

Publications

Vulcan

Journal Papers

A.P.L. Robinson, D. Neely, P. McKenna and R.G. Evans
Spectral control in proton acceleration with multiple laser pulses
Plasma Phys. Control. Fusion **49**, 373 (2007).

P. McKenna, D.C. Carroll, R.J. Clarke, R.G. Evans,
K.W.D. Ledingham, F. Lindau, O. Lundh, T. McCanny,
D. Neely, A.P.L. Robinson, L. Robson, P.T. Simpson,
C.G. Wahlstrom and M. Zepf
Lateral electron transport in high-intensity laser-irradiated foils diagnosed by ion emission
Phys. Rev. Lett. **98**, 145001 (2007).

M. Nakatsutsumi, R. Kodama, P.A. Norreys, S. Awano,
H. Nakamura, T. Norimatsu, A. Ooya, M. Tampo,
K.A. Tanaka, T. Tanimoto, T. Tsutsumi and T. Yabuuchi
Reentrant cone angle dependence of the energetic electron slope temperature in high-intensity laser-plasma interactions
Phys. Plasmas **14**, 050701 (2007).

B. Dromey, S. Kar, C. Bellei, D.C. Carroll, R.J. Clarke,
J.S. Green, S. Kneip, K. Markey, S.R. Nagel, P.T. Simpson,
L. Willingale, P. McKenna, D. Neely, Z. Najmudin,
K. Krushelnick, P.A. Norreys and M. Zepf
Bright multi-keV harmonic generation from relativistically oscillating plasma surfaces
Phys. Rev. Lett. **99**, 085001 (2007).

A.P.L. Robinson and M. Sherlock
Poster at 'QuAMP2007' int conference, University College London, Sept 2007
Phys Plasmas **14**, 083105 (2007).

D. Riley, F.Y. Khattak, E.G. Saiz, G. Gregori,
S. Bandyopadhyay, M. Notley, D. Neely, D. Chambers,
A. Moore and A. Comley
Spectrally resolved X-ray scatter from laser-shock-driven plasmas
Laser Part. Beams **25**, 465 (2007).

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A. Delseerleys, A.Y. Faenov, B. Loupiau, N. Ozaki,
M.R. le Gloahec, T.A. Pikuz, D. Riley and M. Koenig
Direct observation of strong ion coupling in laser-driven shock-compressed targets
Phys. Rev. Lett. **99**, 135006 (2007).

E.G. Saiz, F.Y. Khattak, G. Gregori, S. Bandyopadhyay,
R.J. Clarke, B. Fell, R.R. Freeman, J. Jeffries, D. Jung,
M.M. Notley, R.L. Weber, L. van Woerkom and D. Riley
Wide angle crystal spectrometer for angularly and spectrally resolved X-ray scattering experiments
Rev. Sci. Instrum. **78**, 095101 (2007).

S.N. Chen, G. Gregori, P.K. Patel, H.K. Chung,
R.G. Evans, R.R. Freeman, E.G. Saiz, S.H. Glenzer,
S.B. Hansen, F.Y. Khattak, J.A. King, A.J. Mackinnon,
M.M. Notley, J.R. Pasley, D. Riley, R.B. Stephens,
R.L. Weber, S.C. Wilks and F.N. Beg
Creation of hot dense matter in short-pulse laser-plasma interaction with tamped titanium foils
Phys. Plasmas **14**, 102701 (2007).

M. Sherlock, A.R. Bell, R.J. Kingham, A.P.L. Robinson
and R. Bingham
Non-spitzer return currents in intense laser-plasma interactions
Phys. Plasmas **14**, 102708 (2007).

S. Kar, M. Borghesi, C.A. Cecchetti, L. Romagnani,
F. Ceccherini, T.V. Liseykina, A. Macchi, R. Jung,
J. Osterholz, O. Willi, L.A. Gizzi, A. Schiavi,
M. Galimberti and R. Heathcote
Dynamics of charge-displacement channeling in intense laser-plasma interactions
New J. Phys. **9**, 402 (2007).

J.S. Green, K.L. Lancaster, K.U. Akli, C.D. Gregory,
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C. Hernandez-Gomez, H. Habara, R. Heathcote,
D.S. Hey, K. Highbarger, M.H. Key, R. Kodama,
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M. Nakatsutsumi and P.K. Patel
Surface heating of wire plasmas using laser-irradiated cone geometries
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M. Sherlock, S.J. Rose and A.P.L. Robinson
Prediction of net energy gain in deuterium-beam interactions with an inertially confined plasma
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C.G. Wahlstrom, S. Bandyopadhyay, D. Pepler, D. Neely,
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R. Epstein, T.C. Sangster, V.A. Smalyuk, B. Yaakobi,
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and R. Stephens
Effect of laser intensity on fast-electron-beam divergence in solid-density plasmas
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Artificial collimation of fast-electron beams with two laser pulses
Phys. Rev. Lett. **100**, 025002 (2008).

