

The Enlighten Conference

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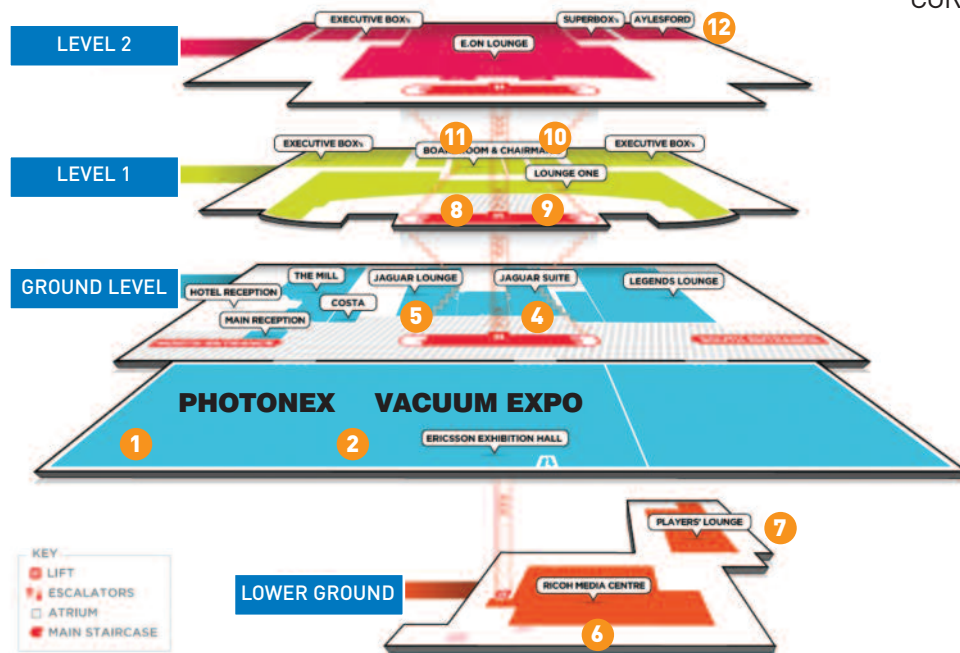


VacuumExpo



WEDNESDAY 11TH & THURSDAY 12TH OCTOBER 2017 · RICOH ARENA COVENTRY UK

GUIDE TO CONFERENCES, MEETINGS AND TALKS



CORPORATE SPONSOR



Wednesday Conferences & Meetings

Meeting Title	Room Name	Theatre	Floor
H2020 Photonics UK Information & Brokerage Event	Aylesford Suite	12	Level 2
IEEE High Power Diode Lasers & Systems Conference	Media Centre	6	Lower Ground
Hyperspectral Imaging	Exhibition Hall	1	Ground
Laser Safety Training	Jaguar Suite	4	Ground
Metal Powder-based Additive Manufacturing	Jaguar Suite	4	Ground
Optical Engineering & Design	Lounge North	8	Level 1
Photonics Showcase – Application Tutorials, Training and New Product Launch Pad	Exhibition Hall	2	Ground
Silicon Photonics Adoption in UK Industry – Impact by Collaboration	Jaguar Lounge	5	Ground
Thin Film and Coating Technologies for Science & Industry (VS8)	Lounge South	9	Level 1
Technological Plasma Workshop (VS8)	Chairman's Boardroom	11	Level 1
VTC1, VTC2, VTC6 (VS8)	Players Lounge	7	Lower Ground
VTC5 (VS8)	Chairmans Lounge	10	Level 1

Thursday Conferences & Meetings

Meeting Title	Room Name	Theatre	Floor
Graphene & Emerging 2D Materials	Lounge South	9	Level 1
IEEE High Power Diode Lasers & Systems Conference	Media Centre	6	Lower Ground
Launchpad & Tutorials	Exhibition Hall	2	Ground
Optical Metrology for Manufacturing	Jaguar Suite	4	Ground
RGA 13 – The Residual Gas Analyser (VS8)	Jaguar Lounge	5	Ground
Surface Analysis – Innovations & Solutions for Industry	Lounge North	8	Level 1
Technological Plasma Workshop (VS8)	Chairman's Boardroom	11	Level 1
Vision & Imaging Programme	Exhibition Hall	1	Ground
VTC3 (VS8)	Players Lounge	7	Lower Ground
VTC4 (VS8)	Chairmans Lounge	10	Level 1



For Vacuum Symposium please collect your conference details at the desk in the Atrium

