

Poster programme - Monday 23 August

OPD

Advances in imaging

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Image processing using fractional diffusion to model intermediate strength photon scattering

J Blackledge (Dublin Institute of Technology, Ireland)

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Single-photon and two-photon DC and RF optical beam induced current microscopy of InGaN light emitting diodes

G Norris¹, S-J Wu², F-J Kao² and G McConnell¹ (¹University of Strathclyde, UK, ²National Yang-Ming University, Taiwan)

P.1-03

Construction and performance of a custom-built cost-effective "open source" confocal laser scanning microscope

R Amor¹, J Dempster¹, W Bradshaw Amos² and G McConnell¹ (¹Centre for Biophotonics, SIPBS, University of Strathclyde, UK, ²MRC Laboratory of Molecular Biology, UK)

P.1-04

Conical refraction focal farness

A Abdolvand¹, W G Wilcox¹, T K Kalkandjiev^{2,3}, E U Rafailov¹ (¹School of Engineering, Physics and Mathematics, University of Dundee, UK, ²Departament de Física, Universitat Autònoma de Barcelona, Spain, ³Conerefringent Optics SL, Barcelona, Spain)

P.1-05

Remote identification of chemicals concealed behind clothing by combining imaging and spectroscopy in the near infrared range

C Canal, A Saleem, R J Green and D A Hutchins (School of Engineering, University of Warwick, UK)

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Optical diagnostics in high-speed fuel spray

R Zakaria and P Bryanston-Cross (University of Warwick, UK)

Biophotonics

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Maximising the utility of single particle tracking on a sub-cellular scale

C Saunter, J Girkin, G Love and R Quinlan (Durham University, Department of Physics, UK)

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Spatial modulation microscopy: applications in bio-sensing

N Fairbairn and O Muskens (University of Southampton, UK)

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Combined Monte-Carlo modelling and optical ray-tracing for biological imaging

G Muyo, A Gorman and A Harvey (Heriot-Watt University, UK)

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Femtosecond laser inscription of an integrated biochip for trapping and probing cells

D Choudhury, T Grunemann, S Beecher, R Thomson, N Psaila, G Brown, A Kar and L Paterson (Heriot-Watt University, UK)

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Characterization of SU8 polymer microring resonators using visible wavelength light source.

M H M Salleh, A Glidle, and J M Cooper (Bioelectronics Group, Department of Electronics & Electrical Engineering, University of Glasgow, UK)

Fibre optic sensors

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Conjugation of quantum dots and aptamers on an optical fibre for cocaine detection

E Galbraith and T Sun (City University London, UK)

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Optical sensing for hydrogen in humid environments

A Nabeerasool¹, J Vaughan¹, P Scully¹ and R Maier² (¹University of Manchester, UK, ²Heriot Watt University, UK)

Fibre optics and waveguides

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Realisation of photonic Hilbert transformer with a simple planar Bragg grating

C Sima, J Gates, B Snow, H Rogers, M Zervas and P Smith (University of Southampton, UK)

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Optical pulses with spatial dispersion - exact solitons and relativity

J Christian¹, G McDonald¹, T Hodgkinson¹ and P Chamorro-Posada² (¹University of Salford, UK, ²Universidad de Valladolid, Spain)

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Simulating the Brillouin response of arbitrary optical fibres with a finite element method

S Dasgupta, Francesco Poletti and David Richardson (Optoelectronics Research Center, UK)

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Coupled mode analysis for the diffused channel waveguide array

K C Patra, S Srivastava, E K Sharma (University of Delhi South Campus, India)

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A loss comparison of flat-fibre and silica-on-silicon direct uv written waveguides using a Novel Bragg grating measurement technique

A Sumiaty, H Rogers, A Webb, J Gates, C Holmes, P Smith and J Sahu (Optoelectronics Research Centre, UK)

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Monitoring the deflection of a membrane using direct UV written planar Bragg gratings

C Holmes, J Gates and P Smith (University of Southampton, UK)

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Investigation of two-stage concatenated EDFAs with LPG written in it

A Kapoor, Rashmi Singh and Enakshi K Sharma (University of Delhi, India)

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Novel structures of plastic optical fibre for daylighting application

J Munisami and D Kalymnios (London Metropolitan University, UK)

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Sub-wavelength light confinement in optical fibres and tapers using surface plasmons

