

Ultrafast Photoinduced Energy and Charge Transfer



Faraday Discussion

8–10 April 2019
California, USA

Monday 8 April

11:00	Registration	
12:00	Lunch	
13:00	Welcome and introductions Mike Ashfold and Steve Bradforth, <i>co-Chairs of Scientific Committee</i>	
13:10	Outline of discussion format Alex Metherell and Eve Rooks, <i>Royal Society of Chemistry Publishing Editors</i>	
13:15	Introductory Lecture (Session Chair: Mike Ashfold) <u>Majed Chergui</u> <i>École Polytechnique Fédérale de Lausanne</i>	
	Session 1: Energy and charge-transfer in natural photosynthesis (Session Chair: Jennifer Ogilvie)	
14:15	Transient synchronisation and quantum coherence in a bio-inspired vibronic dimer Stefan Siwiak-Jaszek and <u>Alexandra Olaya-Castro</u> <i>University College London</i>	Paper 24337
14:20	Turning the challenge of quantum biology on its head: biological control of quantum optical systems Anna Lishchuk, Cvetelin Vasilev, Matthew P. Johnson, C. Neil Hunter, Päivi Törmä and <u>Graham Leggett</u> <i>University of Sheffield</i>	Paper 24967
14:25	Coupled excitation energy and charge transfer dynamics in reaction centre inspired model systems Martin Richter and <u>Benjamin Fingerhut</u> <i>Max Born Institute</i>	Paper 25047
14:30	Discussion	
15:45	Afternoon tea	
16:15	A theoretical study on the dynamics of light harvesting in the dimeric photosystem II core complex: regulation and robustness of energy transfer pathways Shou-Ting Hsieh, Lu Zhang, De-Wei Ye, Xuhui Huang, and <u>Yuan-Chung Cheng</u> <i>National Taiwan University</i>	Paper 25046
16:20	Two dimensional electronic vibrational spectroscopy and ultrafast excitonic and vibronic photosynthetic energy transfer Eric C. Wu, Eric A. Arsenaault, Pallavi Bhattacharyya, Nicholas H. C. Lewis and <u>Graham Fleming</u> <i>University of California, Berkeley</i>	Paper 24582
16:25	Discussion	
17:15	Lightning presentations (by invitation of the scientific committee)	
17:45	Poster session and buffet dinner – sponsored by the Kavli Foundation	

Tuesday 9 April

Session 2: Photovoltaics and bio-inspired light harvesting (Session Chair: Naomi Ginsberg)		
09:00	Systematic control of the rate of singlet fission within 6,13-diphenylpentacene aggregates with PbS quantum dot templates Chen Wang, Mohamad S. Kodaimati, Shichen Lian, and <u>Emily Weiss</u> <i>Northwestern University</i>	Paper 24335
09:05	Light harvesting and energy transfer in a porphyrin-based metal organic framework Shaunak M. Shaikh, Arnab Chakraborty, James Alatis, Meng Cai, Evgeny Danilov, and <u>Amanda J. Morris</u> <i>Virginia Tech</i>	Paper 24876
09:10	Band-selective dynamics in charge-transfer excited iron carbene complexes Pavel Chábera, Lisa A. Fredin, Kasper S. Kjaer, Nils W. Rosemann, Linnea Lindh, Om Prakash, Yizhu Liu, Kenneth Wärnmark, Jens Uhlig, Villy Sundström, Arkady Yartsev, and <u>Petter Persson</u> <i>Lund University</i>	Paper 25063
09:15	Discussion	
10:30	Morning tea	
11:00	Measuring local conformations and conformational disorder of (Cy₃)₂ dimer labeled DNA fork junctions using absorbance, circular dichroism and two-dimensional fluorescence spectroscopy Dylan Heussman, Justin Kittell, Loni Kringle, Amr Tamimi, Peter H. von Hippel, and <u>Andrew H. Marcus</u> <i>University of Oregon</i>	Paper 24336
11:05	How charges separate: correlating disorder, free energy, and open-circuit voltage in organic photovoltaics Débora P. Mroczek, Vladimir Lankevich, and <u>Eric Bittner</u> <i>University of Houston</i>	Paper 24893
11:10	Donor-acceptor preassociation, excited state solvation threshold, and optical energy cost as challenges in chemical applications of photobases Jonathan Ryan Hunt, Cindy Tseng, and <u>Jahan Dawlaty</u> <i>University of Southern California</i>	Paper 25065
11:15	Discussion	
12:30	Lunch	