IEEE High Power Diode Lasers & Systems Conference

WEDNESDAY

- 09:00 Registration opens
 10:00 PHOTONEX EUROPE Exhibition opens
 12:30 Arrival tea & coffee
 12:55 **Introduction to meeting**
- Session 1: Sources and Systems for Laser Additive Manufacturing of Metals**
 (Joint Session with Conference on Metal Power-based Additive Manufacturing)
- 13:00 **KEYNOTE ADDRESS**
High-power diode laser sources for materials processing
 Dr Klaus Kleine, Coherent Inc. (USA)
- 13:40 **Beam sources for metal additive manufacturing – status quo and requirements**
 Christian Hinke, Research Campus, Digital Photonic Production (Germany)
- 14:00 **Alternative beam sources and machine concepts for Laser Powder Bed Fusion**
 Forian Eibl, Fraunhofer Institute for Laser Technology (Germany)
- 14:20-15:00 refreshment break in the exhibition hall
- 15:00 **Low SMILE vertical stacked laser bars enable KW modular line lasers**
 Dr Chung-en Zah, Chief Technology Officer, Focuslight (China)
- 15:20 **Monolithically wavelength-stabilized high power diode lasers**
 Dr. Paul Crump, Ferdinand-Braun-Institute (Germany)
- 15:40 Poster introductions (2 minutes* per poster)
- 16:10 **POSTER SESSION**
 In the Exhibition Hall

THURSDAY

- 09:30 Arrival tea & coffee
- Session 2: New Technologies - Extending the Spectrum and improving Coherence**
- 09:35 **Welcome back**
- 09:40 **KEYNOTE ADDRESS**
High-power GaN diode lasers and their applications
 Dr Masao Kawaguchi, Panasonic Corp (Japan)
- 10:20 **High-power diode lasers converted to the visible**
 Dr Ole Bjarlin Jensen, DTU Fotonik (Denmark)
- 10:40-11:20 refreshment break in the exhibition hall
- 11:20 **Recent advances in high power blue laser diodes**
 Dr Muhammad Ali, Osram Opto Semiconductors (Germany)
- 11:40 **Coherent combining architectures for highbrightness laser diodes**
 Dr Gaëlle Lucas-Leclin, CNRS Institut d'Optique (France)
- 12:00-13:30 break & visit to exhibition
- Session 3: Working in the Real World - Laser Reliability and Performance**
- 13:30 **Root cause investigation of back-irradianceinduced failure of high power diode lasers**
 Dr. Paul Leisher, Lawrence Livermore National Laboratory (USA)
- 13:50 **Comparison of catastrophic optical damage events in GaAs- and GaN- based diode lasers**
 Dr. Jens Tomm, Max-Born-Institute, Berlin (Germany)
- 14:10 **Material issues of the catastrophic degradation of high power laser diodes**
 Prof Juan Jimenez Lopez, Doctoral School University of Valladolid (Spain)
- 14:30 **Thermal management characterization of microassembled high power distributed-feedback broad area lasers emitting at 975nm**
 Dr Yannick Deshayes, Université Bordeaux (France)
- 14:50 **10.5 W central lobe output power obtained with an efficient 1030 nm DBR tapered diode laser**
 Dr. André Müller, Ferdinand-Braun-Institute (Germany)
- 15:10 **Concluding comments**
- 15:15 **Last visit to the Exhibition**
- Exhibition and event closes at 16:00

POSTER SESSION

- 1 Coherent beam combining of high-power tapered amplifiers**
 Philipp Albrodt, Institut Optique Laboratoire Charles Fabry - Laser Group (France)
- 2 Increasing output power of pulsed eye-safe wavelength range laser diodes by strong doping of the n-optical confinement layer**
 Dr Eugene Avrutin, University of York (UK)
- 3 The first kilowatt average power 100J-level DPSSL**
 Mariastefania De Vido, STFC (UK)
- 4 Salt-metal SLM feedstocks to enable the creation of stochastic cellular structures.**
 Zhao Ge (Gill), University of Nottingham (UK)
- 5 Impact of unintentional external feedback on the performance of tapered lasers**
 Mohamad Anas Helal, University of Nottingham (UK)
- 6 Modelling external spectral feedback with external cavity laser simulation tool**
 Mohamad Anas Helal, University of Nottingham (UK)
- 7 Beam quality degradation processes in tapered lasers and DBR tapered lasers**
 Mohamad Anas Helal, University of Nottingham (UK)
- 8 Integrated phase-locked laser diodes at 1.55µm**
 Lianping Hou, University of Glasgow (UK)
- 9 Enhancing thermal management applications through porous structures fabricated by selective laser melting**
 Davoud Jafari, University of Twente (Netherlands)
- 10 High power yellow green light source based on laser diode pumped YAG:Ce transparent ceramic**
 Dr. Kang Li, University of South Wales (UK)
- 11 Manipulation of Phase-amplitude coupling in a Delay-coupled Semiconductor Lasers System for the High Power Technology**
 Pramod Kumar, University of Exeter (UK)
- 12 Electro-optical efficiency and slow axis far-field improvement of high power laser diode bars using epitaxy structure optimization**
 Dr Stewart McDougall, TRUMPF Photonics, Inc. (USA)
- 13 The post-processing of additive manufactured components using hot isostatic pressing and heat treatments**
 Alasdair Morrison, The Manufacturing Technology Centre Ltd (UK)
- 14 Analytical model for diode-to-fiber coupling and beam propagation in weakly guiding fibers**
 Anton Neumann, Fraunhofer Institute for Laser Technology (Germany)