M Ding, F Renna and G Brambilla (Optoelectronics Research Center, UK)

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Active waveguide fabrication using pulsed laser deposition

Z Zhao, G Jose, P Steenson and A Jha (University of Leeds, UK)

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Active attenuation control of long-period fiber grating written in Erbium-doped fiber

R S Singh and E K Sharma (University of Delhi, India)

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Study of the amplification characteristics of a coaxial EDF with varying coupling conditions

J Anand, J K Anand and E K Sharma (University of Delhi, India)

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Transport of OAM quNits through few-mode optical fibres

W Löffler¹, T G Euser², M. Scharrer², P St.-J Russell², E R Elie¹, and J P Woerdman¹ (¹Huygens Laboratory, Leiden University, The Netherlands, ²Max Planck Institute for the Science of Light, Germany)

Optical diagnostic engineering

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Speckle velocimetry for high accuracy and multi-dimensional odometry

T Charrett and R Tatam (Cranfield University, UK)

Optical environmental sensing

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Properties of CuInSe₂ and Mo thin films produced by pulsed d.c magnetron sputtering for solar cell fabrication.

S Karthikeyan, A Hill, J Cowpe and R Pilkington (University of Salford, UK)

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Wavefront aberrations deduced from volumetric scattering

N A Bharmal (Department of Physics, Durham University, UK)

Optical tweezing and micro-manipulation

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Conversion of spin angular momentum beams to orbital angular momentum beams probed using optical tweezers

Y Zhao¹, D Shapiro¹, D McGloin², D T Chiu³ and S Marchesini¹ (¹Advanced Light Source, Lawrence Berkeley National Laboratory, USA, ²University of Dundee, UK, ³University of Washington, USA)

Singular optics and vortices

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Perturbation theory of angular momentum operator for optical beams

J Lindberg and M Dennis (H H Wills Physics Laboratory, University of Bristol, UK)

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Unit converter of LG mode azimuthal index

A Khoroshun (Vladimir Dal East-Ukrainian National University, Ukraine)

QEP

Advances in Laser Science

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Efficient single-pass resonantly pumped Ho:YAG laser

I Elder¹ and T Kendall² (¹Selex Galileo, UK, ²DSTL, UK)

Metamaterials and cloaking

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Measurement of inverse Doppler effect in photonic crystals

J Chen¹, Y Wang^{1,2}, T Geng¹ and S Zhuang¹ (¹University of Shanghai for Science and Technology, China, ²Jiangxi Normal University, China)

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Negative refraction properties in anisotropic magnetic materials

T Geng, S Zhuang and J Chen (University of Shanghai for Science and Technology, China)

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Asymmetric transmission as a generic property of periodically structured interfaces

E Plum, V Fedotov and N Zheludev (University of Southampton, UK)

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Solitonic and waveguide control in complex metamaterial structures

R Mitchell-Thomas, A Boardman, P Egan, Y Rapoport and L Velasco (University of Salford, UK)

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Collective dynamics in ensembles of asymmetric split ring meta-molecules

S Jenkins and J Ruostekoski (University of Southampton, UK)

Nanophotonics and plasmonics

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Isotropic diffraction from a two-dimensional biomimetic self-assembled 'moth-eye' grating

P Stavroulakis, S Boden, A Asadollahbaik and D Bagnall (University of Southampton, UK)

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Actively-tuned plasmons on elastomerically-driven Au nanoparticle dimers

F M Huang and J Baumberg (University of Cambridge, UK)

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Characterisation of light scattering through textured ZnO films and comparison with nanoparticle enhanced alternatives for thin film solar cell applications

D Payne¹, O Clark¹, T Temple² and D Bagnall¹ (¹University of Southampton, UK, ²Delft University of Technology, The Netherlands)

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Fast localized modes in new type optical coaxial nanowaveguides

O Kozina¹, L Melnikov² and I Nefedov³ (¹Saratov Branch of the of the Kotel'nikov Institute of Radio-Engineering and Electronics of Russian Academy of Science, Russia, ²Saratov State Technical University, Russia, ³Helsinki University of Technology, Finland)

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Nonlinear ultrafast switching using plasmonic nanoantennas

M Abb¹, N Large^{2,3}, J Aizpurua² and O L Muskens¹ (¹University of Southampton, UK, ²DIPC and CSIC-UPV/EHU, Spain, ³CEMES / Université de Toulouse, France)

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Finite-difference time-domain simulation of surface plasmon polaritonic crystals

D Fedyanin (Moscow Institute of Physics and Technology, Russia)

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Influence of the substrate material on the optical response of the plasmonic gratings.

