



## Programme

### Wednesday 9<sup>th</sup> July

11:00	Registration, Tea and Coffee	
12:00	Lunch	
12.45	<b>Welcome and Introductions</b> Katharine Reid	
	<b>Discussion Format Presentation</b> Faraday Publishing Staff	
13.00	<b>Introductory Lecture</b> (Session Chair: Wendy Flavell) Professor Majed Chergui* <i>Ecole Polytechnique Fédérale de Lausanne, Switzerland</i>	<b>Paper 1</b>
	<b>Session 1: Chemical reaction dynamics I</b> (Session Chair: Katharine Reid)	
14.00	<b>Multiple ionization and fragmentation dynamics of molecular iodine studied in IR XUV pump-probe experiments</b> K. Schnorr, A. Senftleben, G. Schmid, A. Rudenko, M. Kurka, K. Meyer, L. Foucar, M. Kübel, M. F. Kling, Y. H. Jiang, S. Dusterer, R. Treusch, C. D. Schröter, J. Ullrich, T. Pfeifer and R. Moshhammer,* <i>Max-Planck-Institut für Kernphysik, Germany</i>	<b>Paper 2</b>
14.05	<b>Imaging molecular structure through femtosecond photoelectron diffraction on aligned and oriented gas-phase molecules</b> Rebecca Boll, Arnaud Rouzée, Marcus Adolph, Denis Anielski, Andrew Aquila, Sadia Bari, Cédric Bomme, Christoph Bostedt, John D. Bozek, Henry N. Chapman, Lauge Christensen, Ryan Coffee, Niccola Coppola, Sankar De, Piero Decleva, Sascha W. Epp, Benjamin Erk, Frank Filsinger, Lutz Foucar, Tais Gorkhover, Lars Gumprecht, André Hömke, Lotte Holmegaard, Per Johnsson, Jens S. Kienitz, Thomas Kierspel, Faton Krasniqi, Kai-Uwe Kühnel, Jochen Maurer, Marc Messerschmidt, Robert Moshhammer, Nele L. M. Müller, Benedikt Rudek, Evgeny Savelyev, Ilme Schlichting, Carlo Schmidt, Frank Scholz, Sebastian Schorb, Joachim Schulz, Jörn Seltmann, Mauro Stener, Stephan Stern, Simone Techert, Jan Thøgersen, Sebastian Trippel, Jens Viefhaus, Marc Vrakking, Henrik Stapelfeldt, Jochen Küpper, Joachim Ullrich, Artem Rudenko and Daniel Rolles*, <i>Deutsches Elektronen-Synchrotron (DESY), Germany</i>	<b>Paper 3</b>
14.10	<b>Toward structural femtosecond chemical dynamics:</b>	<b>Paper 4</b>

	<b>imaging chemistry in space and time</b> Michael P. Minitti,* James M. Budarz, Adam Kirrander, Joseph Robinson, Thomas J. Lane, Daniel Ratner, Kenichiro Saita, Thomas Northey, Brian Stankus, Vale Cofer-Shabica, Jerome Hastings and Peter M. Weber, <i>SLAC National Accelerator Laboratory, USA</i>	
14.15	Discussion	
15:30	Afternoon Tea	
	<b>Session 2: Electron dynamics in molecules and clusters</b> (Session Chair: Jonathan Underwood)	
16.00	<b>Analysis of a measurement scheme for ultrafast hole dynamics by few femtosecond resolution X-ray pump–probe Auger spectroscopy</b> Bridgette Cooper, Přemysl Kolorenč, Leszek J. Frasninski, Vitali Averbukh and Jon P. Marangos*, <i>Imperial College, UK</i>	<b>Paper 5</b>
16.05	<b>The sensitivities of high-harmonic generation and strong-field ionization to coupled electronic and nuclear dynamics</b> Denitsa Baykusheva, Peter M. Kraus, Song Bin Zhang, Nina Rohringer and Hans Jakob Wörner* <i>ETH Zürich, Switzerland</i>	<b>Paper 6</b>
16.10	<b>High-order harmonic spectroscopy for molecular imaging of polyatomic molecules</b> M. Negro, M. Devetta, D. Faccialá, S. De Silvestri, C. Vozzi* and S. Stagira, <i>Istituto di Fotonica e Nanotecnologie,, Italy</i>	<b>Paper 7</b>
16.15	Discussion	
17:30 – 19.30	Poster Session and Wine Reception	
19:30	Free evening	