TPW 2017, Technological Plasma Workshop**WEDNESDAY & THURSDAY**

This meeting starts at 12:45 on Wednesday and 09:00 on Thursday. Please visit the Vacuum Symposium in the Atrium for programme details.

EXHIBITION HALL **1 GROUND LEVEL****Hyperspectral Imaging - Technologies & Application-ready Solutions****WEDNESDAY**

- 11.15 **Introduction and welcome**
- 11.20 **Key quality parameters in hyperspectral imaging systems**
Trond Løke, Norse Elektro Optikk, Norway
- 11.40 **Multispectral imaging – the route to simple and cost effective imaging solutions**
Henry Langston, Ocean Optics/Pixelteq, UK
- 12.00 **High spatial resolution hyperspectral camera based on a continuously variable filter**
Dr Oliver Pust, Delta Optical Thin Film A/S, Denmark
- 12.20 **Hyperspectral cameras using tuneable interference filters**
Dr Matt Gunn, University of Aberystwyth, UK
- 12.40 **Hyperspectral Imaging in Surgery and Colonoscopy**
Dr Neil Clancy, University College London, UK
- 13.00 Lunchtime break
- 14.00 **Development of a clinically translatable hyperspectral endoscope exploiting a flexible fibre bundle and a spectrograph**
Dr Jonghee Yoon, University of Cambridge, UK
- 14.20 **Hyperspectral imaging for high detailed phenotyping: challenge of dynamic and complex environment**
Dr Nicolas Virlet, Rothamsted Research, UK
- 14:40 **Hyperspectral Remote Sensing: From AVIRIS to Everyone**
Scott Konley, Photon Lines Ltd (Resonon, USA)
- 15.00 **Compact hyperspectral imaging solutions using thin film filters for drone and small satellite based earth observation**
Dr Bavo Delauré, VITO NV, Belgium
- 15.20 **High-speed Hyperspectral System in the NIR for plastics recycling and other applications**
Dr Andy Tomlinson, Phase Photonics
- 15.30 End of meeting

JAGUAR SUITE **4 GROUND LEVEL****Laser Safety Training – The Fundamentals****WEDNESDAY**

Training session starts at 14:00

AYLESFORD SUITE **12 LEVEL 2****H2020 Photonics - UK Information & Brokerage Event****WEDNESDAY****MORNING SESSION: Information**

- 10:00 **Registration & arrival tea & coffee**
- 10:30 **Open and introduction**
- 10:45 **Photonics opportunities across Horizon 2020 & NCP support**
- 11:15 **Experiences of EU funding, what makes a good proposal**
- 11:45 **Experiences of EU funding, an SME viewpoint**
- 12:15 **Q&A session**
- 12:30 **Close of morning session, Opportunity to Network / Tour exhibition**

AFTERNOON SESSION: Consortia Building

- 14:30 **How to form collaborative teams and support from EEN**
- 14:45 **Delegate pitching of project concepts/organisational capability**
- 15:15 Refreshment break
- 15:30 **Brokerage session of working groups on project ideas and consortium preparation**
- 16:00 **Feedback to group**
- 16:30 **Event closes, exhibition remains open until 5pm**

Metal Powder-based Additive Manufacturing

WEDNESDAY

09.15 **Welcome and opening remarks**

SESSION 1: Materials & Processes for Metal Additive Manufacturing CHAIR | Professor Ian Ashcroft

09.20 **Crystal growth and the development of new alloys for additive manufacturing**

Dr Son Pham, Imperial College London

09.40 **Process optimisation of Selective Laser Melting (SLM) biomedical components: production of ankle prostheses with lattice structures**