R.A. Smith, J. Lazarus, M. Hohenberger, A. Marocchino,
J.S. Robinson, J.P. Chittenden, A.S. Moore, E.T. Gumbrell
and M. Dunne
High resolution imaging of colliding blast waves in cluster media
Plasma Phys. Control. Fusion **49**, B117 (2007).

- M. Zepf, B. Dromey, S. Kar, C. Bellei, D.C. Carroll, R.J. Clarke, J.S. Green, S. Kneip, K. Markey, S.R. Nagel, P.T. Simpson, L. Willingale, P. McKenna, D. Neely, Z. Najmudin, K. Krushelnick and P.A. Norreys
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Phys. Rev. Lett. **100**, 055001 (2008).
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Radiation pressure acceleration of thin foils with circularly polarized laser pulses
New J. Phys. **10**, 013021 (2008).
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Nuclear activation as a high dynamic range diagnostic of laser-plasma interactions
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Observation of synchrotron radiation from electrons accelerated in a Petawatt-laser-generated plasma cavity
Phys. Rev. Lett. **100**, 105006 (2008).
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Astrophysical jet experiments with colliding laser-produced plasmas
Astrophys. J. **676**, 420 (2008).
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Phys. Plasmas **15**, 022701 (2008).
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High Energy Density Physics **3**, 99 (2007).
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High Energy Density Physics **3**, 314 (2007).
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Thomson scattering from near-solid density plasmas using soft X-ray free electron lasers
High Energy Density Physics **3**, 20 (2007).

Laser development

- I.O. Musgrave, C. Hernandez-Gomez, D. Canny, J. Collier and R. Heathcote
Minimization of the impact of a broad bandwidth high-gain nonlinear preamplifier to the amplified spontaneous emission pedestal of the Vulcan Petawatt laser facility
Appl. Optics **46**, 6978 (2007).

Astra/Gemini

- M. Zepf, B. Dromey, M. Landreman, P. Foster and S.M. Hooker
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Phys. Rev. Lett. **99**, 143901 (2007).
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Laser-driven acceleration of electrons in a partially ionized plasma channel

Phys. Rev. Lett. **100**, 105005 (2008).

M.H. Edwards, N. Booth, Z. Zhai, G.J. Tallents, T. Dzelzainis, C.L.S. Lewis, P. Foster, M. Streeter and D. Neely

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Proc. SPIE **6703**, 67030L (2007).

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M.H. Edwards, N. Booth, Z. Zhai, G.J. Tallents, T. Dzelzainis, C.L.S. Lewis, P. Foster, M. Streeter, D. Neely, A. Behjat, Q. Dong and S. Wang

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High Energy Density Physics **3**, 292 (2007).

Astra/Artemis

N. Kajumba, R. Torres, J.G. Underwood, J.S. Robinson, S. Baker, J.W.G. Tisch, R. de Nalda, W.A. Bryan, R. Velotta, C. Altucci, I. Procino, I.C.E. Turcu and J.P. Marangos
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Photodissociation imaging of D2+ in intense ultrafast laser pulses

J. Phys. B: At Mol. Opt. Phys. **40**, (2007).

W.A. Bryan, E.M.L. English, J. McKenna, J. Wood, C.R. Calvert, I.C.E. Turcu, R. Torres, J.L. Collier, I.D. Williams and W.R. Newell
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D.S. Murphy, J. McKenna, C.R. Calvert, W.A. Bryan, E.M.L. English, J. Wood, I.C.E. Turcu, W.R. Newell, I.D. Williams and J.F. McCann

Controlling dissociation processes in the D+2 molecular ion using high-intensity, ultrashort laser pulses

J. Phys. B: At. Mol. Opt. Phys. **40**, S359-S372 (2007).

P.A. Orr, I.D. Williams, J.B. Greenwood, I.C.E. Turcu, W.A. Bryan, J. Pedregosa-Gutierrez and C.W. Walter
Above threshold dissociation of vibrationally cold HD+ molecules

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Probing orbital structure of polyatomic molecules by high-order harmonic generation

Phys. Rev. Lett. **98**, 203007 (2007).

