

Monday 23 August

08.30	Registration (Location: Staff Social Centre)		
09.30	<b>Plenary: Green photonics</b> Frederic Quan (President, Optoelectronics Industry Development Association (OIDA), USA) Location: Nuffield Theatre Chair: Allan Boardman (University of Salford, UK)		
10.15	Refreshments (Location: Staff Social Centre)		
Location	Nuffield Theatre	Arts Lecture Theatre H	Arts Lecture Theatre J
	<b>Session: Nonlinear optics I (QEP)</b> Chair: Dmitry Skryabin (University of Bath, UK)	<b>Session: Optical environmental sensing (OPD)</b> Chair: Peter Hodgson (Corus Group, UK)	<b>Session: Advances in imaging I (OPD)</b> Chair: Gordon Love (University of Durham, UK)
10.45	<b>Invited: Slow light enhanced nonlinear optics in photonic crystal waveguides</b> <u>Thomas Krauss</u> (St Andrews University, Scotland, UK)	<b>Invited: The application of differential absorption lidar for pollutant emissions monitoring</b> <u>Rod Robinson</u> and Fabrizio Innocenti (National Physical Laboratory, UK)	<b>Invited: Can we use an adaptive optical approach to bring inexpensive corrective eyewear to half the world's population?</b> <u>Joshua Silver</u> (University of Oxford, UK)
11.15	<b>Polarization effects in microcoil resonators</b> <u>Timothy Lee</u> , Neil Broderick and Gilberto Brambilla (University of Southampton, UK)	<b>Broadband cavity enhanced trace gas sensing using supercontinuum light sources</b> <u>Toni Laurila</u> and Clemens Kaminski (University of Cambridge, UK)	<b>Phase mask optimization for hybrid imaging systems</b> <u>Tom Vettenburg</u> , Mads Demenikov and Andrew R Harvey (Heriot-Watt University, UK)
11.30	<b>Motion of cavity solitons in VCSELs with optical injection</b> <u>Craig McIntyre</u> <sup>1</sup> , F Franco Prati <sup>2</sup> , Giovanna Tissoni <sup>2</sup> and <sup>1</sup> Gian-Luca Oppo ( <sup>1</sup> University of Strathclyde, UK, <sup>2</sup> Universita dell'Insubria, Italy)	<b>Multi-mode absorption spectroscopy for multi-gas and multi-parameter sensing</b> <u>Paul Ewart</u> , Michelle Hamilton, Henry Northern, Alex Thompson, Yoshi Arita and Grant Ritchie (University of Oxford, UK)	<b>Non-linear optical imaging using double-clad hollow-core photonic crystal fibres for non-bandgap signal collection</b> <u>Alistair Muir</u> , Mathew Welch and Jonathan Knight (University of Bath, UK)
11.45	<b>Two-dimensional localized structures of intracavity exciton-polaritons</b> <u>Dmitry Skryabin</u> <sup>1</sup> , Oleg Egorov <sup>2</sup> , Andrey Gorbach <sup>1</sup> and Falk Lederer <sup>2</sup> ( <sup>1</sup> University of Bath, UK, <sup>2</sup> Friedrich-Schiller University Jena, Germany)	<b>Tunable diode laser spectroscopy with wavelength modulation: an overview of current techniques and motivations</b> <u>Keith Ruxton</u> , Arup Lal Chakraborty, Walter Johnstone and George Stewart (University of Strathclyde, UK)	<b>High-speed optical measurement of three-dimensional dynamic processes in biological tissue</b> <u>Christopher Smith</u> , Edward Botcherby, M Michael Kohl, Martin Booth, Ole Paulsen and Tony Wilson (University of Oxford, UK)
12.00	<b>Transient and sustained oscillations of cavity solitons in VCSELs with frequency selective feedback</b> <u>Craig McIntyre</u> , Neal Radwell, Gian-Luca Oppo, William J Firth, Andrew J Scroggie and Thorsten Ackemann (University of Strathclyde, UK)	<b>Real time low cost pseudo-random noise continuous wave lidar</b> <u>Xiao Ai</u> , Naim Dahnoun, John Rarity and Richard Nock (University of Bristol, UK)	<b>Spatial and angular control of illumination for reduced photobleaching and phototoxicity</b> <u>Susan Cox</u> , Martin Kielhorn and Rainer Heintzmann (Kings College London, UK)
12.15	Lunch (Location: Staff Social Centre)		
12.15	<b>Tutorial 1: Organic Photonics</b> Donal Bradley (Imperial College, UK) – Location: Nuffield Theatre		
13.45	<b>Session: Quantum dots (QEP)</b> Chair: Peter Blood (University of Cardiff, UK)	<b>Session: Optical diagnostics in engineering (OPD)</b> Chair: Krikor Ozanyan (University of Manchester, UK)	<b>Session: Advances in imaging II (OPD)</b> Chair: Mark Neil (Imperial College London, UK)
13.45	<b>Invited: Electrical control of spontaneous emission in photonic crystal cavities</b> <u>Andrea Fiore</u> <sup>1</sup> , Nicolas Chauvin <sup>1</sup> , Carl Zinoni <sup>2</sup> , Marco Francardi <sup>3</sup> , Annamaria Gerardino <sup>3</sup> , Laurent Balet <sup>1,2</sup> , Blandine Alloing <sup>2</sup> and Lianhe Li <sup>2</sup> ( <sup>1</sup> COBRA Research Institute, Eindhoven University of Technology, The Netherlands, <sup>2</sup> Ecole Polytechnique Fédérale de Lausanne, Switzerland, <sup>3</sup> Institute of Photonics and Nanotechnologies-CNR, Italy)	<b>Invited: New laser sources for engineering optical diagnostics</b> <u>John Black</u> (University of Manchester, UK)	<b>Invited: Terapixel imaging</b> <u>David Brady</u> (Duke University, USA)
14.15	<b>Conditional carrier dynamics in InAs/GaAs quantum dots</b> <u>Paola Borri</u> , Valentina Cesari and Wolfgang Langbein (University of Cardiff, UK)	<b>Laser induced grating spectroscopy for multi-parameter combustion diagnostics</b> <u>Paul Ewart</u> and Ben Williams (University of Oxford, UK)	<b>Polarising single plane illumination microscope</b> <u>Anton Kachatkou</u> and Roelof van Silfhout (University of Manchester, UK)
14.30	<b>Temperature characteristics of 1.5µm (100) InAs/InP based quantum dots lasers recombination processes</b> <u>Savid Ally Sayid</u> <sup>1</sup> , Igor Marko <sup>1</sup> , Stephen Sweeney <sup>1</sup> , Pedro Barrios <sup>2</sup> and Philip Poole <sup>2</sup> ( <sup>1</sup> University of Surrey, UK, <sup>2</sup> National Research Council of Canada, Canada)	<b>Temperature tomography by NIR molecular absorption</b> <u>Michael Wood</u> <sup>1</sup> , Edward Cheadle <sup>1</sup> , Paul Wright <sup>1</sup> , Peter Ireland <sup>2</sup> , John Black <sup>2</sup> , Hugh McCann <sup>1</sup> and Krikor Ozanyan <sup>1</sup> ( <sup>1</sup> University of Manchester, UK, <sup>2</sup> Rolls-Royce Plc, UK)	<b>Super-resolution imaging beyond the near-field</b> <u>Edward Rogers</u> , Tsung Sheng Kao, Vassili Savinov, Yifang Chen and Nikolay Zheludev (University of Southampton, UK)