### Thursday 10<sup>th</sup> July

	<b>Session 3: Chemical Reaction Dynamics II</b> (Session Chair: <b>Majed Chergui</b> )	
09.00	<b>Solvation dynamics monitored by combined X-ray spectroscopies and scattering: photoinduced spin transition in aqueous <math>[\text{Fe}(\text{bpy})_3]^{2+}</math></b> C. Bressler,* W. Gawelda, A. Galler, M. M. Nielsen, V. Sundström, G. Doumy, A. M. March, S. H. Southworth, L. Young and G. Vankó <i>European XFEL, Germany</i>	<b>Paper 8</b>
09.05	<b>Formation of coherent rotational wavepackets in small molecule–helium clusters using impulsive alignment</b> Gediminas Galinis, Luis G. Mendoza Luna, Mark J. Watkins,	<b>Paper 10</b>

	Andrew M. Ellis, Russell S. Minns, Mirjana Mladenović, Marius Lewerenz, Richard Chapman, I. C. Edmond Turcu, Cephise Cacho, Emma Springate, Lev Kazak, Sebastian Göde, Robert Irsig, Slawomir Skruszewicz, Josef Tiggesbäumker, Karl-Heinz Meiwes-Broer, Arnaud Rouzée, Jonathan G. Underwood, Marco Siano and Klaus von Haeften,* <i>University of Leicester, UK</i>	
09.10	<b>Capturing interfacial photoelectrochemical dynamics with picosecond time-resolved X-ray photoelectron spectroscopy</b> Stefan Neppel,* Andrey Shavorskiy, Ioannis Zegkinoglou, Matthew Fraund, Daniel S. Slaughter, Tyler Troy, Michael P. Ziemkiewicz, Musahid Ahmed, Sheraz Gul, Bruce Rude, Jin Z. Zhang, Anton S. Tremsin, Per-Anders Glans, Yi-Sheng Liu, Cheng Hao Wu, Jinghua Guo, Miquel Salmeron, Hendrik Bluhm and Oliver Gessner*, <i>Lawrence Berkeley National Laboratory, USA</i>	<b>Paper 23</b>
Available for discussion on the Forum	<b>Sub-THz specific relaxation times of hydrogen bond oscillations in E.coli thioredoxin. Molecular dynamics and statistical analysis</b> Tatiana Globus,* Igor Sizov and Boris Gelont, <i>University of Virginia, USA</i>	<b>Paper 9</b>
09.10	Discussion	
10.30	Morning Tea	
	<b>Session 4: Correlated systems, surfaces and catalysis</b> (Session Chair: Gwyn Williams)	
11.00	<b>How fast can a Peierls–Mott insulator be melted?</b> C. Sohr, A. Stange, M. Bauer and K. Rossnagel,* <i>Institut für Experimentelle und Angewandte Physik, Germany</i>	<b>Paper 11</b>
11.05	<b>X-ray absorption spectroscopy with time-tagged photon counting: application to study the structure of a Co(I) intermediate of H<sub>2</sub> evolving photo-catalyst</b> Grigory Smolentsev,* Alexander Guda, Markus Janousch, Christophe Frieß, Gaudenz Jud, Flavio Zamponi, Murielle Chavarot Kerlidou, Vincent Artero, Jeroen A. van Bokhoven and Maarten Nachtegaal, <i>Paul Scherrer Institut, Switzerland</i>	<b>Paper 12</b>
11.10	<b>Dynamics in next-generation solar cells: time-resolved surface photovoltage measurements of quantum dots chemically linked to ZnO (10<sup>-1</sup> 0)</b> Ben F. Spencer,* Matthew J. Cliffe, Darren M. Graham, Samantha J. O. Hardman, Elaine A. Seddon, Karen L. Syres, Andrew G. Thomas, Fausto Sirotti, Mathieu G. Silly, Javeed Akhtar, Paul O'Brien, Simon M. Fairclough, Jason M. Smith, Swapan Chattopadhyay and Wendy R. Flavell, <i>University of Manchester, UK</i>	<b>Paper 13</b>
11.15	Discussion	