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J. McKenna, C.R. Calvert, W.A. Bryan, E.M.L. English, J. Wood, D.S. Murphy, I.C.E. Turcu, J.M. Smith, K. Ertel, O. Chekhlov, E.J. Divall, J.F. McCann, W.R. Newell and I. D. Williams

Imaging quantum vibrations on an ultrashort timescale: the deuterium molecular ion

J. Phys: Conf. Ser. **58**, (2007).

C.R. Calvert, J. McKenna, W.A. Bryan, J. Wood, E.M.L. English, I.C.E. Turcu, J.M. Smith, K. Ertel, O. Chekhlov, W.R. Newell and I.D. Williams
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J. Phys: Conf. Ser. **58**, (2007).

J. McKenna, W.A. Bryan, C.R. Calvert, E.M.L. English, J. Wood, D.S. Murphy, I.C.E. Turcu, J.M. Smith, K. Ertel, O. Chekhlov, E.J. Divall, J.F. McCann, W.R. Newell and I.D. Williams
Observing time-dependent vibrational quantum dynamics in deuterium hydride molecular ions
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D. Edwina, I. Vernon, I.O. Musgrave, J. Green, R. Heathcote, K.L. Lancaster, C. Mendes, S.J. Hawkes, C. Hernandez-Gomez and D.A. Pepler
Characterization of the backscattered radiation from Petawatt laser matter interactions
Applied Optics Vol **47**, No. 18, 3258-3263 (2008).

I.O. Musgrave, C. Hernandez-Gomez, D. Canny, J. Collier and R. Heathcote
Minimization of the impact of a broad bandwidth high gain non-linear pre-amplifier to the ASE pedestal of the Vulcan Petawatt laser facility
Applied Optics Vol **46**, No. 28, 6978-6983 (2007).

Theses

Philip Nilson
Measurements of the dynamics of laser and soft X-ray heated targets by XUV and optical probing
Imperial College, 2007

Alexander Thomas
Studies of laser propagation and mono-energetic electron beam injection in laser wakefield accelerators
Imperial College, 2007

Christopher Murphy
Diagnosis of high energy electron beams produced by laser wakefield accelerators
Imperial College, 2007

Louise Willingale
Ion acceleration from high intensity laser plasma interactions: measurements and applications
Imperial College, 2007

Jonathan Howe
Laser-plasma coupling effects on spectral line shapes
Univ. York, 2007

Christopher David Gregory
Astrophysical jet experiments with laser-produced plasmas
Univ. York, 2007

Conference Presentations

Astra/Artemis

I.C.E. Turcu, E.S. Springate, J.L. Collier, A. Cavalleri, J. Marangos, J. Tisch, S. Dhesi, E. Seddon, G. Hirst, H. Fielding, M. McCoustra, C. Froud, A. Langley, S. Bonora, J. Underwood, W. Bryan, R. Newell, I. Williams and J. Greenwood
Astra-Artemis facility for ultrafast time resolved science
Oral presentation at PAQ07 – photons, atoms and qubits int conference, Royal Society London, Sept 2007.

I.C.E. Turcu, E.S. Springate, J.L. Collier, A. Cavalleri, J. Marangos, J. Tisch, S. Dhesi, E. Seddon, G. Hirst, H. Fielding, M. McCoustra, C. Froud, A. Langley and S. Bonora
Astra-Artemis facility development for ultrafast time resolved science
poster at ‘QuAMP2007’ int conference, University College London, Sept 2007.

Target Fabrication

M. Tolley, C. Spindloe, R. Stevens, A. Malik, J. Spencer, M. Beardsley and P. Hiscock
Programmatic developments in microtarget fabrication at RAL to meet future requirements of high rep rate high power lasers
Poster presentation at IFSA 2007, Kobe, Japan, 9-14 September 2007.

C. Spindloe
Target fabrication at the Rutherford Appleton Laboratory
Oral presentation at 3rd MWTA, Moscow, 15-19 October 2007.

M. Tolley and C. Spindloe
The targetry workpackage of HiPER
Oral presentation (given by Chris Spindloe) at 3rd MWTA, Moscow, 15-19 October 2007.

M. Tolley, J. Perin, M. Perlado, G. Schurtz and M. Dunne
Microtarget requirements for HiPER
Oral presentation at 18th TFM, Lake Tahoe, USA, 11-15 May 2008.

C. Spindloe, H. Lowe, M. Tolley, P. Hiscock and J. Spencer
Recent advances in micro-fabrication of targets for studies on the Vulcan Petawatt laser at the Rutherford Appleton Laboratory
Poster presentation at 18th TFM, Lake Tahoe, USA, 11-15 May 2008.