14.45	<b>Broadband tunable InAs/GaAs quantum-dot lasers</b> Ksenia Federova <sup>1</sup> , Maria Ana Cataluna <sup>1</sup> , Igor Krestnikov <sup>2</sup> , Daniil Livshits <sup>2</sup> and Edik U Rafailov <sup>1</sup> ( <sup>1</sup> University of Dundee, UK, <sup>2</sup> Innolume GmbH, Germany)	<b>Droplet sizing with the Laser Induced Fluorescence / Mie Scattering intensity ratio technique</b> Yannis Hardalupas and Georgios Charalampous (Imperial College London, UK)	<b>Snapshot spectral imaging for retinal oximetry</b> Alistair Gorman <sup>1</sup> , Ied Alabboud <sup>1</sup> , Gonzalo Muyo <sup>1</sup> , David Mordant <sup>2</sup> , Steve Morgan <sup>4</sup> , Paul Rodmell <sup>4</sup> , John Crowe <sup>4</sup> , Andrew McNaught <sup>2,3</sup> and Andrew Harvey <sup>1</sup> ( <sup>1</sup> Heriot-Watt University, UK, <sup>2</sup> Gloucestershire Eye Unit, UK, <sup>3</sup> Cranfield University, UK, <sup>4</sup> University of Nottingham, UK)
15.00	<b>Optimisation of quantum dot deposition by molecular beam epitaxy for high spectral bandwidth sources for optical coherence tomography applications</b> Mohammed Abdul Majid, M Hugues, D T D Childs, K Kennedy and R A Hogg (University of Sheffield, UK)	<b>Novel non-destructive techniques for inspection of Zirconia ceramic parts</b> Mateusz Matysiak <sup>1</sup> , Jonathan P Parry <sup>1</sup> , J Graham Crowder <sup>1</sup> , Nick Jones <sup>2</sup> , Kevyn Jonas <sup>2</sup> , Nick Weston <sup>2</sup> , Duncan P Hand <sup>1</sup> and Jonathan D Shephard <sup>1</sup> ( <sup>1</sup> Heriot-Watt University, UK, <sup>2</sup> Renishaw plc, UK)	<b>Snapshot hyperspectral imaging with polarimetric capability in the near-infrared</b> Gerald Wong <sup>1</sup> , Roger Pilkington <sup>1</sup> , Andrew Harvey <sup>2</sup> and Rick Rickman <sup>3</sup> ( <sup>1</sup> Selex Galileo, UK, <sup>2</sup> Heriot Watt University, UK, <sup>3</sup> Waterfall Solutions, UK)
15.15	Refreshments (Location: Staff Social Centre)		
	<b>Session: Structured photonic materials (QEP)</b> Chair: Terence Shepherd (QinetiQ, UK)	<b>Session: Slow light &amp; Nonlinear optics (QEP)</b> Chair: Ortwin Hess (University of Surrey, UK)	<b>Session: Biophotonics I (Joint)</b> Chair: Gail McConnell (University of Strathclyde, UK)
15.45	<b>Invited: Elastic photonic crystals: nano-assembly and functionality on km-scales</b> Jeremy Baumberg, David Snoswell, Andreas Kontogeorgos, Chris Finlayson, Andrew Haines, Jason Sussman, Otto Pursianinen, Peter Spahn and G Hellman (University of Cambridge, UK)	<b>Invited: Slow and stopped light in optical waveguides</b> Fil Bartoli and Qiaoqiang Gan (Lehigh University, USA)	<b>Invited: Understanding surface plasmon imaging: results and prospects</b> Mike Somekh (University of Nottingham, UK)
16.15	<b>Wave optics of METATOYS</b> Johannes Courtial <sup>1</sup> , Alasdair C Hamilton <sup>1</sup> and Tomas Tyc <sup>2</sup> ( <sup>1</sup> University of Glasgow, UK, <sup>2</sup> Masaryk University, Czech Republic)	<b>Experimental verification of the nature of slow light in stimulated Brillouin scattering</b> Nadezhda Kotova, Valeri Kovalev and Robert Harrison (Heriot-Watt University, UK)	<b>Four-wave mixing imaging of colloidal nanoparticles</b> Paola Borri <sup>1</sup> , Francesco Masia <sup>1</sup> , Peter Watson <sup>1</sup> , Wolfgang Langbein <sup>1</sup> , Iwan Moreels <sup>2</sup> and Zeger Hens <sup>2</sup> ( <sup>1</sup> Cardiff University, UK, <sup>2</sup> Gent University, Belgium)
16.30	<b>Polymer opals as novel electro-active photonic materials</b> Chris Finlayson <sup>1</sup> , David Snoswell <sup>1</sup> , Andreas Kontogeorgos <sup>1</sup> , Andrew Haines <sup>1</sup> , Jeremy Baumberg <sup>1</sup> , Peter Spahn <sup>2</sup> and Goetz Peter Hellmann <sup>2</sup> ( <sup>1</sup> Cavendish Laboratory, UK, <sup>2</sup> Deutsches Kunststoff-Institut (DKI), Germany)	<b>Loss compensation in slow-light negative refractive index waveguides</b> Edmund Kirby, Joachim Hamm, Kosmas Tsakmakidis and Ortwin Hess (University of Surrey, UK)	<b>mhFLIM and phi-squared FLIM: resolution of heterogeneous fluorescence decays in wide field lifetime microscopy</b> Clemens Kaminski <sup>1,2</sup> , Alan Elder <sup>1</sup> , Simon Schlachter <sup>1</sup> , Alessandro Esposito <sup>1</sup> and Jonathan Frank <sup>3</sup> (University of Cambridge, UK, <sup>2</sup> Max-Planck Institute for the Science of Light, Germany, <sup>3</sup> Sandia National Laboratories, USA)
16.45	<b>Ultra-smooth lithium niobate micro-resonators by surface tension reshaping</b> Charlie Ying <sup>1</sup> , Colin L Sones <sup>1</sup> , Anna C Peacock <sup>1</sup> , Florian Johann <sup>2</sup> , Elisabeth Soergel <sup>1</sup> , Robert W Eason <sup>1</sup> , Michalis N Zervas <sup>1</sup> , Sakellaris Mailis <sup>1</sup> ( <sup>1</sup> University of Southampton, UK, <sup>2</sup> University of Bonn, Germany)	<b>Spatio-spectral technique to verify pump-pulse propagation model in an Ar-filled capillary in the presence of high harmonic generation</b> Thomas Butcher, Richard T Chapman, Peter Horak, Francesco Poletti, Jeremy G Frey, and William S Brocklesby (University of Southampton, UK)	<b>Gene transfection by laser-induced breakdown of optically trapped single nanoparticles</b> Yoshihiko Arita <sup>1</sup> , Maria Leilani Torres-Mapa <sup>1</sup> , Woei Ming Lee <sup>1</sup> , Tomáš Čížmár <sup>1</sup> , Paul Campbell <sup>2</sup> , Frank J Gunn-Moore <sup>1</sup> and Kishan Dholakia <sup>1</sup> ( <sup>1</sup> University of St Andrews, UK, <sup>2</sup> University of Dundee, UK)
17.00	<b>Functional transmission band gaps of 3-D magnetic photonic crystal</b> Tarja Volotinen <sup>1</sup> , Mei Fang <sup>1</sup> , Lyubov Belova <sup>1</sup> , K V Rao <sup>1</sup> , D M Whittaker <sup>2</sup> , K Addison <sup>2</sup> , D S Score <sup>2</sup> and G A Gehring <sup>2</sup> ( <sup>1</sup> Royal Institute of Technology-MSE-Tmfy, Sweden, <sup>2</sup> The University of Sheffield, UK)	<b>Rapidly wavelength swept optical parametric oscillator for broadband mid-infrared spectroscopy</b> Alissa Silva and Ian Lindsay (University of Bristol, UK)	<b>Optical coherence tomography picorheology</b> Matthew Harvey and Thomas Waigh (University of Manchester, UK)
17.15	<b>Wave-optically allowed and forbidden windows</b> Johannes Courtial <sup>1</sup> , Martin Sarbort <sup>2</sup> , Tomas Tyc <sup>2</sup> and Alasdair C Hamilton <sup>1</sup> ( <sup>1</sup> University of Glasgow, UK, <sup>2</sup> Masaryk University, Czech Republic)	<b>Doubling the peak power of an optical parametric oscillator using a novel bi-directional pump geometry</b> Greg Norris and Gail McConnell (University of Strathclyde, UK)	<b>Imaging nanometer sized gold particles</b> Henkjan Gersen and Xin Hong (University of Bristol, UK)
17.30	Joint Poster Session (Location: Staff Social Centre)		
19.30	Civic Reception (Location: Staff Social Centre)		