12:30	Lunch	
13.30	<b>Coherent dynamics of the charge density wave gap in tritellurides</b> L. Rettig, J.-H. Chu, I. R. Fisher, U. Bovensiepen and M. Wolf* <i>Fritz-Haber-Institut der MPG, Germany</i>	<b>Paper 14</b>
13.35	<b>Non-equilibrium Dirac carrier dynamics in graphene investigated with time- and angle-resolved photoemission spectroscopy</b> Isabella Gierz,* Stefan Link, Ulrich Starke and Andrea Cavalleri <i>Max Planck Institute for the Structure and Dynamics of Matter, Germany</i>	<b>Paper 15</b>
13.40	Discussion	
14.30	Afternoon tea	
	<b>Session 5: Nanoscale and bio imaging</b> (Session Chair: Martin McCoustra)	
15.00	<b>Non-negative matrix analysis for effective feature extraction in X-ray spectromicroscopy</b> Rachel Mak, Mirna Lerotić, Holger Fleckenstein, Stefan Vogt, Stefan M. Wild, Sven Leyffer, Yefim Sheynkin and Chris Jacobsen* <i>Argonne National Laboratory, USA</i>	<b>Paper 16</b>
15.05	<b>Femtosecond X-ray diffraction maps field-driven charge dynamics in ionic crystals</b> Michael Woerner,* Marcel Holtz, Vincent Juvé, Thomas Elsaesser and Andreas Borgschulte, <i>Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie, Germany</i>	<b>Paper 17</b>
15.10	<b>Toward atomic resolution diffractive imaging of isolated molecules with X-ray free-electron lasers</b> S. Stern, L. Holmegaard, F. Filsinger, A. Rouzée, A. Rudenko, P. Johnsson, A. V. Martin, A. Barty, C. Bostedt, J. Bozek, R. Coffee, S. Epp, B. Erk, L. Foucar, R. Hartmann, N. Kimmel, K.-U. Kühnel, J. Maurer, M. Messerschmidt, B. Rudek, D. Starodub, J. Thøgersen, G. Weidenspointner, T. A. White, H. Stapelfeldt, D. Rolles, H. N. Chapman and J. Küpper* <i>Deutsches Elektronen-Synchrotron (DESY), Germany</i>	<b>Paper 18</b>
15.15	Discussion	
16.30	Close of sessions	
19:00	Pre-Dinner Drinks	
19:30	Conference Dinner	

Friday 11<sup>th</sup> July

	<b>Session 6: Instrumentation and Methods</b> (Session Chair: Jochen Küpper/Elaine Seddon)	
09.00	<b>Approaches to time-resolved diffraction using an XFEL</b> John C. H. Spence,* <i>Arizona State University, USA</i>	<b>Paper 19</b>
09.05	<b>Signal to noise considerations for single crystal femtosecond time resolved crystallography of the Photoactive Yellow Protein</b> Jasper J. van Thor,* Mark M. Warren, Craig N. Lincoln, Matthieu Chollet, Henrik Till Lemke, David M. Fritz, Marius Schmidt, Jason Tenboer, Zhong Ren, Vukica Srajer, Keith Moffat and Tim Graber <i>Imperial College London, UK</i>	<b>Paper 20</b>
09.10	<b>Core-level transient absorption spectroscopy as a probe of electron hole relaxation in photoionized <math>H^+(H_2O)_n</math></b> Zheng Li, Mohamed El-Amine Madjet, Oriol Vendrell* and Robin Santra <i>Center for Free-Electron Laser Science, DESY, Germany</i>	<b>Paper 21</b>
09.15	Discussion	
10:30	Morning Tea	
11.00	<b>Emerging photon technologies for probing ultrafast molecular dynamics</b> N. Berrah,* L. Fang, T. Osipov, Z. Jurek, B. F. Murphy and R. Santra <i>University of Connecticut, USA</i>	<b>Paper 22</b>
11.05	<b>Multi-colour pulses from seeded free-electron lasers: towards the development of non-linear core-level coherent spectroscopies</b> Filippo Bencivenga,* Flavio Capotondi, Francesco Casolari, Francesco Dallari, Miltcho B. Danailov, Daniele Fausti, Maya Kiskinova, Michele Manfredda, Claudio Masciovecchio and Emanuele Pedersoli, <i>Elettra-Sincrotrone Trieste S.C.p.A., Italy</i>	<b>Paper 24</b>
11.10	Discussion	
12:00	<b>Concluding remarks</b> (Session Chair: Katharine Reid ) Professor Henry Chapman <i>Center for Free-Electron Laser Science, Germany</i>	<b>Paper 25</b>
12.45	<b>Acknowledgements</b>	
13:00	<b>Close of meeting</b>	