

The meeting will run from **11.40 am on Monday September 7**
(registration desk will open at 9 am) to **12.30pm on Friday September 11**.

Invited talks have been allocated 50 mins **including** 5-10 mins for discussion. Contributed talks have been allocated 20 mins including questions and discussion (5 mins).

MONDAY SEPTEMBER 7

Ultrafast Physics	Chair: John Tisch	11.40-12:50 & 14:00-15:10
Ursula Keller (invited talk)	ETH Zürich	Attosecond dynamics in laser induced ionization
Jamie Nemeth	Swansea University	Sub-pulse-length resolution of electronic transitions in atoms exposed to shaped few-cycle intense laser pulses
Jon Marangos (invited talk)	Imperial College London	HHG Imaging of Molecular Structure and Dynamics
Vladimir Minogin	Institute of Spectroscopy, Troitsk, Russia	Deflection, focusing and collimation of electron beams by femtosecond laser pulses
Metrology	Chair: Ed Hinds	15:40-17:30
Bryan Kibble (invited talk)		A new kilogram for a new SI?
Ian Hill	NPL/Imperial College London	Progress towards a strontium lattice clock
Kazumoto Hosaka	National Metrology Institute of Japan, Tsukuba	A narrow linewidth laser at 578 nm for a Yb optical lattice clock
Helen Margolis	NPL	High resolution optical spectroscopy of atomic hydrogen for an improved determination of the Rydberg constant

TUESDAY SEPTEMBER 8

Quantum Metrology	Chair: Helen Margolis	09:00-10:30
Tim Spiller (invited talk)	HP Laboratories	Improving metrology with non-classical states of fields and qubits
Isabel Llorente-Garcia	Imperial College London	Atom-chip BEC interferometer
Ben Varcoe	University of Leeds	Dephasing of entangled atoms as an improved test of quantum gravity
Plasma Physics	Chair: Alex Robinson	11:00-12:30
Steve Cowley (invited talk)	UKAEA Culham	Fusion Power - Physics and Engineering Challenges

Roland Smith	Imperial College London	Laser driven laboratory astrophysics experiments in atomic cluster gases
Simon Hooker	University of Oxford	Laser-driven plasma accelerators
Lunchtime Exhibition	Parkinson Court	12:30-14:00
Quantum Information	Chair: Vlatko Vedral	14:00-15:10
Janet Anders (invited talk)	University College London	Quantum correlations, computation and (quantum) phase transitions
Suzanne McEndoo	University College Cork	Vortex qubits in Bose-Einstein condensates
Atom Optics	Chair: Ben Sauer	15:40-17:30
Dieter Meschede (invited talk)	Universität Bonn	Playing quantum marbles, or can we make two individual atoms interfere with each other?
Kieran Deasy	Tyndall National Institute, Ireland	A nanofibre probe for characterising a rubidium MOT
Michael Trupke	Imperial College London	Atom-photon interfaces on atom chips
Kevin Weatherill	Durham University	Mobile atom traps based on domain walls in magnetic nanowires
Posters and Exhibition	Parkinson Court	19:30-22:00

WEDNESDAY SEPTEMBER 9

Molecular Physics	Chair: Ben Whitaker	09:00-10:30
Jenifer Herek (invited talk)	Twente University	Controlling the efficiency of functional molecules for photomedical and solar cell applications
Hendrick Ulbricht	University of Southampton	Matter wave interference of large molecules
Paola Barletta	University College London	Prospects for sympathetically cooling optically Stark decelerated molecules
Quantum Optics	Chair: Wolfgang Lange	11:00-12:30
Mete Atatüre (invited talk)	Cambridge University	Optical measurement of spin dynamics in quantum dots
Alex Clark	University of Bristol	Fibre source of intrinsically time-bandwidth limited photon pairs
Dragan Indjin (invited talk)	University of Leeds	Current challenges in modeling, design and realisation of terahertz quantum cascade lasers
Atomic & Molecular Interactions	Chairs: Andrew Murray & Edward Armour	14:00-15:10 & 15:40-17:30
Ken Taylor (invited talk)	Queen's University Belfast	Atoms and high intensity lasers

Edward Armour	University of Nottingham	Detailed calculations on low-energy positron-hydrogen-molecule and helium-antihydrogen scattering
Steve Buckman (invited talk)	Australian National University, Canberra	Low energy positron interactions with atoms and molecules
Jimena Gorfinkiel	Open University	Low energy electron collisions with small molecular clusters
Andrew Murray	Manchester University	Combined laser and electron interactions with hot and cold atoms - current experiments in excitation and ionization studies
Panagiotis Kapetanopoulos	Photek Ltd	Nanosecond time-resolved ion imaging system
Evening Session	Chair: Peter van der Burgt	19:30-21:30
Wolf Geppert (invited talk)	Stockholm University	Ionic processes in space - new findings and future challenges
followed by wine reception (Business School Foyer)		

THURSDAY SEPTEMBER 10

Atomic & Molecular Dynamics	Chair: Katharine Reid	9:00-10.30
Reinhard Dörner (invited talk)	Universität Frankfurt	Interference and entanglement in molecular photoionization
Dmitry Shalashilin	University of Leeds	Quantum simulations with trajectory guided grids: From vibrational dynamics to electron dynamics in strong laser field
Emine Mese	Durham University & University of Dicle	Quasienergy spectrum of atoms in active one electron approximation
Coherent Control and Chemistry	Chair: Helen Fielding	11:00-12:50 & 14:00-15:10
Thomas Baumert (invited talk)	Universität Kassel	Ultrafast laser control of matter
Russell Minns	University College London	Femtosecond dynamics of electronically and vibrationally excited styrene
Julia Davies	University of Nottingham	Picosecond intramolecular dynamics in toluene
Iain Wilkinson	University of Leeds	The UV photodynamics of nitrogen dioxide
Chris Meier (invited talk)	Université Paul Sabatier	Local control: theory and numerical applications
Chris Calvert	Queen's University Belfast	Coherent control of fast vibrational wavepackets by few-cycle laser pulses

Cold Matter	Chair: Mike Tarbutt	15:40-17:30
Richard Hendricks	Imperial College London	Production and spectroscopy of buffer gas cooled molecular radicals
Peter Douglas	University College London	Sympathetic cooling of molecules by collisions with ultra-cold rare gas atoms in a quasi-electrostatic trap
Aidan Arnold	University of Strathclyde	Single-laser, one beam, tetrahedral magneto-optical trap
Mark Saunders	Seoul National University	Precision measurement using delta-kick resonances from periodically driven quantum systems
Tara Hennessy	University College Cork	Single-site addressing in optical lattices using sub-wavelength diameter optical fibres
Conference Dinner	Great Woodhouse Room, University House	19:00-21:30

FRIDAY SEPTEMBER 11

Bates Lecture	Chair: Ed Hinds	09:30-10:30
Mike Tarbutt (Bates Prize Lecture)	Imperial College London	Cooling and decelerating polar molecules
Postdeadline Papers & Hot Topics		11:00-12:30

SCIENTIFIC ORGANISING COMMITTEE

Benjamin Whitaker and Vlatko Vedral (Leeds) (joint chairs)
 John Tisch (Imperial)
 Helen Fielding (UCL)
 Síle Nic Chormaic (Cork)
 Viv Kendon (Leeds)
 John Rarity (Bristol)
 Ben Sauer (Imperial)
 Helen Margolis (NPL)
 Katharine Reid (Nottingham)
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