Tuesday 24 August

08.30	Registration (Location: Staff Social Centre)			
09.00	<b>Plenary: Nanostructured metamaterials as a platform for photonic devices</b> Nikolay Zheludev (University of Southampton, UK) Location: Nuffield Theatre Chair: Martin McCall (Imperial College London, UK)			
09.45	Refreshments (Location: Staff Social Centre)			
Location	Nuffield Theatre	Arts Lecture Theatre H	Arts Lecture Theatre J	Nuffield Lecture Theatre A
	<b>Session: Metamaterials &amp; cloaking (QEP)</b> Chair: Allan Boardman (University of Salford, UK) and Martin McCall (Imperial College London, UK)	<b>Session: Biophotonics II (Joint)</b> Chair: Steve Morgan (University of Nottingham, UK)	<b>Session: Fibre optics and waveguides I: special fibres and gratings (OPD)</b> Chair: Andy Augousti (Kingston University, UK)	
10.15	<b>Invited: Perfect imaging with positive refraction</b> <u>Ulf Leonhardt</u> (University of St Andrews, UK)	<b>Invited: Wavefront shaping for new microscopy techniques</b> <u>Monika Ritsch-Marte</u> , Christian Maurer, Ruth Steiger, Gregor Thalhammer, Alexander Jesacher, and Stefan Bernet (Innsbruck Medical University, Austria)	<b>Invited: Fibre optic long period grating sensors with nanoscale coatings</b> <u>Stephen James</u> (Cranfield University, UK)	<b>ITP: Welcome</b> <b>Session: ITP1 - Advanced Lighting</b>
10.30				TBC
10.45	<b>Toroidal moments in electromagnetic metamaterials</b> <u>Vassili Fedotov</u> , Thomas Kaelberer, Nikitas Papasimakis and Nikolay Zheludev (Optoelectronics Research Centre, UK)	<b>Differential coherent anti-Stokes Raman scattering microscopy with linearly chirped femtosecond laser pulses</b> <u>Paola Borri</u> <sup>1</sup> , Francesco Masia <sup>1</sup> , Peter Watson <sup>1</sup> , Wolfgang Langbein <sup>1</sup> , Iwan Moreels <sup>2</sup> and Zeger Hens <sup>2</sup> ( <sup>1</sup> University of Cardiff, UK, <sup>2</sup> Gent University, Belgium)	<b>Orientation-dependent bending properties of selectively-filled photonic crystal fibres</b> <u>Yiping Wang</u> <sup>1</sup> , Wei Jin <sup>2</sup> , Xiaoling Tan <sup>2</sup> and Shujing Liu <sup>2</sup> ( <sup>1</sup> University of Southampton, UK, <sup>2</sup> The Hong Kong Polytechnic University, P. R. China)	
11.00	<b>Rough surfaces and negative refraction</b> <u>Philip Ingrej</u> , Keith Hopcraft and Eric Jakeman (University of Nottingham, UK)	<b>Adaptive optics for two-photon and harmonic generation microscopy</b> <u>Martin Booth</u> , Anisha Thayil, Alexander Jesacher and Tony Wilson (University of Oxford, UK)	<b>Low-noise supercontinuum generation in a photonic crystal fiber with all-normal dispersion</b> <u>Lucy Hooper</u> , Peter Mosley, Alistair Muir, William Wadsworth and Jonathan Knight (University of Bath, UK)	TBC
11.15	<b>Non-linear properties of cylindrical metallo-dielectric metamaterials</b> <u>Petros Farah</u> , Nicholas Gibbons, Fu Min Huang and Jeremy Baumberg (Nanophotonics Center, University of Cambridge, UK)	<b>High resolution, random-access, real-time imaging spectrometry</b> <u>Patrick Kelleher</u> <sup>1</sup> , Jeremy Allington-Smith <sup>2</sup> , Cyril Bourgenot <sup>2</sup> , Graham Gibson <sup>3</sup> , John Girkin <sup>2</sup> , Andrew Harvey <sup>1</sup> , Gordon Love <sup>2</sup> , Graham Murray <sup>2</sup> , Miles Padgett <sup>3</sup> and Claire Poppett <sup>2</sup> ( <sup>1</sup> Heriot-Watt University, UK, <sup>2</sup> University of Durham, UK, <sup>3</sup> University of Glasgow, UK)	<b>Writing 3D photonic structures in polymethyl methacrylate films and optical fibres using 400 nm Femtosecond laser</b> <u>Patricia Scully</u> <sup>1</sup> , Shijie Liang <sup>1</sup> , Joerg Schille <sup>2</sup> , John Vaughan <sup>1</sup> , Mohammed Benyazzar <sup>1</sup> , Dun Liu <sup>3</sup> and Walter Perrie <sup>3</sup> ( <sup>1</sup> University of Manchester, UK, <sup>2</sup> University of Applied Sciences Mittweida, Germany, <sup>3</sup> University of Liverpool, UK)	
11.30	<b>Dynamics of active optical negative-index metamaterials</b> <u>Sebastian Wuestner</u> , Andreas Pusch, Kosmas Tsakmakidis, Joachim Hamm and Ortwin Hess (University of Surrey, UK)	<b>A closed loop adaptive optics corrected microscope</b> <u>Cyril Bourgenot</u> , Christopher Saunter, John Girkin and Gordon Love (University of Durham, UK)	<b>Optical characterisation of germanium optical fibres</b> <u>Priyanth Mehta</u> <sup>1</sup> , Noel Healy <sup>1</sup> , Neil Bariil <sup>2</sup> , Mahesh Krishnamurthi <sup>2</sup> , Pier Sazio <sup>1</sup> , Venkat Gopalan <sup>2</sup> , John Badding <sup>2</sup> and Anna Peacock <sup>1</sup> ( <sup>1</sup> Optoelectronics Research Centre, UK, <sup>2</sup> Pennsylvania State University, USA)	TBC
11.45	<b>Dynamic electromagnetic cloaking: magneto-optics, control, and novel designs</b> <u>Paul Kinsler</u> <sup>1</sup> , Martin McCall <sup>1</sup> , Alberto Favaro <sup>1</sup> and Allan Boardman <sup>2</sup> ( <sup>1</sup> Imperial College London, UK, <sup>2</sup> University of Salford, UK)	<b>In situ wavefront correction: approaching ideal performance of biophotonics systems</b> <u>Tomas Cizmar</u> , Michael Mazilu and Kishan Dholakia (University of St Andrews, UK)	<b>Planar micromachined glass cantilevers utilising integrated Bragg Fabry-Pérot cavities</b> <u>Lewis Carpenter</u> , Christopher Holmes, James Gates and Peter Smith (Optoelectronics Research Centre, UK)	
12.00	<b>Non-specular reflection from surface metamaterials with Dirichlet singularities</b> <u>Jörg Götte</u> and Mark Dennis (University of Bristol, UK)	<b>Quantum correlations in co-operative tunnelling processes for a model of biological ion channels</b> <u>David Goodwin</u> <sup>1</sup> , Jason Ralph <sup>1</sup> , Neil Oxtoby <sup>1</sup> , Stephen Hall <sup>1</sup> and Liam McDaid <sup>2</sup> ( <sup>1</sup> University of Liverpool, UK, <sup>2</sup> University of Ulster, UK)	<b>The influence of Tm and Yb proportion on multi-step energy transfer process</b> <u>Atasi Pal</u> <sup>1</sup> , Anirban Dhar <sup>1</sup> , Ranjan Sen <sup>1</sup> , Anka Schwuchow <sup>2</sup> , Tong Sun <sup>3</sup> , and K T V Grattan <sup>3</sup> ( <sup>1</sup> Central Glass & Ceramic Research Institute, India, <sup>2</sup> Institute of Photonic Technology, Germany, <sup>3</sup> City University London, UK)	
12.15	Lunch (Location: Staff Social Centre)			
12.15	<b>Tutorial 2: Gentle introduction to cloaking</b> Allan Boardman (University of Salford, UK) – Location: Nuffield Theatre Location?			

