic study on triplet sensitization mechanism of thin film halide perovskite in different annihilator molecules.</i>
16:00 - 16:30		COFFEE BREAK
16:30 - 17:00	IT	A. Rao (University of Cambridge, Cambridge UK) <i>Singlet Fission Photon Multipliers to Enhance the Efficiency of Si Photovoltaics.</i>
17:00 - 17:20	CT	<u>B. Albinsson</u> (Chalmers University of Technology, Goteborg, SWE) <i>Molecular Rotational Conformation Controls the Rate of Singlet Fission and Triplet Decay in Pentacene Dimers.</i>
17:20 - 17:40	CT	<u>C. F. Perkinson</u> (Massachusetts Institute of Technology, USA) <i>Magnetic-Field-Switchable Laser via Optical Pumping of Rubrene.</i>
18.30 – 19.30		POSTER SESSION

		Thursday 13/10/2022
10:00-10:30	IT	M. Abrahamsson (Chalmers Univ. of Technology, Goteborg, SWE) <i>Environmental effects on the excitation progression: Consequences for singlet fission.</i>
10:30-10:50	CT	Weixuan Zeng (University of Cambridge, Cambridge, U.K) <i>Maximizing the Singlet-Triplet Energy Gap from the Perspective of Conjugated Backbone</i>
10:50- 11:10	CT	A. Kaleem (University of South Wales, Sydney, AUS) <i>Photophysics of Polyacene Molecules using Femtosecond Stimulated Raman Spectroscopy</i>
11:10- 11:30	CT	N. Sawhney (University of Cambridge, Cambridge, UK) <i>The Interplay of Traps, Activation Energy and Entropy in Endothermic Singlet Fission</i>
11:30 -11:50		POSTER PRIZE AND CONCLUDING REMARKS
11:50 -12:30		COFFEE BREAK