Vulcan

O. Chekhlov, J. Collier, C. Hernandez-Gomez, P. Matousek, I. Musgrave, I. Ross and T. Winstone
Development of 10PW OPCPA capability on the Vulcan laser
CLEO EUROPE 2007, Munich, 17-22 June 2007.

O. Chekhlov, J. Collier, C. Hernandez-Gomez, A. Lyachev, P. Matousek, I. Musgrave and I.R.T. Winstone
Development of 10PW OPCPA capability on the Vulcan laser
FNP 2007, Nizhny Novgorod, 3-9 July 2007 (Invited).

Y. Tang, I.N. Ross, C. Hernandez-Gomez, I. Musgrave, O. Chekhlov, P. Matousek and J. Collier
Novel ultra-fast broadband laser source at 910nm for Vulcan 10PW OPCPA laser system
CLEO 2008, San Jose, 4-9 May 2008.

Poster Presentations

Vulcan

C. Hernandez-Gomez, O. Chekhlov, J. Collier, A. Lyachev, P. Matousek, I. Musgrave, I. Ross and T. Winstone
Development of 10PW OPCPA capability on the Vulcan laser
IFSA 2007 Kobe, Japan, 9-14 September 2007.

D.A. Pepler, E.D. Vernon and C.S. Burton
Versatile diffractive optic design program in LabVIEW for focal spot shaping of high power lasers
Diffractive Optics 2007, University of Barcelona, Barcelona, Spain, November 2007.

W. Shaikh, I. Musgrave and C. Hernandez-Gomez
Activation of a kilo joule energy variable shape long pulse system for the Vulcan glass laser
ASSP 2008 Nara, Japan, 27-30 January 2008.

Lasers for Science Facility

Publications

W.Z. Alsindi, T.L. Easun, X-Z. Sun, K.L. Ronayne, M. Towrie, J.M. Herrera, M.W. George and M.D. Ward
Probing the excited states of d(6) metal complexes containing the 2,2'-bipyrimidine ligand using time-resolved infrared spectroscopy. 1. Mononuclear and homodinuclear systems
Inorg. Chem. **46**, 3696 (2007).

A.J. Blake, M.W. George, M.B. Hall, J. McMaster, P. Portius, X-Z. Sun, M. Towrie, C.E. Webster, C. Wilson and S.D. Zaric
Probing the mechanism of carbon-hydrogen bond activation by photochemically generated hydridotris(pyrazolyl)borato carbonyl rhodium complexes: new experimental and theoretical investigations
Organometallics **27**, 189 (2008).

R. Baker, P. Matousek, K.L. Ronayne, A.W. Parker, K. Rogers and N. Stone
Depth profiling of calcifications in breast tissue using picosecond Kerr-gated Raman spectroscopy
Analyst **132** (1), 48 (2007).

A.M. Blanco-Rodríguez, K.L. Ronayne, S. Záliš, J. Sýkora, M. Hof and A. Vlček Jr
Solvation-driven excited-state dynamics of [Re(4-Et-Pyridine)(CO)₃(2,2'-bipyridine)]⁺ in imidazolium ionic liquids. A time-resolved infrared and phosphorescence study
J. Phys. Chem. A **112**, 3506 (2008).

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Near infrared multiphoton-induced generation and detection of hydroxyl radicals in a biochemical system
Archives of Biochemistry and Biophysics **464**, 314- (2007).

S.W. Botchway, A.W. Parker, R.H. Bisby and A.G. Crisostomo
Real-time cellular uptake of serotonin using fluorescence lifetime imaging with two-photon excitation
Microscopy Research and Technique **71**, 267 (2008).

M. Busby, P. Matousek, M. Towrie and A. Vlček Jr
Ultrafast excited-state dynamics of photoisomerizing complexes fac-[Re(Cl)(CO)(3)(papy)(2)] and fac-[Re(papy)(CO)(3)(bpy)](+) (papy = trans-4-phenylazopyridine)
Inorganica Chimica Acta **360**, 885 (2007).