	<b>Session: Nanophotonics &amp; plasmonics I (QEP)</b> Chair: Anatoly Zayats (The Queen's University of Belfast, UK)	<b>Session: Biophotonics III (Joint)</b> Chair: Paola Borri (University of Cardiff, UK)	<b>Session: Fibre optics and waveguides II: waveguides (OPD)</b> Patricia Scully (University of Manchester, UK)	<b>Session: ITP2 - Light Sources</b>
13.45	<b>Invited: Ultrafast plasmonics and coupling in nanoscale structures</b> <u>Gary Wiederrecht</u> and Jasmina Hranisavljevic (Argonne National Laboratory, USA)	<b>Invited: Reflectometry and time-resolved autofluorescence-methods for investigation of metabolism in the eye</b> <u>Dietrich Schweitzer</u> (Experimental Ophthalmology University of Jena Bachstr, Germany)	<b>Invited: Optical leaky waveguides as chemo- and bio-sensors</b> <u>Nick Goddard</u> (University of Manchester, UK)	<b>Low-cost nanosecond OPO for gas spectroscopy and material characterisation</b> <u>J Gates</u> , P Smith, C Gawith, H Hung, H Major and C Rahlff
14.15	<b>Nanostructured plasmonic surfaces for quantum dot SERS</b> <u>James Hugall</u> , Jeremy Baumberg and Sumeet Mahajan (NanoPhotonics Centre, Cavendish Laboratory, University of Cambridge, UK)	<b>Millions of lenses in a single mammalian eye</b> <u>Moritz Kreysing</u> <sup>1</sup> , Lars Boyde <sup>1</sup> , Kevin Chalut <sup>1</sup> , Irina Solovei <sup>2</sup> , Boris Joffe <sup>2</sup> , Leo Peichel <sup>3</sup> and Jochen Guck <sup>1</sup> ( <sup>1</sup> University of Cambridge, UK, <sup>2</sup> LMU Munich, Germany, <sup>3</sup> MPI for brain research, Frankfurt, Germany)	<b>Novel technique for measuring dispersion and detuning of a UV written silica-on-silicon waveguide</b> <u>Helen Rogers</u> , James Gates and Peter Smith (Optoelectronics Research Centre, UK)	<b>Development and applications of advanced "ns-class" fibre lasers</b> <u>S Norman</u> <sup>1</sup> , M Zervas <sup>1,2</sup> , B O'Neill <sup>3</sup> ( <sup>1</sup> SPI Lasers UK Ltd, UK, <sup>2</sup> Optoelectronics Research Centre, UK, <sup>3</sup> Institute for Manufacturing, <sup>3</sup> University of Cambridge, UK)
14.30	<b>Random laser action in <math>\pi</math>-conjugated polymer-based photonic glasses system</b> <u>Yujie Chen</u> , Johannes Herrnsdorf, Benoit Guilhabert, Alexander Kanibolotsky, Yanfeng Zhang, Erdan Gu, Peter Skabara, Nicolas Laurand and Martin Dawson (University of Strathclyde, UK)	<b>Higher-order aberrations and reading in human vision</b> <u>Laura Young</u> , Gordon Love, Richard Myers and Hannah Smithson (University of Durham, UK)	<b>Pulsed laser deposition of glass on GaAs and channel waveguide fabrication</b> <u>Mehrdad Irannejad</u> <sup>1</sup> , Gin Jose <sup>1</sup> , Paul Steenson <sup>1</sup> , Qi Jiang <sup>2</sup> , Kejia Zhou <sup>2</sup> , Ziyang Zhang <sup>2</sup> and Richard Hogg <sup>2</sup> , Animesh Jha <sup>1</sup> ( <sup>1</sup> University of Leeds, UK, <sup>2</sup> University of Sheffield, UK)	
14.45	<b>Nanovoid plasmon-enhanced photovoltaics</b> <u>Niraj Lal</u> <sup>1</sup> , Fumin Huang <sup>1</sup> , Bruno Soares <sup>1</sup> , Jatin Sinha <sup>2</sup> , Sumeet Mahajan <sup>1</sup> , Phil Bartlett <sup>2</sup> and Jeremy Baumberg <sup>1</sup> ( <sup>1</sup> University of Cambridge, UK, <sup>2</sup> University of Southampton, UK)	<b>Nuclei on the move: quantification and early growth of fungal colonies</b> <u>Natalie Angarita</u> <sup>1</sup> , Gabriela Roca <sup>2</sup> , Cathy Towers <sup>3</sup> , Nick Read <sup>2</sup> and Dave Towers <sup>3</sup> ( <sup>1</sup> University of Southampton, UK, <sup>2</sup> University of Edinburgh, UK, <sup>3</sup> University of Leeds, UK)	<b>Large cross-section diamond waveguides</b> <u>Loyd McKnight</u> , Yanfeng Zhang, Zhaoshuo Tian, Erdan Gu, Stephane Calvez and Martin Dawson (Institute of Photonics, UK)	<b>Novel tunable laser spectroscopy instrumentation for breath analysis</b> <u>Graeme Malcolm</u> (M Squared Lasers, UK)
15.00	<b>Discrete and gap solitons in arrays of surface plasmon waveguides</b> <u>Andrea Marini</u> , Andriy Gorbach and Dmitry Skryabin (University of Bath, UK)	<b>Full field laser Doppler blood flowmetry using custom made CMOS sensors</b> <u>Stephen Morgan</u> <sup>1</sup> , Diwei He <sup>1</sup> , Hoang Nguyen <sup>1</sup> , Barrie Hayes-Gill <sup>1</sup> , Yiqun Zhu <sup>1</sup> , John Crowe <sup>1</sup> , Geraldine Clough <sup>2</sup> and Cally Gill <sup>2</sup> ( <sup>1</sup> University of Nottingham, UK, <sup>2</sup> University of Southampton, UK)	<b>Construction and analysis of arrayed, tuneable optical microcavities</b> <u>Philip Dolan</u> and Jason Smith (University of Leeds, UK)	
15.15	Refreshments (Location: Staff Social Centre)			
	<b>Session: Nanophotonics and plasmonics II (QEP)</b> Chair: Kevin McDonald (University of Southampton, UK)	<b>Session: Singularities and optical vortices (Joint)</b> Miles Padgett (University of Glasgow, UK) and Mark Dennis (University of Bristol, UK)	<b>Session: Fibre optics and waveguides III: applications (OPD)</b> Stephen James (Cranfield University, UK)	<b>Session: ITP3 - Imaging for Security and Health</b>
15.45	<b>Invited: High-resolution near-field optical microscopy of single nanostructures</b> <u>Achim Hartschuh</u> (Ludwig-Maximilians-Universitaet Muenchen, Germany)	<b>Invited: Vortices in nature, particularly optics</b> <u>Grover Swartzlander</u> (Rochester Institute of Technology, USA)	<b>Invited: Novel microstructured fibres for optical sensing</b> <u>Marco Petrovich</u> (University of Southampton, UK)	<b>Fluorescence lifetime based assays and sensors for healthcare</b> TBC
16.15	<b>Photonic crystal defect cavities coupled to N-V centres in diamond</b> <u>Luca Marseglia</u> <sup>1</sup> , Joanne Harrison <sup>1</sup> , John Patrick Hadden <sup>1</sup> , Fedor Jelezko <sup>2</sup> and Boris Naydenov <sup>2</sup> , Andrew Young <sup>1</sup> , Antony Stanley-Clarke <sup>1</sup> , Daniel Ho <sup>1</sup> , Jeremy O'Brien <sup>1</sup> and John Rarity <sup>1</sup> , ( <sup>1</sup> University of Bristol, UK, <sup>2</sup> University of Stuttgart, Germany)	<b>Vortex dynamics in speckle fields with continuous phase removed</b> <u>Mingzhou Chen</u> and Chris Dainty (National University of Ireland Galway, Ireland)	<b>Developments in the application and fabrication of photonic microcells</b> <u>Natalie Wheeler</u> , Michael Grogan, Philip Light, Francois Couny, Timothy Birks and Fetah Benabid (University of Bath, UK)	<b>Low cost self powered wireless vision system for perimeter security &amp; road monitoring</b> <u>Nick Walker</u> (Microsharp) (TBC)
16.30	<b>Surface plasmon polaritonic crystal polarisation demultiplexer for 4 level polarisation-shift-keying</b> <u>Maria Benetou</u> <sup>1</sup> , Benn Thomsen <sup>1</sup> , Wayne Dickson <sup>2</sup> , Polina Bayvel <sup>1</sup> and Anatoly Zayats <sup>2</sup> ( <sup>1</sup> University College London, UK, <sup>2</sup> Queen's University of Belfast, UK)	<b>Optical angular momentum transfer to trapped liquid crystal droplets</b> <u>Simon Hanna</u> and Stephen Simpson (University of Bristol, UK)	<b>Towards implementation of hollow core fibres for surgical applications</b> <u>Artur Urich</u> <sup>1</sup> , Tiina Delmonte <sup>1</sup> , Katsumasa Iwai <sup>2</sup> , Mitsunobu Miyagi <sup>2</sup> , Duncan Hand <sup>1</sup> and Jonathan Shephard <sup>1</sup> ( <sup>1</sup> Heriot-Watt University, UK, <sup>2</sup> Sendai National College of Technology, Japan)	
16.45	<b>Unpolarized photonic crystal nanocavities</b> <u>Isaac Luxmore</u> , Ehsaneh Ahmadi, Nicholas Wasley, James Pecover, Paul Thompson, Maxime Hughes, Mark Fox and Maurice Skolnick (University of Sheffield, UK)	<b>Entangled tangled optical vortices</b> <u>Mary Jacqueline Romero</u> <sup>1</sup> , Jonathan Leach <sup>1</sup> , Barry Jack <sup>1</sup> , Mark Dennis <sup>2</sup> , Steve Barnett <sup>3</sup> and Miles Padgett <sup>1</sup> ( <sup>1</sup> University of Glasgow, UK, <sup>2</sup> University of Bristol, UK, <sup>3</sup> University of Strathclyde, UK)	<b>Selective excitation and rotational control of vectorial fibre modes using adaptive optics</b> <u>Michael Schmidberger</u> , Moritz Kreysing and Jochen Guck (University of Cambridge, UK)	TBC
17.00	<b>Compact and SOI compatible hybrid polarizers</b> <u>Muhammad Alam</u> , Mo Mojahedi and J Stewart Aitchison (University of Toronto, Canada)	<b>Vortex lattices in the coherently pumped polariton microcavities</b> <u>Dmitry Skryabin</u> and Robin Hartley (University of Bath, UK)	<b>Sub-metre spatial resolution temperature compensated distributed strain sensor</b> <u>Mohammad Belal</u> and Trevor Newson (Optoelectronics Research Centre, UK)	

17.15	<b>Nanoscale Si-SPP waveguides</b> <u>Alexey Krasavin</u> and Anatoly Zayats (Queen's University Belfast, UK)	<b>Optically efficient separation of orbital angular momentum states</b> <u>Martin Lavery</u> <sup>1</sup> , Gregorius Berkhout <sup>2</sup> , Marco Beijersbergen <sup>2</sup> and Miles Padgett <sup>1</sup> ( <sup>1</sup> University of Glasgow, UK, <sup>2</sup> Leiden University and Cosine Science & Computing BV, The Netherlands)	<b>High power laser beam transmission using multiplexed optical fibres for the application of laser ignition</b> <u>Jack Mullett</u> , Paul Dickinson, Geoff Deardon and Tom Shenton (University of Liverpool, UK)	<b>ULTRAFast and WHITELASE – TSB funded projects past and present and their impact on technology and business development</b> <u>John Clowes</u> (Fianium)
17.30	Joint Poster Session (Location: Staff Social Centre)			
17.45				
19.15	Close			

