

Christmas High Power Laser Science Community Meeting

17 – 19 December 2012

Abingdon - The Guildhall and The Cosener's House

Monday 17 December: The Guildhall, Abbey Close, Abingdon

13:00 – 13:30 REGISTRATION AT THE GUILDHALL

12:00	LUNCH – The Cosener's House
13:30	John Collier – Science & Technology Facilities Council Welcome

10th Anniversary of the Inauguration of the Vulcan PW

13:40	Henry Hutchinson Perspectives on the Petawatt Vulcan laser
13:50	Bob Bingham – Science & Technology Facilities Council & University of Strathclyde History of high power electromagnetic wave amplification, from radar to high power lasers, at the Rutherford Appleton Laboratory
14:10	Peter Norreys – Science & Technology Facilities Council & University of Oxford Scientific achievements of the Vulcan PW laser facility
14:30	Stuart Mangles – Imperial College London 10 PW laser-plasma interaction science
14:50	10th Anniversary celebration of Vulcan PW – The Cosener's House Main Foyer/Restaurant

Session 2: Warm Dense Matter Physics - Chair David Neely, Science & Technology Facilities Council

15:30	Steven White – Queen's University Belfast X-ray scattering from warm dense iron
15:45	Sam Vinko – University of Oxford X-ray spectroscopy on free-electron laser generated hot dense matter
16:00	Orlando Ciricosta – University of Oxford Measurements of continuum lowering in dense plasmas
16:15	Dominik Kraus – TU Darmstadt Melting of carbon under extreme conditions characterized by X-ray scattering
16:30	David Rackstraw – University of Oxford Opacity effects in an XFEL generated plasma
16:45	Nicholas Hartley – University of Oxford Temperature relaxation in warm dense graphite
17:00	Arvid Hage – Queen's University Belfast XUV-source for seeding FLASH2

Special Session 3: XFEL Developments in the EU - Chair Peter Norreys, Science & Technology Facilities Council

17:15	Thomas Cowan - Helmholtz-Zentrum Dresden-Rossendorf Science with high power lasers at XFEL
17:45	Discussion
18:15	Close

The Cosener's House

19:00	DINNER
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Tuesday 18 December

The Cosener's House

09:00	Delegates Poster Session – Seminar Room 1
10:15	COFFEE/TEA – The Cosener's House Seminar Room 2

The Guildhall, Abbey Close, Abingdon

Session 4: Central Hot Spot & Fast Ignition ICF - Chair Raoul Trines, Science & Technology Facilities Council

10:30	Prav Patel – Lawrence Livermore National Laboratory Special Lecture: Progress towards reaching ignition on the NIF and prospects for achieving high gain through fast ignition
11:00	Shaun Taylor – Imperial College London Analytic and computational analysis of energy balance in 3D perturbed ICF hotspots
11:15	Robbie Scott – Science & Technology Facilities Council Numerical modeling of the sensitivity of National Ignition Facility implosions to non-spherical, low-mode, capsule shapes
11:30	Nathan Sircombe – AWE plc Integrated calculations of short-pulse laser interaction with matter
11:45	Graeme Scott – University of Strathclyde Multi-pulse enhanced laser ion acceleration using plasma half cavity targets
12:00	Rachel Dance – University of York Measurements of electron beam divergence near laser interaction to solid foil boundary using Vulcan petawatt
12:15	Robert Kingham – Imperial College London Unusual transport effects in nanosecond laser-heated plasmas
12:30	Martin Read – Imperial College London Unfreezing magnetic fields in laser-gas-jet interactions
12:45	GROUP PHOTOGRAPH – The Guildhall
13:00	LUNCH – The Cosener's House

Session 5: Intense Laser-Plasma Interaction Physics I – Chair James Green, Science & Technology Facilities Council