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- Publications in progress**
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Non-invasive quantitative assessment of the content of pharmaceutical capsules using transmission Raman spectroscopy
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Development of a NIR multi-photon micro-beam: protein recruitment to DNA damage in mammalian cells
Biophysical Journal, Submitted (2007).
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Probing the glycosidic linkage: secondary structures in the gas phase
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Induction of persistent double strand breaks following multi-photon irradiation of cycling and G1-arrested mammalian cells: replication-induced double strand breaks
Manuscript submitted to Photochemistry & Photobiology
- K. Buckley, A. Goodship, N.A. Macleod, A.W. Parker and P. Matousek
Fluorescence and Raman signal enhancement in spectroscopy of turbid media
In preparation
- T.J. Harvey, C. Hughes, A.D. Ward, E.C. Correia Faria, A. Henderson, N.W. Clarke, M.D. Brown, R.D. Snook and P. Gardner
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Non-invasive detection of powders concealed within diffusely scattering plastic containers
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Spectral discrimination of live prostate and bladder cancer cell lines using Raman optical tweezers
In press

M. Kuimova *et al*
'Imaging intracellular viscosity in photodynamic therapy of cancer' manuscript
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Emerging non-invasive Raman methods in process control and forensic applications
 Pharmaceutical Research, In press.

C. Lee, E. Tyrode, C. Bain, A. Ward, and J.M. Sanderson
Raman spectra of gramicidin in saturated and unsaturated membranes
 Biophys. J. In preparation.

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Mapping cell membrane dynamics
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Analysis of the cyclo-propane bands, of liquid water Raman spectroscopy (droplets) and PARS spectroscopy of some compounds in the gas phase
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J. M. Chamberlain
Broadband terahertz tomography using a CAT geometry
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A.I. Stewart, I.P. Clark, M. Towrie, S. Ibrahim, A.W. Parker, C.J. Pickett and N.T. Hunt
Structure and vibrational dynamics of model compounds of the [FeFe]-hydrogenase enzyme system via ultrafast two-dimensional infrared spectroscopy
 J. Phys. Chem. Submitted.

Conference Presentations

Invited lecture, 2nd Iberian Photochemistry meeting, Faro (July 2007)
Multiphoton excitation photochemistry of serotonin – from hydroxyl radical detection to fluorescence lifetime imaging in cells
 R.H. Bisby

Invited lecture, Trombay Symposium on Radiation and Photochemistry (TRSP2008), India (January 2008)
 R.H. Bisby

RSC Photochemistry Group – Young Researchers' Meeting, Loughborough, UK (2007)
Generation and detection of hydroxyl radicals in a biochemical system using multiphoton excitation
 R.H. Bisby

Intracellular imaging of neuropharmacological drugs using fluorescence lifetime multiphoton microscopy, Focus on Microscopy (Japan 2008)
 R.H. Bisby

International Conference on Surface and Interface Processes at the Molecular Level, Il Ciocco, Italy (2008)

A laboratory study of the morphology and processing of benzene ice in the interstellar medium
 J.D. Thrower, M.P. Collings and M.R.S. McCoustra

20th International Gas Kinetics Symposium, Manchester, UK (2008)

Photodesorption processes involving model interstellar ices
 J.D. Thrower, D.J. Burke, M.P. Collings, A. Dawes, P.J. Holtom, F. Jamme, P. Kendall, W.A. Brown, I.P. Clark, H.J. Fraser, M.R.S. McCoustra, N.J. Mason and A.W. Parker

Abstr. 54th Nat. Symp. Am. Vac. Soc., Seattle, USA (2007)

Surface science investigations of photoprocesses in model interstellar ices
 J.D. Thrower, D.J. Burke, M.P. Collings, A. Dawes, P.J. Holtom, F. Jamme, P. Kendall, W.A. Brown, I.P. Clark, H.J. Fraser, M.R.S. McCoustra, N.J. Mason and A.W. Parker

International Conference on Perspectives in Vibrational Spectroscopy 2008, Trivandrum, India (24th-28th February 2008)

Analysis of prostate and bladder cells using Raman tweezers
 P. Gardner

Gas Kinetics Group, Leeds (September 2007)

G. Hancock

DASIM Workshop, Paris, France (September 2007)

A preliminary investigation in the spectral discrimination of live prostate and bladder cells using Raman tweezers
 T. Harvey

CLEO Europe, Munich (2007)

UV laser direct writing of ferroelectric domains in lithium niobate
 R.W. Eason

International Conference on Perspectives in Vibrational Spectroscopy 2008 (ICOPVS2008), Trivandrum, India (February 2008)

Raman tweezer analysis of prostate and bladder cell lines
 T. Harvey

International Conference on Raman Spectroscopy 2008 (ICORS2008), London (August 2008)

Raman tweezer analysis of urological cells
 T. Harvey

Invited seminar for this period, supported by a laser loan from the Central Laser Facility (May 2006 to September 2007)

M. Hippler

Seminar, University College of London (22nd November 2007)