### Wednesday 25 August

08.30	Registration (Location: Staff Social Centre)				
09.00	<b>Plenary: New development for structural health monitoring using optical fiber sensors</b> Ken Grattan (City University, UK) Location: Nuffield Theatre Chair: David Towers (University of Leeds, UK)				
09.45	Refreshments (Location: Staff Social Centre)				
Location	Nuffield Theatre	Arts Lecture Theatre H	Arts Lecture Theatre J	Nuffield Lecture Theatre C	Nuffield Lecture Theatre A
	<b>Session: Optical and quantum metrology</b> (Joint) Chair: Gerald Buller (Heriot-Watt University, UK) and Gail McConnell (University of Strathclyde, UK)	<b>Session: Advances in laser science I</b> (QEP) Chair: Martin Dawson (University of Strathclyde, UK)	<b>Session: Trapping and manipulation I</b> (Joint) Chair: David McGloin (University of Dundee, UK)		<b>Session: ITP4 - UK Funding Sources</b>
10.15	<b>Invited: Quantum metrology with atoms and photons</b> <u>Alastair Sinclair</u> (National Physical Laboratory, UK)	<b>Invited: Ultrashort pulses from semiconductor lasers</b> <u>Anne Tropper</u> (University of Southampton, UK)	<b>Invited: Direct measurements of heating associated with optical manipulation of individual metallic nanoparticles</b> <u>Lene Oddershede</u> , P Bendix and S Reihani (The Niels Bohr Institute, Denmark)		<b>Joint research and industrial funding in engineering &amp; physical sciences</b> <u>Matthew Ball</u> (EPSRC)
10.45	<b>Entangled multi-photon states in waveguide for quantum metrology</b> <u>Jonathan Matthews</u> <sup>1</sup> , Alberto Politi <sup>1</sup> , Damien Bonneau <sup>1</sup> , Andre Stefanov <sup>2</sup> and Jeremy O'Brien <sup>1</sup> ( <sup>1</sup> Centre for Quantum Photonics, H. H. Wills Physics Laboratory & Department of Electrical and Electronic Engineering, University of Bristol, UK, <sup>2</sup> Federal Office of Metrology METAS, Switzerland)	<b>DFB laser action from truxene-core chromophores in an encapsulating polymer matrix on a flexible substrate</b> <u>Johannes Herrnsdorf</u> , Benoit Guilhabert, Yujie Chen, Alexander Kanibolotsky, Allan Mackintosh, Richard Pethrick, Peter Skabara, Erdan Gu, Nicolas Laurand and Martin Dawson (University of Strathclyde, UK)	<b>Listening to the microworld; non-contact coupling of mechanical signals</b> <u>Arran Curran</u> , Richard Bowman, Alison Yao, Graham Gibson, Jon Cooper and Miles Padgett (University of Glasgow, UK)		<b>Technology strategy board challenges</b> <u>Greg May</u> (Technology Strategy Board)
11.00	<b>Intra-cavity interferometric autocorrelation for ultraviolet pulses by spontaneous parametric down-conversion</b> <u>Patrick Michelberger</u> , Roland Krischek, Witlef Wieczorek, Akira Ozawa and Harald Weinfurter (Max-Planck-Institute for Quantum Optics, Germany)	<b>Carrier population in semiconductor quantum dot lasers between 20 K and 350K</b> <u>Ian O'Driscoll</u> , Matthew Hutchings, Peter Blood and Peter Smowton (Cardiff University, UK)	<b>Designs for a hybrid optical-acoustic trapping system</b> <u>Graham Brodie</u> <sup>1</sup> , Nan Lin <sup>1</sup> , Gabe Spalding <sup>2</sup> and Michael MacDonald <sup>1</sup> ( <sup>1</sup> University of Dundee, UK, <sup>2</sup> Illinois Wesleyan University, USA)		
11.15	<b>Receiver and detection design for full field coherent quantum imaging</b> <u>Ryan Warburton</u> , Frauke Izdebski and Gerald Buller (Heriot-Watt University, UK), Jonathan Leach, Dave Ireland and Miles Padgett (University of Glasgow, UK)	<b>Luminescent concentrators for pumping organic semiconductor lasers</b> <u>Graham Turnbull</u> , Ying Yang and Ifor Samuel (University of St Andrews, UK)	<b>A dual-beam laser trap for detailed X-ray studies in biology</b> <u>Andy Ward</u> <sup>1</sup> , Jen Hiller <sup>2</sup> , Nick Terrill <sup>2</sup> and Stephanie Jones <sup>1</sup> ( <sup>1</sup> STFC, UK, <sup>2</sup> Diamond Light Source, UK)		<b>Joint research and industrial funding in life sciences (TBC)</b> <u>Alex Chaix</u> (TSB & BBSRC)
11.30	<b>Enhanced infrared single-photon detection with front-side fibre coupled superconducting nanowires on optical cavities</b>	<b>Photon noise of peltier-cooled 6.1-mm quantum cascade lasers with a single phonon resonance-continuum depopulation structure</b>	<b>Directed assembly of optically bound matter</b> <u>Michael Summers</u> , Grant Ritchie, Jonny Taylor and Rich Dear (University of Oxford, UK)		

	<u>M G Tanner</u> <sup>1</sup> , C M Natarajan <sup>1</sup> , J A O'Connor <sup>1</sup> , R J Warburton <sup>1</sup> , R H Hadfield <sup>1</sup> , B Baek <sup>2</sup> , S Nam <sup>2</sup> , S N Dorenbos <sup>3</sup> , E Bermúdez Ureña <sup>3</sup> , T Zijlstra <sup>3</sup> , T M. Klapwijk <sup>3</sup> , V Zwiller <sup>3</sup> ( <sup>1</sup> Heriot-Watt University, Edinburgh, UK, <sup>2</sup> National Institute of Standards and Technology, USA, <sup>3</sup> Kavli Institute for Nanoscience, Delft University of Technology, The Netherlands)	Takashi Kataoka <sup>1</sup> , <u>Kenichi Kasahara</u> <sup>1</sup> , Naota Akikusa <sup>2</sup> , Kazuue Fujita <sup>2</sup> and Tadataka Edamura <sup>2</sup> Ritsumeikan University, Japan <sup>1</sup> Hamamatsu Photonics KK, Japan <sup>2</sup>			
11.45	<b>Transfer of ultra-low phase noise microwave references over the JANET Aurora fibre network using a femtosecond optical frequency comb</b> <u>Giuseppe Marra</u> <sup>1,2</sup> , Radan Slavik <sup>2</sup> , Helen S Margolis <sup>1</sup> , Stephen Lea <sup>1</sup> , Periklis Petropoulos <sup>2</sup> , David Richardson <sup>2</sup> and Patrick Gill <sup>1</sup> ( <sup>1</sup> National Physical Laboratory, UK <sup>2</sup> Optoelectronics Research Centre, University of Southampton, UK)	<b>Quasi-phase-matching high-order harmonic generation using ultrafast pulse trains</b> <u>Kevin O'Keefe</u> , Tom Robinson and Simon Hooker (Clarendon Laboratory, UK)	<b>Holographic trapping, manipulation and tracking of micro-rods in multiple Gaussian beams</b> <u>Simon Hanna</u> <sup>1</sup> , Stephen Simpson <sup>1</sup> , David Philips <sup>1</sup> , David Carberry <sup>1</sup> , Mervyn Miles <sup>1</sup> , Graham Gibson <sup>2</sup> and Miles Padgett <sup>2</sup> ( <sup>1</sup> University of Bristol, UK, <sup>2</sup> University of Glasgow, UK)		<b>Nexpresso demonstrator funding (TBC)</b> <u>Chris Gracie</u> (Scottish Optoelectronics Association, UK)
12.00	<b>Using ultra-cold atoms to image two-dimensional electron gases in semiconductor heterostructures</b> <u>German Sinuco-Leon</u> and Mark Fromhold (University of Nottingham, UK)	<b>Influence of gas jet structure on high harmonic generation</b> <u>James Grant-Jacob</u> , Benjamin Mills, Thomas Butcher, Richard Chapman, William Brocklesby and Jeremy Frey (University of Southampton, UK)	<b>Optical landscapes for guiding, manipulating and characterising aerosol particles</b> <u>Jonathan Wills</u> , Toni Carruthers and Jonathan Reid (University of Bristol, UK)		<b>Knowledge transfer partnerships and mini KTPs &amp; grants for R&amp;D</b> <u>Hilary Smith</u> (University of Southampton, UK)
12.15	Lunch (Location: Staff Social Centre)				
12.15	<b>Tutorial 3: TeraHertz in society</b> Martyn Chamberlain (University of Durham, UK) - Location: Nuffield Theatre				
	<b>Session: Quantum information processing I (QEP)</b> Chair: Myungshik Kim (Queen's University Belfast, UK)	<b>Session: Advances in laser science II (QEP)</b> Chair: David Binks (University of Manchester, UK)	<b>Session: Trapping and manipulation II (Joint)</b> Chair: David McGloin (University of Dundee, UK)	<b>Session: FASIG I (OPD)</b> Chair: Pablo Ruiz	<b>Session: ITP5 - Eu Funding</b>
13.45	<b>Invited: Proposal for a quantum dot machine-gun-like source of multiply entangled photons</b> <u>Terry Rudolph</u> (Imperial College London, UK)	<b>Invited: An Intra-cavity Raman Laser using Synthetic Diamond</b> Walter Lubeigt, Gerald Bonner, Jennifer Hastie, Martin Dawson, David Burns and <u>Alan Kemp</u> (University of Strathclyde, UK)	<b>Invited: Dual-beam laser traps in biology and medicine - why one beam is not enough</b> <u>Jochen Guck</u> (Cambridge University, UK)	<b>Invited: A new look at 3D optical metrology</b> <u>Jeremy Coupland</u> (Loughborough University, UK)	<b>Upcoming European framework funding – ICT call 6</b> <u>Peter Walters</u> (TUV & FP7UK)
14.15	<b>Towards high-speed optical quantum memories</b> <u>Klaus Reim</u> <sup>1</sup> , Joshua Nunn <sup>1</sup> , Patrick Michelberger <sup>1</sup> , Virginia Lorenz <sup>2</sup> , Ben Sussman <sup>1,3</sup> , Ka Lee <sup>1</sup> , Nathan Langford <sup>1</sup> , Dieter Jaksch <sup>1</sup> and Ian Walmsley <sup>1</sup> ( <sup>1</sup> Clarendon Laboratory, University of Oxford, UK, <sup>2</sup> Department of Physics, University of Delaware, USA, <sup>3</sup> National Research Council of Canada, Canada)	<b>74 GHz passive harmonic modelocking of a Vertical-External-Cavity Surface-Emitting Laser with 25 mW output power</b> <u>Aleksandr Perevedentsev</u> <sup>1</sup> , Adrian Quarterman <sup>1</sup> , Keith Wilcox <sup>1</sup> , Vasilis Apostolopoulos <sup>1</sup> , Anne Tropper <sup>1</sup> , Ian Farrer <sup>2</sup> and Dave Ritchie <sup>2</sup> ( <sup>1</sup> University of Southampton, UK, <sup>2</sup> University of Cambridge, UK)	<b>Microrheology: realtime monitoring of complex moduli</b> <u>Erika Eiser</u> , Taiki Ynangishima and Dean Frenkel (University of Cambridge, UK)	<b>Fringe analysis for low-coherence interferometric imaging methods</b> <u>Bettina Heise</u> , Stefan Schausberger and David Stifter (CDL MS-MACH, Johannes Kepler University, Austria)	<b>An evaluator's perspective on reviewing EU proposals</b> <u>N Doran</u> (Swansea University, UK)
14.30	<b>Operating quantum waveguide circuits with superconducting single-photon detectors</b> <u>Chandrea Natarajan</u> <sup>1</sup> , Alberto Peruzzo <sup>2</sup> , Shigehito Miki <sup>3</sup> , Masahide Sasaki <sup>3</sup> , Zhen Wang <sup>3</sup> , Burm Baek <sup>4</sup> , Sae Woo Nam <sup>4</sup> , Robert Hadfield <sup>1</sup> , and Jeremy O'Brien <sup>2</sup> , ( <sup>1</sup> Heriot-Watt University, Edinburgh, UK, <sup>2</sup> University of Bristol, UK, <sup>3</sup> National Institute of Information and Communications Technology, Japan, <sup>4</sup> National Institute of Standards and Technology, US)	<b>Fractal laser sources: new analyses, results and contexts</b> <u>James Christian</u> <sup>1</sup> , Graham McDonald <sup>1</sup> , Abi Heyes <sup>1</sup> and Jungang Huang <sup>2</sup> ( <sup>1</sup> University of Salford, UK, <sup>2</sup> City University, UK)	<b>Manipulating blood borne parasites with optoelectronic tweezers (OET)</b> <u>Clemens Kremer</u> , Steven Neale, Michael Barrett and Jonathan Cooper (University of Glasgow, UK)	<b>Whole-field wavelength scanning interferometry using a tunable Ti:Sapphire laser</b> <u>Abundio Davila</u> , Jonathan Huntley, Pablo Ruiz and Jeremy Coupland (Loughborough University, UK)	
14.45	<b>Microfabricated ion trap for scalable quantum processing</b> <u>Alastair Sinclair</u> , Guido Wilpers, Patrick See and Patrick Gill (National Physical Laboratory, UK)	<b>High peak power femtosecond pulse vertical-external-cavity surface-emitting laser</b> <u>Keith Wilcox</u> <sup>1</sup> , Adrian Quarterman <sup>1</sup> , Anne Tropper <sup>1</sup> , Harvey Beere <sup>2</sup> , David Ritchie <sup>2</sup> ( <sup>1</sup> University of Southampton, UK, <sup>2</sup> University	<b>3D tracking, manipulation and force-feedback with stereoscopic optical tweezers</b> <u>Richard Bowman</u> , Graham Gibson and Miles Padgett (University of Glasgow, UK)	<b>Hyperspectral interferometry for single-shot measurement of 3-D shape and displacement fields</b> <u>Taufiq Widjanarko</u> , Jonathan Huntley and Pablo Ruiz (Loughborough University, UK)	<b>Improving your chances in FP7 (TBC)</b>