F Djidjeli and D Bagnall (University of Southampton, UK)

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Exotic plasmonic crystals for enhanced light extraction from high index substrates

J S Bouillard, D O'Connor, W Dickson and A Zayats (Queen's University Belfast, UK)

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Nonlinear STM plasmonics

M Lenner^{1,2}, P Dombi², P Racz² and N Kroo² (¹ABB Switzerland Ltd, Corporate Research Centre, Switzerland, ²Research Institut for Solid-State Physics and Optics, The Hungarian Academy of Sciences, Hungary)

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Temporal behaviour of non-linear plasmonic cavity modes excited by ultra-short pulses

C G Biris and N C Panouiu (Department of Electronic and Electrical Engineering, University College London, UK)

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Surface-Enhanced Raman Spectroscopy (SERS) using metal colloids towards biological sensing
C A Smyth, Y P Rakovich and E M McCabe (Semiconductor Research Group, School Of Physics, Trinity College Dublin, Ireland)

Nonlinear Optics

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Laser induced nutation of dipole vectors and Quantum superposition

R Bordoloi¹, R Bora² and G Baruah³ (¹Tinsukia College, India, ²Namrup College, India, ³Dibrugarh University, India)

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Bragg-scattering induced parametric instabilities and formation of solitons trains in polariton condensates

D Skryabin (University of Bath, UK)

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Twisted vortex-antivortex pairs in 3D optical speckle patterns

A Okulov (General Physics Institute RAS, Russia)

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Stabilisation of laser solitons and vortex solitons by coupling to a resonant linear system

W J Firth¹, S Jana^{1,2} and P Paulau³ (¹SUPA and University of Strathclyde, UK, ²Ajay Kumar Garg Engineering College, India, ³IFISC (CSIC-UIB), Campus Universitat Illes Balears, Spain)

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Black and grey soliton refraction at interfaces

G McDonald¹, J Sanchez-Curto² and P Chamorro-Posada² (¹University of Salford, UK, ²Universidad de Valladolid, Spain)

Quantum dots

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Scanning transmission electron microscopy study of InP quantum dots

Y Qiu, A Krysa, T Cuills and T Walther (University of Sheffield, UK)

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The effect of millitesla magnetic fields on the electron-nuclear spin dynamics in self-assembled InGaAs quantum dots

R Oulton (Bristol University, UK)

Singularities and optical vortices

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Sorting orbital angular momentum with transformation optics

J Courtial¹, M Lavery¹, G Berkhout² and T Tyc³ (¹University of Glasgow, UK, ²Leiden University, The Netherlands, ³Masaryk University, Czech Republic)

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OAM for atom trapping

G Walker, A Vernier and S Franke-Arnold (University of Glasgow, UK)

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Reflection of LG beam through Phase Conjugation mirror.

A Thakur^{1,2} and J Berakdar² (¹Max Planck Institute of Microstructure Physics, Germany, ²Institute of Physics, Martin Luther University, Germany)

Slow light

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Slow light in SBS: on the irrelevance of Kramers-Kronig relations to Stokes pulse delay

V Kovalev and R Harrison (Heriot-Watt University, UK)

Non-linear optics

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A new nonlinear-wave-equation formalism for stimulated Brillouin scattering

V Kovalev and Robert Harrison (Heriot-Watt University, UK)

Structured materials and structured colour

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Universal Snell's law & bright spatial soliton refraction

J Sánchez-Curto¹, P Chamorro-Posada¹, J Christian², G McDonald² and E McCoy² (Universidad de Valladolid, Spain, ²University of Salford, UK)

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Optical study of GaSb-based epitaxial layers for type II superlattices application using fractional derivative spectrum and spectroscopic ellipsometry

W Rzdokiewicz¹, E Papis¹, A Jasik¹, K Reginski¹, J Kaniewski¹, J Szade², A Wawro³, T Malachowski¹ (¹Institute of Electron Technology, Poland, ²Institute of Physics, University of Silesia Ul., Poland, ³Institute of Physics, Polish Academy of Sciences, Poland)