New techniques for the laser spectroscopy of molecules and clusters: from high-resolution spectroscopy to ultrafast intramolecular dynamics
 M. Hippler

International Conference on Photochemistry, Cologne, Germany (August 2007)*Porphyrin oligomers for photodynamic therapy via two-photon excitation*

M.K. Kuimova, D. Phillips, H. Collins, M. Balaz, E. Dahlstedt, H.L. Anderson, N. Sergent, K. Suhling and A.W. Parker

17th International Symposium on Photochemistry and Photophysics of Coordination Compounds, Dublin, Ireland (June 2007)*Porphyrin oligomers for photodynamic therapy via two-photon excitation*

M.K. Kuimova, D. Phillips, H. Collins, M. Balaz, E. Dahlstedt, H.L. Anderson, N. Sergent, K. Suhling and A.W. Parker

Invited Contribution, Ultrafast Dynamics Symposium, Chiba University, Japan (5th December 2007)*Re-wiring the green fluorescent protein*

S. Meech

8th International Conference on Femtochemistry and Femtobiology (Femto8), Oxford (22nd-27th July, 2007)*Time resolved vibrational spectroscopy in chromoproteins*

S. Meech

Selected paper for Ultrafast Phenomena XVI, Milan (9th-13th July 2008)*Ultrafast vibrational dynamics in the blue light sensing protein AppA*

S. Meech

Australian Conference on Vibrational Spectroscopy, University of Wollongong, Wollongong, Australia (2007)*Probing ultrafast dynamics of nucleic acid bases and DNA*

A. W. Parker

Indian Institute of Science, Bangalore, India (October 2007)*Ultrafast infrared spectroscopy studies of DNA and the primary events of genetic mutation*

A.W. Parker

Opening Speech at Tantrā Science Competition for Young Scientists, Sindhi High School, Bangalore, India (4th October 2007)

A.W. Parker

Talking Science: Lasers in Science STFC, Rutherford Appleton Public Lecture Series (9th November 2007)

A.W. Parker

Central Laser Facility, STFC, Rutherford Appleton Laboratory (November 2007)*The molecule of life – seminar for non-specialists*

A.W. Parker

RSC Photochemistry Group, Keynote Lecture, Loughborough (December 2007)*Photo-induced electron transfer catalysis and selective ion-sensors*

R. Perutz

9th European Conference on Atoms, Molecules and Photons, ECAMP IX, Crete (May 2007)*From glucose to glycobiology*

J.P. Simons

Horizons in Vibrational Spectroscopy with Free Electron Lasers, Ringberg, Germany (May 2007)*Probing the 3D-structure of glycopeptides using vibrational spectroscopy*

E.C. Stanca-Kaposta

Biological Molecules in the Gas Phase: Gordon Conference (July 2007)*Understanding the conformational landscape of carbohydrates in the gas phase*

E.J. Cocinero, E.C. Kaposta, B. Liu, J. Screen, L.C. Snoek, J.P. Simons, D.P. Gamblin and B.G. Davis

American Chemical Society: Fall Meeting, Boston (August 2007)*Hydration: from clusters to aqueous solution*

J.P. Simons

Molecular and Nanodynamics: From Atoms to Biomolecules, Rome (November 2007)*Sweetness and light: from glucose to glycobiology*

J.P. Simons

Gordon Research Conference for Biological Molecules in the Gas Phase: Mass Spectrometry, High-Resolution Spectroscopy, and Theory, Bates College, Maine (22nd-27th July 2007)*Understanding the shapes of complex biomolecules: what can infrared spectroscopy tell us?*

T.D. Vaden

234th American Chemical Society National Meeting (19th-23rd August 2007)*Photochemical protonation of peptides in the gas phase: infrared spectroscopy in the OH and NH stretch regions*

T.D. Vaden, T. De Boer, J.P. Simons and L. Snoek

Molecular and Nanodynamics: From Atoms to Biomolecules, Rome, Italy (12th-13th October 2007)*Sweetness and light: from glucose to glycobiology*

J.P. Simons

Physical Chemistry Seminar Series, University College London (7th February 2007)*Fluorescent markers in DNA and RNA*

K.C. Thompson

American Chemical Society: Fall Meeting, Boston (August 2007 - invited lecture)*Photochemical protonation of peptides in the gas phase: infrared spectroscopy in the OH and NH stretch regions*

T.D. Vaden

Nucleic Acids Research Annual Meeting, Reading (6th July 2007)*Probing DNA – a time-resolved vibrational spectroscopy study*