15.00	<b>Robust GigaHertz clock rate quantum key distribution</b> <u>Patrick Clarke</u> <sup>1</sup> , Robert Collins <sup>1</sup> , Philip Hiskett <sup>1,2</sup> , Nils Krichel <sup>1</sup> , Chandrea Natarajan <sup>1</sup> , Robert Hadfield <sup>1</sup> , Paul Townsend <sup>3</sup> and Gerald Buller <sup>1</sup> ( <sup>1</sup> Heriot-Watt University, UK, <sup>2</sup> Now at: SELEX Galileo, UK, <sup>3</sup> University College Cork, Cork, Ireland)	of Cambridge, UK) <b>Improved materials and resonators for hybrid organic semiconductor lasers</b> <u>Georgios Tsiminis</u> <sup>1</sup> , Y Wang <sup>1</sup> , N Montgomery <sup>1</sup> , A Kanibolotsky <sup>2</sup> , A Ruseckas <sup>1</sup> , P Skabara <sup>2</sup> , M Dawson <sup>2</sup> , G A Turnbull <sup>1</sup> and I Samuel <sup>1</sup> ( <sup>1</sup> University of St Andrews, UK, <sup>2</sup> University of Strathclyde, UK)	<b>Correlating the deformability and differentiability of hematopoietic precursor cells using an optical stretcher</b> <u>Andrew Ekpenyong</u> <sup>1</sup> , Franziska Lautenschläger <sup>1</sup> , Ada Olins <sup>2</sup> , Donald Olins <sup>2</sup> and Jochen Guck <sup>1</sup> ( <sup>1</sup> University of Cambridge, UK, <sup>2</sup> Bowdoin College, USA)	<b>High-speed, sub-Nyquist speckle pattern interferometry using binary diffraction gratings</b> <u>Andrew J Moore</u> , Tao Wu and Jesus Valera (Heriot-Watt University, UK)	
15.15	Refreshments (Location: Staff Social Centre)	<b>Prospects of laboratory X-ray laser creation on the basis of channeling charged particles in perfect crystals</b> <u>Mykhaylo Vysotsky</u> and Vladimir Vysotskii (Kiev National Shevchenko University, Ukraine)			
15.30					
15.45	<b>Session: Quantum information processing II &amp; quantum coherent control (QEP)</b> Chair: Ben Whittaker (University of Leeds, UK)	<b>Session: Polarisation optics (OPD)</b> Chair: Mark Dennis (University of Bristol, UK)	<b>Session: Optics and microfluidics (Joint)</b> Chair: David McGloin (University of Dundee, UK)	<b>Session: FASIG II (OPD)</b> Chair: Pablo Ruiz (Loughborough University, UK)	<b>Session: ITP6 Proposal Concepts</b>
15.45	<b>Zone-plate focusing of Bose-Einstein condensates for atom optics and erasable high-speed lithography of quantum electronic components</b> <u>Mark Fromhold</u> (University of Nottingham, UK)	<b>Invited: Vectorial polarimetry: a far field microscopy method to characterise 3D EM fields</b> <u>David Lara</u> <sup>1</sup> , Oscar Rodríguez <sup>2</sup> and Chris Dainty <sup>2</sup> ( <sup>1</sup> Imperial College London, UK, <sup>2</sup> National University of Ireland, Ireland)	<b>Invited: Trapping DNA Oligos using optically driven microflow</b> <u>Dieter Braun</u> and Franz Weinert (Ludwig-Maximilians University, München, Germany)	<b>An interferometric technique for absolute and precise distance measurement at long range</b> <u>Matthew Warden</u> and David Umer (University of Oxford, UK)	<b>Collaborative development proposal pitches and concepts 12, 5 min presentations</b>
16.00	<b>Quantum random walks in photonic integrated circuits</b> <u>Alberto Peruzzo</u> <sup>1</sup> , Nobuyuki Matsuda <sup>2</sup> , Jonathan Matthews <sup>1</sup> , Alberto Politi <sup>1</sup> , Konstantinos Poullos <sup>1</sup> , Mirko Lobino <sup>1</sup> , Xiao-Qi Zhou <sup>1</sup> , Nur Ismail <sup>3</sup> , Kerstin Wörhoff <sup>3</sup> , Yaron Bromberg <sup>4</sup> , Yoav Lahini <sup>4</sup> , Yaron Silberberg <sup>4</sup> , Mark Thompson <sup>1</sup> and Jeremy O'Brien <sup>1</sup> ( <sup>1</sup> University of Bristol, UK, <sup>2</sup> Tohoku University, Japan, <sup>3</sup> University of Twente, The Netherlands, <sup>4</sup> The Weizmann Institute of Science, Israel)			<b>Optimum long range metrology with the use of the method of excess fractions</b> <u>Konstantinos Falaggis</u> , David Towers and Catherine Towers (University of Leeds, UK)	
16.15	<b>A trapped single ion inside a Bose-Einstein condensate</b> <u>Carlo Sias</u> , Christoph Zipkes, Stefan Palzer and Michael Koehl (University of Cambridge, UK)	<b>Particle-swarm optimization of superresolving diffractive optical elements for radially polarized light</b> <u>Jari Lindberg</u> and Mark Dennis (University of Bristol, UK)	<b>Microfluidic integration of a high power dual-beam laser trap for cell mechanical measurements</b> <u>Franziska Lautenschlaeger</u> <sup>1</sup> , Michael Beil <sup>2</sup> and Jochen Guck <sup>1</sup> ( <sup>1</sup> University of Cambridge, UK, <sup>2</sup> University of Ulm, Germany)	<b>Metrology of thin films using interferogram analysis techniques</b> <u>Daniele Dipresa</u> , Catherine Towers and David Towers (University of Leeds, UK)	
16.30	<b>A compiled version of Shor's quantum factoring algorithm on a waveguide chip</b> <u>Alberto Politi</u> , Jonathan Matthews and Jeremy O'Brien (University of Bristol, UK)	<b>Birefringence in low index-contrast 1D and 2D photonic bandgap materials</b> <u>Andrew Waddie</u> , Florian Hudelist and Mohammad Taghizadeh (Heriot-Watt University, UK)	<b>Simultaneous multi-parameter mapping of microfluidic devices using fluorescence lifetime imaging microscopy, micro-particle imaging velocimetry, optical tweezers and time-correlated single photon counting</b> <u>Mathieu Bennet</u> <sup>1,2</sup> , Patricia Richardson <sup>1,2</sup> , Jochen Arit <sup>2</sup> , Aongus McCarthy <sup>3</sup> , Gerald Buller <sup>3</sup> , David Mendels <sup>4</sup> and Anita Jones <sup>1,2</sup> ( <sup>1</sup> School of Chemistry and <sup>2</sup> Collaborative Optical Spectroscopy, Micromanipulation and Imaging Centre, University of Edinburgh, UK, <sup>3</sup> Heriot-Watt University, UK, <sup>4</sup> Cognoscens, France)	<b>Elimination of the background of dynamic speckle interferometry signals by circling their associated analytic signals</b> <u>Sébastien Equis</u> <sup>1</sup> , Pierre Jacquot <sup>1</sup> and Patrick Flandrin <sup>2</sup> ( <sup>1</sup> Swiss Federal Institute of Technology, Switzerland, <sup>2</sup> Ecole Normale Supérieure de Lyon, France)	
16.45	<b>Cluster state generation using fibre sources</b> <u>Alex Clark</u> <sup>1</sup> , Matthaeus Halder <sup>1</sup> , Jérémie Fulconis <sup>1</sup> , Bryn Bell <sup>1</sup> , Mark Tame <sup>2</sup> , Myungshik Kim <sup>2</sup> , Chunle Xiong <sup>3</sup> , William Wadsworth <sup>3</sup> and John Rarity <sup>1</sup> ( <sup>1</sup> University of Bristol, UK, <sup>2</sup> The Queen's University, Belfast, UK, <sup>3</sup> University of	<b>Polarisation-dependent Goos-Hänchen shift at a graded dielectric interface</b> <u>Wolfgang Löffler</u> <sup>1</sup> , Martin van Exter <sup>1</sup> , Gert 't Hooft <sup>1</sup> , Eric Eliel <sup>1</sup> , Ko Hermans <sup>2</sup> , Dick J Broer <sup>2</sup> and Johannes Woerdman <sup>1</sup> ( <sup>1</sup> Leiden University, The Netherlands, <sup>2</sup> University of Technology	<b>Ultrasensitive cavity enhanced absorption spectroscopy of reaction kinetics in liquids with broad bandwidth supercontinuum radiation</b> <u>Ssegawa-Ssekintu Kiwanuka</u> , Toni Laurila and Clemens Kaminski (University of Cambridge, UK)	<b>Statistics of derivatives for complex signal representation of speckle pattern from Riesz transform and its application to pseudo stokes vector correlation</b> <u>Wei Wang</u> <sup>1</sup> , Shun Zhang <sup>1</sup> , Andrew Moore <sup>1</sup> , Steen Hanson <sup>2</sup> and Mituso Takeda <sup>3</sup> ( <sup>1</sup> Heriot-Watt University, UK, <sup>2</sup> DTU Fotonik,	