14:00	Markus Roth – TU Darmstadt Intense neutron source driven by relativistic transparency
14:15	Alex Robinson - Science & Technology Facilities Council Generation of super-ponderomotive electrons via the longitudinal electric field
14:30	Nicholas Dover – Imperial College London Hole-boring and shock acceleration in overdense gas jet targets
14:45	George Hicks – Imperial College London Energetic ion beams from vulcan petawatt thin foil interactions
15:00	Reem Alraddadi – University of York Modelling the RT instability in a layered low-mass target driven by a high-power short-pulse laser
15:15	Edward Hill – Imperial College London Thomson scattering in short pulse laser experiments
15:30	COFFEE/TEA – The Cosener's House Seminar Room 2

The Cosener's House

16:00	Student Poster Competition – Seminar Room 1
18:00	Close
19:00	CHRISTMAS DINNER

Wednesday 19 December: The Guildhall, Abbey Close, Abingdon

Session 6: Ultra-Intense Laser-Plasma Interactions – Chair Christopher Murphy, University of Edinburgh

09:00	Colin Danson – AWE plc <i>Orion - a resource for the academic community</i>
09:15	Steven Cousens – Queen's University Belfast <i>The isolation of intense attosecond pulses using the interferometric polarization gating technique</i>
09:30	Andrew Brown – Queen's University Belfast <i>Multielectron and multichannel effects in harmonic generation</i>
09:45	Tom Blackburn – University of Oxford <i>QED processes in laser-electron beam experiments</i>
10:00	Christopher Harvey – Queen's University Belfast <i>Pair production in optimally focussed laser pulses</i>
10:15	Christopher Ridgers – University of Oxford <i>Simulating laser generated QED-plasmas with QED-PIC</i>
10:30	Marija Vranic – Instituto Superior Tecnico <i>Possibility of exploring the radiation reaction dominated regime with Astra-Gemini</i>
10:45	David Burton – University of Lancaster <i>Fluid descriptions of radiating plasmas</i>
11:00	COFFEE/TEA – The Cosener's House Seminar Room 2

Session 7: Intense Laser-Plasma Interaction Physics II - Chair Dan Symes, Science & Technology Facilities Council

11:30	Karl Krushelnick – University of Michigan/LOA Special Lecture: Ion acceleration and high harmonic generation using high contrast laser interactions above 10^{21} W/cm²
12:00	Michael Bloom – Imperial College London <i>Betatron radiation from electrons accelerated above GeV by a laser wakefield accelerator</i>
12:15	Jason Cole – Imperial College London <i>Side scatter spectrometry as a diagnostic for laser wakefield accelerators</i>
12:30	Mark Yeung – Queen's University Belfast <i>Coherent synchrotron radiation from laser produced plasmas</i>
12:45	Haydn Powell – University of Strathclyde <i>Onset of relativistic induced transparency in ultra-thin laser-solid interactions</i>
13:00	LUNCH – The Cosener's House

Session 8: High Energy Density Laboratory Astrophysics - Chair Alex Robinson, Science & Technology Facilities Council

14:00	Sergey Lebedev – Imperial College London <i>Formation of shocks in head-on collisions of magnetised plasma jets</i>
14:15	Gwenael Giacinti – University of Oxford <i>Radiation-dominated shocks and supernovae</i>
14:30	Stefan Olsson Robbie – Imperial College London <i>Cluster blast wave experiments on Astra-Gemini</i>
14:45	Jena Meinecke – University of Oxford <i>Magnetic field amplification of laser produced shockwaves</i>
15:00	Robert Crowston – University of York <i>Coherence imaging and its applications to lab astro plasmas</i>
15:15	COFFEE/TEA – The Cosener's House Main Foyer

Session 9: Intense Laser-Plasma Interaction Physics III - Chair Alex Robinson, Science & Technology Facilities Council

15:45	Jorge Vieira – Instituto Superior Tecnico <i>Self-modulation of long electron and positron bunches at SLAC</i>
16:00	Raoul Trines – Science & Technology Facilities Council <i>Thermal effects in Raman amplification of laser pulses in plasma</i>
16:15	Peter Norreys – Science & Technology Facilities Council & University of Oxford <i>Summary & closing remarks</i>
16:20	Close