S. Quinn, G.W. Doorley, D.A. McGovern, A.M. Whelan, M.W. George, A.W. Parker, K.L. Ronayne, M. Towrie and J.M. Kelly

Royal Society of Chemistry Oxidative damage One-day conference, Dublin City University, Ireland (28th March 2008)*Ultrafast detection of transient species in DNA*

J.M. Kelly

TCD One Day Symposium on Vibrational Spectroscopy. Infrared and Raman Discussion Group Meeting, Dublin (17th April 2008)

A picosecond time-resolved vibrational spectroscopy study of nucleic acid systems

S. Quinn

International Forum on Process Analytical Technology (IFPAC 2008), Baltimore, USA (January 2008)

Emerging analytical tools: transmission and spatially offset Raman spectroscopy for rapid non-invasive analysis of pharmaceutical products

P. Matousek

Federation of Analytical Chemistry and Spectroscopy Societies Conference (FACSS 2007), Memphis, USA (October 2007)

Raman signal enhancement in deep spectroscopy of turbid media

P. Matousek

International Conference on Advanced Vibrational Spectroscopy (ICAVS 2007), Corfu, Greece (June 2007)

Deep probing of tissue and powders using spatially offset Raman spectroscopy (SORS)

P. Matousek

LACONA – Lasers in the Conservation of Artworks (LACONA 2007), Madrid (September 2007)

A new method for deep non-invasive Raman spectroscopy of diffusely scattering media

P. Matousek

The Heidelberg PAT Conference 2007, Heidelberg (October 2007)

Raman spectroscopy in process analytical applications (PAT)

P. Matousek

Commendation for Excellence in Technical Communications, Laser Focus World (2007)

In connection with the article: C. Eliasson, P. Matousek, 'Spatial Offset Broadens Applications for Raman Spectroscopy', Laser Focus World, May 2007

C. Eliasson and P. Matousek

Poster Presentations

Spectroscopy and Dynamics Groups Meeting, UEA, UK (December 2007)

A. Hudson

Transatlantic Frontiers of Chemistry Symposium, Cranage Hall, Cheshire, UK (July 2008)

A. Hudson

Radiation Research Society: 53rd Annual Conference in Philadelphia, USA (5th-8th November 2006)

The induction of DNA damage/repair responses in mammalian cells by α -particle and femto-second near infrared laser microbeam irradiation

P. Lauder, J.V. Harper, S.W. Botchway, A.W. Parker and P. O'Neill

Repair Meeting: from Molecular Mechanism to Human Disease, Noordwijkerhout, Holland (2nd-7th April 2006)

Investigation into the induction of DNA damage/repair induced in mammalian cells by near infrared multi-photon absorption

J.V. Harper, E.L. Leatherbarrow, S.W. Botchway, M. Dillingham, P. Lauder, A.W. Parker and P. O'Neill

10th International Wolfsberg Meeting on the Molecular Radiation Biology/Oncology, Ermatingen, Switzerland (12th-14th May 2007)

Radiation induced DNA DSBs: contribution from stalled replication forks?

J. V. Harper, P. Reynolds, J. Anderson, S. W. Botchway, A. W. Parker and P. O'Neill

Miller Conference on Radiation Chemistry, Buxton, UK (April 2007)

Free radical generation and detection with near infrared femtosecond pulses by multiphoton absorption

A.W. Parker, S.W. Botchway, A. Crisostomo and R.H. Bisby

Focus on Microscopy, Osaka, Japan (April 2008)

A. Crisostomo

Abcam: Maintenance of Genome Stability Conference, Puerto Vallarta, Mexico (4th-7th March 2008)

DNA damage signalling and repair following near infra-red multiphoton laser microbeam irradiation in cycling and G1 arrested V79-4 cells

P. Reynolds, J.V. Harper, S.W. Botchway, A.W. Parker and P. O'Neill

Abcam: Maintenance of Genome Stability Conference, Puerto Vallarta, Mexico (4th-7th March 2008)

Radiation induced DNA DSBs: contribution from stalled replication forks

J.V. Harper, J. Anderson, P. Reynolds and P. O'Neill

Seminar, University College of London (22th November 2007)

New techniques for the laser spectroscopy of molecules and clusters: from high-resolution spectroscopy to ultrafast intramolecular dynamics

M. Hippler

20th High Resolution Molecular Spectroscopy Colloquium, Dijon, France (3rd-7th September 2007)

High-resolution stimulated Raman photoacoustic spectroscopy of gas phase molecules