	Bath, UK)	Eindhoven, The Netherlands)		Denmark, <sup>3</sup> The University of Electro-Communications, Japan)	
17.00	<b>Bell inequality violation with bipartite entangled photonic qubits</b> Adetunmise Dada <sup>1</sup> , Ryan Warburton <sup>1</sup> , Barry Jack <sup>2</sup> , Jonathan Leach <sup>2</sup> , Erika Andersson <sup>1</sup> , Gerald Buller <sup>1</sup> , and Miles Padgett <sup>2</sup> ( <sup>1</sup> Heriot-Watt University, UK, <sup>2</sup> University of Glasgow, UK)	<b>Displacements effects for structured light on reflection</b> Jörg Götze and Mark Dennis (University of Bristol, UK)	<b>Dynamic switching of liquid crystal filled polymer structure devices</b> Garry Lester, Steven Coulston and Adrian Strudwick (L-lectronics Ltd, UK)	<b>Experimental determination of the point spread function and its effect in coherence scanning interferometry</b> Kanik Palodhi <sup>1</sup> , Jeremy Coupland <sup>1</sup> and Richard Leach <sup>2</sup> ( <sup>1</sup> Loughborough University, UK, <sup>2</sup> National Physical Laboratory, UK)	ITP Close
17.15					
17.15	Posters/Exhibition (Location: Staff Social Centre) Laboratory Tours				
18.30	Drinks Reception (Location: Gallery, Guild Hall)				
19.30	Conference Dinner (Location: Guild Hall)				
23.00	End				

#### Thursday 26 August

08.30	Registration (Location: Staff Social Centre)				
09.00	<b>Plenary: The birth of the laser</b> Colin Webb (Oxford Lasers, UK) Location: Nuffield Theatre Chair: Robert Eason (University of Southampton, UK)				
09.30	Refreshments (Location: Staff Social Centre)				
Location	Nuffield Theatre		Arts Lecture Theatre H		Arts Lecture Theatre J
	<b>Session: Quantum optics (QEP)</b> Chair: John Rarity (University of Bristol, UK)		<b>Session: Computational photonics (OPD)</b> Chair: Mark Molinari (University of Southampton, UK)		<b>Session: Diffractive optics I (OPD)</b> Gordon Love (University of Durham, UK)
10.00	<b>Invited: Coherent control of decoherence: learning about what's going on while doing something about it</b> Ian Walmsley <sup>1</sup> , Joshua Nunn <sup>1</sup> , Matthijs Branderhorst <sup>1</sup> , Piotr Wasylczyk <sup>1</sup> , Pablo Londero <sup>1</sup> , Constantin Briet <sup>2</sup> , Herschel Rabitz <sup>2</sup> and Robert Kosut <sup>3</sup> ( <sup>1</sup> University of Oxford, UK, <sup>2</sup> Princeton University, USA, <sup>3</sup> SCSolutions Inc, USA)		<b>Invited: Combining Computation With Analysis: The Universality of Resonance</b> Steven Johnson (Massachusetts Institute of Technology, USA)		<b>Invited: Liquid Crystal nanophotonic diffractive optical elements</b> Timothy Wilkinson, Qing Dai, Ranjith R, KangLee Kwon and Haider Butt (University of Cambridge, UK)
10.30	<b>Up on the Jaynes-Cummings ladder of a quantum dot-microcavity system</b> Wolfgang Langbein <sup>1</sup> , Jacek Kasprzak <sup>1</sup> , Egor Muljarov <sup>1</sup> , Stephan Reitzenstein <sup>2</sup> , C Kistner <sup>2</sup> , C Schneider <sup>2</sup> , M Strauss <sup>2</sup> , S Höfling <sup>2</sup> and A Forchel <sup>2</sup> ( <sup>1</sup> Cardiff University, UK, <sup>2</sup> Universität Würzburg and Röntgen Research Center for Complex Material Systems, Germany)		<b>Analytical single- and multi-particle scattering model to simulate the interaction of light with biological tissue</b> Lars Boyde, Moritz Kreysing, Kevin Chalut and Jochen Guck (University of Cambridge, UK)		<b>Multiple beam refractive index modification of PMMA</b> Dun Liu <sup>1</sup> , Walter Perrie <sup>1</sup> , Zheng Kuang <sup>1</sup> , Patricia Scully <sup>2</sup> , Shijie Liang <sup>2</sup> , Alexandra Baum <sup>2</sup> , Anca Taranu <sup>2</sup> , Stuart Edwardson <sup>1</sup> , Eamonn Fearon <sup>1</sup> , Geoff Dearden <sup>1</sup> and Ken Watkins <sup>1</sup> ( <sup>1</sup> University of Liverpool, UK, <sup>2</sup> University of Manchester, UK)
10.45	<b>A quantum dot based photon-spin quantum interface</b> Andrew Young <sup>1</sup> , John Rarity <sup>1</sup> , Ruth Oulton <sup>1</sup> , Chengyong Hu <sup>1</sup> , Arthur Thijssens <sup>1</sup> and Sven Hoefling <sup>2</sup> ( <sup>1</sup> University of Bristol, UK, <sup>2</sup> Universität Würzburg, Germany)		<b>Theoretical prediction of light backscattering properties of plasmonic nanocomposites</b> Olivier Deparis <sup>1</sup> , Martynas Beresna <sup>2</sup> and Peter G Kazansky <sup>2</sup> ( <sup>1</sup> University of Namur (FUNDP), Belgium, <sup>2</sup> University of Southampton, UK)		<b>Adaptive optics for direct writing in three-dimensional nano-fabrication</b> Martin Booth, Alexander Jesacher, Richard Simmonds and Tony Wilson (University of Oxford, UK)
11.00	<b>Ultrathin optical fibres as spectroscopic tools in cold atom optics</b> Laura Russell <sup>1</sup> , Kieran Deasy <sup>1</sup> , Mark Daly <sup>1</sup> , Amy Watkins <sup>1</sup> , Michael Morrissey <sup>2</sup> and Sile Nic Chormaic <sup>1</sup> ( <sup>1</sup> Tyndall National Institute, Ireland, <sup>2</sup> Institute of Electronic Structure and Lasers, FORTH, Heraklion, Greece)		<b>Modelling Biomimetic Moth-eye Structures for Antireflection Surfaces</b> Asa Asadollahbaik, Stuart Boden, Marc Molinari, Simon Cox and Darren Bagnall (University of Southampton, UK)		<b>Application of a spatial light modulator to laser machining in the nanosecond regime</b> Jonathan Parry <sup>1</sup> , Rainer Beck <sup>1</sup> , Nick Weston <sup>2</sup> , Jonathan Shephard <sup>1</sup> and Duncan Hand <sup>1</sup> ( <sup>1</sup> Heriot-Watt University, UK, <sup>2</sup> Renishaw plc, UK)
11.15	<b>Quantum optical theory of surface plasmon polaritons</b> Mark Tame <sup>1</sup> , Daniel Ballester <sup>2</sup> and Myungshik Kim <sup>1,2</sup> ( <sup>1</sup> Imperial College London, UK, <sup>2</sup> Queen's University Belfast, UK)		<b>Anomalies of supercontinuum light analysed by experiment and simulation</b> Eric Rees, Chu Liu, Ssegawa Kiwanuka, Toni Laurila, Clemens Kaminski and Geoff Moggridge (University of Cambridge, UK)		<b>Parallel diffractive multi-beam laser surface micro-structuring</b> Stuart Edwardson, Walter Perrie, Zheng Kuang, Dun Liu, Geoff Dearden and Ken G Watkins (University of Liverpool, UK)
11.30	Refreshments (Location: Staff Social Centre)				
	<b>Session: Atom Photon Interactions (QEP)</b>		<b>Session: Advances in TeraHertz technology and quantum metrology II</b>		<b>Session: Diffractive optics II (OPD)</b>