	Session 3: Photo-induced electron transfer (Session Chair: Tom Oliver)	
13:30	Quantum interferences among dexter energy transfer pathways Shuming Bai, Peng Zhang, Panos Antoniou, Spiros S. Skourtis, and <u>David N. Beratan</u> <i>Duke University</i>	Paper 24339
13:35	Quantum interference in ultrafast photo-driven charge separation Brian T. Phelan, Jonathan D. Schultz, Jinyuan Zhang, Guan-Jhih Huang, Ryan M. Young, and <u>Michael R. Wasielewski</u> <i>Northwestern University</i>	Paper 24693
13:40	Ultrafast transient absorption spectroscopy of doped P3HT films: distinguishing free and trapped polarons Matthew G. Voss, D. Tyler Scholes, J. Reddy Challa, and <u>Benjamin J. Schwartz</u> <i>University of California, Los Angeles</i>	Paper 25043
13:45	Discussion	
15:00	Afternoon tea	
15:30	Theoretical analysis of the inverted region in photoinduced proton-coupled electron transfer Zachary K. Goldsmith, Alexander V. Soudackov, and <u>Sharon Hammes-Schiffer</u> <i>Yale University</i>	Paper 24340
15:35	Symmetry breaking charge transfer as a means to study electron transfer with no driving force Michael Kellogg, Ali Akil, Daniel Sylvinson M. R., Laura Estergreen, Stephen E. Bradforth, and <u>Mark E. Thompson</u> <i>University of Southern California</i>	Paper 24927
15:40	Understanding the potential for efficient triplet harvesting with hot excitons T. Northey, T. Keane, J. Eng, and <u>T. J. Penfold</u> <i>Newcastle University</i>	Paper 24707
15:45	Decomposing electronic and lattice contributions in optical pump–X-ray probe transient inner-shell absorption spectroscopy of CuO Johannes Mahl, Stefan Neppla, Friedrich Roth, Mario Borgwardt, Catherine Saladrigas, Benjamin Toulson, Jason Cooper, Tahiyat Rahman, Hendrik Bluhm, Jinghua Guo, Wanli Yang, Nils Huse, Wolfgang Eberhardt, and <u>Oliver Gessner</u> <i>Lawrence Berkeley National Laboratory</i>	Paper 25018
15:50	Discussion	
17:30	Close of sessions	
19:00	Conference dinner	

Wednesday 10 April

Session 4: Photo-protection/photo-damage in natural systems (Session Chair: Vas Stavros)		
09:00	Carotenoid-chlorophyll energy transfer in the fucoxanthin-chlorophyll complex binding a fucoxanthin acyloxy derivative Hristina Staleva-Musto, Robert West, Marco Trathnigg, David Bina, Radek Litvín, and <u>Tomáš Polívka</u> <i>University of South Bohemia</i>	Paper 24341
09:05	Can we use on-the-fly quantum simulations to connect molecular structure and sunscreen action? Gareth W. Richings, Christopher Robertson, and <u>Scott Habershon</u> <i>University of Warwick</i>	Paper 25030
09:10	Two-photon excitation spectroscopy of photosynthetic light-harvesting complexes and pigments Alexander Betke and <u>Heiko Lokstein</u> <i>Charles University, Prague</i>	Paper 24963
09:15	Discussion	
10:30 Morning tea		
11:00	Role of charge transfer states into the formation of cyclobutane pyrimidine dimers in DNA Wook Lee and <u>Spiridoula Matsika</u> <i>Temple University</i>	Paper 24342
11:05	Probing eumelanin photoprotection using a catechol:quinone heterodimer model system <u>Christopher Grieco</u> , Jennifer M. Empey, Forrest R. Kohl, and Bern Kohler <i>The Ohio State University</i>	Paper 25019
11:10	Discussion	
12:00	Concluding remarks lecture (Session Chair: Steve Bradforth) <u>Bern Kohler</u> <i>The Ohio State University</i>	
12:45 Acknowledgements		
12:50 Close of meeting		

Presenting authors are indicated in the programme by an underline. The affiliation is for the presenting author. If the presenting author of your paper has changed since abstract selection please email events@rsc.org. **Please note that this is a draft programme and timings may change.**