C. Mohr and M. Hippler

Intracellular imaging of neuropharmacological drugs using fluorescence lifetime multiphoton microscopy, Focus on Microscopy, Japan (2008)

R.H. Bisby

Miller Conference, Buxton (2007)

Free radical formation from multiphoton irradiation of solutions

M. Hippler

DASIM Workshop, Dublin, Republic of Ireland (June 2008)

Classification of fixed urological cells using Raman tweezers

T. Harvey

European Biophysics Congress, London, UK (July 2007)

Porphyrim oligomers for photodynamic therapy via two-photon excitation

M.K. Kuimova, D. Phillips, H. Collins, M. Balaz, E. Dahlstedt, H.L. Anderson, N. Sergent and K. Suhling

Gordon Research Conference for Biological Molecules in the Gas Phase: Mass Spectrometry, High-Resolution Spectroscopy, and Theory, Bates College, Maine (22nd-27th July 2007)

Understanding the conformational landscape of carbohydrates in the gas phase

E.J. Cocinero, E.C. Kaposta, B. Liu, J. Screen, L.C. Snoek, J.P. Simons, D.P. Gamblin and B.G. Davis

Gordon Research Conference for Biological Molecules in the Gas Phase: Mass Spectrometry, High-Resolution Spectroscopy, and Theory, Bates College, Maine (22nd-27th July 2007)

Towards understanding of the shapes of gas-phase peptides

T.S.J.A. de Boer, T.D. Vaden, J.P. Simons and L.C. Snoek

Biological Molecules in the Gas Phase: Gordon Conference (July 2007)

Understanding the conformational landscape of carbohydrates in the gas phase

E.J. Cocinero

Ultrafast phenomena 08 Stresa, Italy (2008)

A time-resolved vibrational spectroscopy study on adenine/thymine based nucleic acid systems

S. Quinn, G.W. Doorley, D.A. McGovern, A.W. Parker, K.L. Ronayne, M. Towrie and J.M. Kelly

ISPCC TCD (June 07)

Picosecond transients from oxidation of guanine by a ruthenium complex intercalated in double-stranded DNA

G.W. Doorley, M.M. Feeney, C. Creely, J.M. Kelly, B. Elias, C. Moucheron, A. Kirsch-de Mesmaeker, J. Dyer, D.C. Grills, M.W. George, P. Matousek, A.W. Parker and M. Towrie

Femto8, Oxford (July 07)

Ultrafast IR spectroscopy of the short-lived transients formed by UV excitation of cytosine derivatives

S. Quinn, G.W. Doorley, G.W. Watson, A.J. Cowan, M.W. George, A.W. Parker, K.L. Ronayne, M. Towrie and J.M. Kelly

CSCB, TCD (December 2007)

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S. Quinn, G.W. Doorley, G.W. Watson, A.J. Cowan, M.W. George, A.W. Parker, K.L. Ronayne, M. Towrie and J.M. Kelly

Oxidative Damage, DCU (March 2008)

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Femto8 Oxford (July 2007)

Picosecond infrared study of guanosine derivatives

D.A. McGovern, G.W. Doorley, S. Quinn, A.M. Whelan, K. Ronayne, A.W. Parker and J.M. Kelly

CSCB TCD (December 2007)

Picosecond infrared study of guanosine derivatives

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Oxidative Damage, DCU (March 2008)

Picosecond infrared study of guanosine derivatives

D.A. McGovern, G.W. Doorley, S. Quinn, A.M. Whelan, K. Ronayne, A.W. Parker and J.M. Kelly

Gas Kinetics Conference, Leeds (September 2007)

Internal energy distribution of the products of quenching of $NO A^2\Sigma^+ (v = 0)$

G. Hancock

Thesis

H. Collins

Photodynamic therapy via two photon excitation

DPhil, University of Oxford, to be submitted 2008

T. Harvey

The development of vibrational of spectroscopic cytology for prostate cancer diagnosis

University of Manchester, 2008

A. Crisostomo

Thesis in preparation on investigations of serotonin

University of Salford, 2008

M. Saunders

Chemical processes studied by time resolved FTIR

DPhil, University of Oxford, 2008

C. Mohr

New experiments for high-resolution laser spectroscopy

Sheffield, Chemistry PhD, to be submitted 2008.

Awards and Prizes**2007 Royal Society Davy Medal**

J.P. Simons

2007 RSC Liversidge Medal and Lectureship

J.P. Simons

Best Poster Prize Infrared and Raman Discussion Group, Dublin (April 2008)

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Best Poster Prize European Biophysics Congress, London, UK (July 2007)

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