	Chair: Mark Fromhold (University of Nottingham, UK)	(Joint) Chair: Paul Harrison (University of Leeds, UK)	Martin Booth (University of Oxford, UK)
12.00	<b>Invited: Storing an alphabet of two-mode squeezed states</b> <u>Thomas Fernholz</u> <sup>1,2</sup> , Kasper Jensen <sup>2</sup> , Woiciech Wasilewski <sup>2,3</sup> , Hanna Krauter <sup>2</sup> , Bo Melholt Nielsen <sup>2</sup> , Alessio Serafini <sup>4</sup> , Masaki Owar <sup>5</sup> , Martin Plenio <sup>5</sup> , Michael Wolf <sup>2</sup> and Eugene Polzik <sup>2</sup> ( <sup>1</sup> University of Nottingham, UK, <sup>2</sup> Copenhagen University, Denmark, <sup>3</sup> University of Warsaw, Poland, <sup>4</sup> University College London, UK, <sup>5</sup> Universität Ulm, Germany)	<b>Invited: On-chip terahertz systems for imaging and spectroscopy</b> <u>John Cunningham</u> (University of Leeds, UK)	<b>Invited: Characterization of liquid crystal on silicon displays and its use in diffractive optics</b> <u>Juan Campos</u> <sup>1</sup> , Angel Lizana <sup>1</sup> , Andres Márquez <sup>2</sup> , Ignacio Moreno <sup>3</sup> , Claudio Iemmi <sup>4</sup> , Laura Lobato <sup>1</sup> and Maria Yzuel <sup>1</sup> ( <sup>1</sup> Universidad Autónoma de Barcelona, Spain, <sup>2</sup> Univ. de Alicante, Spain, <sup>3</sup> Univ. Miguel Hernández, Spain, <sup>4</sup> Univ. de Buenos Aires, Argentina)
12.30	<b>Interfacing ions and photons at the single quantum level</b> <u>Wolfgang Lange</u> , Matthias Keller, Anders Mortensen, Alexander Wilson, Daniel Crick, Fedja Orucevic, Hiroki Takahashi, Valentina Ruseva, Nicolas Seymour-Smith and Elisabeth Brama, (University of Sussex, UK)	<b>A novel multiplexed THz spatial modulator for fast, sub-wavelength imaging and spectroscopy</b> <u>Jedrzej ("Andrew") Szalc</u> and Harvey Rutt (Optoelectronics Research Centre, UK)	<b>Design and fabrication of large diameter nanostructured microlenses</b> <u>Andrew Waddie</u> <sup>1</sup> , Jędrzej Nowosielski <sup>1</sup> , Florian Hudelist <sup>1</sup> , Ryszard Buczynski <sup>1</sup> , Adam Filipkowski <sup>2</sup> , Dariusz Pysz <sup>2</sup> , Ryszard Stepień <sup>2</sup> and Mohammad Taghizadeh <sup>1</sup> ( <sup>1</sup> Heriot-Watt University, UK, <sup>2</sup> Glass Laboratory, ITME, Poland)
12.45	<b>A single-molecule optical transistor</b> <u>Jaesuk Hwang</u> <sup>1,2</sup> , Martin Pototschnig <sup>2</sup> , Robert Lettow <sup>2</sup> , Gert Zumofen <sup>2</sup> , Alois Renn <sup>2</sup> , Stephan Goetzinger <sup>2</sup> and Vahid Sandoghdar <sup>2</sup> (Imperial College London, UK, ETH Zurich, Switzerland)	<b>Superconducting single-photon detector system for quantum optics at telecom wavelengths</b> <u>Catherine Fitzpatrick</u> <sup>1</sup> , Robert Hadfield <sup>2</sup> , Alastair Sinclair <sup>1</sup> , Chandra Natarajan <sup>2</sup> , Burm Baek <sup>3</sup> , Sae Woo Nam <sup>3</sup> , Shigehito Miki <sup>4</sup> , Zhen Wang <sup>4</sup> and Masahide Sasaki <sup>4</sup> ( <sup>1</sup> National Physical Laboratory, UK, <sup>2</sup> Heriot-Watt University, UK, <sup>3</sup> National Institute of Standards and Technology (NIST), USA, <sup>4</sup> National Institute of Information and Communications Technology (NICT), Japan)	<b>Post-paraxial aberration in the Talbot effect</b> <u>James Ring</u> , Jari Lindberg and Mark Dennis (University of Bristol, UK)
13.00	<b>Coherent control of atoms on atom chips using STIRAP</b> <u>Tadhg Morgan</u> and Thomas Busch (University College Cork, Ireland)	<b>Long-range three-dimensional depth profiling using time-correlated single-photon counting</b> <u>Nils Krichel</u> , Aongus McCarthy and Gerald Buller (Heriot-Watt University, UK)	<b>Picosecond laser processing using tunable annular beam generated by a spatial light modulator</b> <u>Dun Liu</u> , Walter Perrie, Zheng Kuang, S P Edwardson, Eamonn Fearon, Geoff Dearden and Ken G Watkins (University of Liverpool, UK)
13.15	<b>Four-wave mixing in a hot vapour as a source of quantum light</b> <u>Vincent Boyer</u> and Matthew Turnbull (University of Birmingham, UK)	<b>Entanglement distribution with 810 nm photons through telecom fibres</b> <u>Evan Meyer-Scott</u> <sup>1</sup> , Hannes Hübel <sup>1</sup> , Alessandro Fedrizzi <sup>2</sup> , Chris Erven <sup>1</sup> , George Weihs <sup>3</sup> and Thomas Jennewein <sup>1</sup> ( <sup>1</sup> Institute for Quantum Computing, University of Waterloo, Canada, <sup>2</sup> University of Queensland, Australia, <sup>3</sup> University of Innsbruck, Austria)	<b>Deep diffractive liquid crystal lenses</b> <u>Gordon Love</u> <sup>1</sup> , G Berkhout <sup>2,3</sup> , E Buis <sup>2</sup> , M Collon <sup>2</sup> , S Hennemann <sup>2</sup> , A Kirby <sup>1</sup> and J Taylor <sup>1</sup> ( <sup>1</sup> Durham University, UK, <sup>2</sup> Cosine Research BV, The Netherlands, <sup>3</sup> Leiden University, The Netherlands)
13.30	End of Conference and Lunch (Location: Staff Social Centre)		