Dr Alessandro Fortunato, Università di Bologna, Italy

10.00 **Additive manufacturing of compact heat exchangers: A case study on waste heat recovery heat exchangers**

Dr Ahmed Hussein, HiETA Technologies Ltd

10.20 **Overview of metal AM and lattice structure research**

Dr Ian Maskery, University of Nottingham

10.30 Refreshment break

10.50 **Alloys and powder feedstock for metal AM and investigation of process-microstructure property relationships**

Prof. Maurizio Vedani, Polytechnic University of Milan

11.10 **Melt pool modelling, simulation and experimental validation for SLM**

Dr Ir. Wessel Wits, University of Twente, Netherlands

11.30 **Industrialisation of laser-based AM**

Utkarsha Ankalkhope, Manufacturing Technology Centre (MTC)

11.50 **Investigation on the effect of laser parameters and scan strategy on residual stress created in SLM using simulation**

Luke Parry, Added Scientific Ltd

12.00 Lunchtime break

SESSION 2: Sources and Systems for Laser Additive Manufacturing of Metals

Chair | Prof. Johannes Heinrich Schleifenbaum

(Joint Session with IEEE High Power Diode Lasers & Systems)

12:55 Introduction to afternoon

13.00 KEYNOTE ADDRESS

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15.00 **Low SMILE vertical stacked laser bars enable KW modular line lasers**

Dr Chung-en Zah, Chief Technology Officer, Focuslight, China

15.20 **Monolithically wavelength-stabilized high power diode lasers**

Dr. Paul Crump, Ferdinand-Braun- Institute, Germany

15.40 Poster introductions

POSTER SESSION

16.10 **Poster Session in the Exhibition Hall**

17.05 **Networking**

POSTER SESSION

1 Coherent beam combining of high-power tapered amplifiers

Philipp Albrodt, Institut Optique Laboratoire Charles Fabry - Laser Group (France)

2 Increasing output power of pulsed eye-safe wavelength range laser diodes by strong doping of the n-optical confinement layer

Dr Eugene Avrutin, University of York (UK)

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Dr Stewart McDougall, TRUMPF Photonics, Inc. (USA)

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Alasdair Morrison, The Manufacturing Technology Centre Ltd (UK)

14 Analytical model for diode-to-fiber coupling and beam propagation in weakly guiding fibers

Anton Neumann, Fraunhofer Institute for Laser Technology (Germany)

Optical Engineering & Design**WEDNESDAY**

- 08:30 Registration for the event opens
 10.00 Exhibition opens
 10.20 **Introduction and welcome**
- SESSION 1: Chair - Beric Read**
- 10.30 **3D Laser writing inside transparent materials using ultrashort pulses**
 Dr Patrick Salter, University of Oxford, UK
- 10.50 **Solid state reflective displays (SRD®), using phase-change materials as the new modulator for improved colour and fast switching**
 Peiman Hosseini, Bodle Technologies, UK
- 11.10 **Full-wave modelling of the optical and electromagnetic characteristics of ultra-fast photodiodes**
 Dr Michele Natrella, UCL, UK
- 11.30 **Bridging the gap between optical technology and manufacturing capability**
 Colin Williams, Precision Engineering Consultant, UK
- 11.50 **Approaches to simulating multiple coupled physical phenomena in photonic devices using COMSOL Multiphysics®**
 Dr Simone Zonetti, COMSOL, UK
- 12.10 Break in the exhibition hall, delegates are encouraged to visit the exhibition and meet some of the 90+ exhibitors.
- SESSION 2: Chair - Jon Maxwell**
- 13.20 **Introduction to session**
- 13.30 **Optimisation of liquid crystals for switchable contact lenses**
 Professor Cliff Jones, University of Leeds, UK
- 13.50 **Image quality in retinal imaging**
 Peter Wakeford, Optos Plc, UK
- 14.10 **KEYNOTE ADDRESS**
Desensitization of optical systems during the optimization process
 Yan Cornil, Light Tec GmbH, Germany
- 14.30 **From bench to bedside: Optical technologies for advanced clinical endoscopic imaging**
 Dr George Gordon, University of Cambridge, UK
- 14.50 **Design of lidars for remote wind speed measurement**
 Dr Matthew Warden, Fraunhofer Centre for Applied Photonics
- 15.10 **Conclusion and end of meeting**

This workshop continues in same room

Comsol Workshop**WEDNESDAY**

- 15:30 **Simulating Photonics with COMSOL Multiphysics®**
 Dr Simone Zonetti
- 16:30 **Live Demonstration**
- 17.00 **Networking in the exhibition hall**

Photonics Showcase - application tutorials, training and new product launch pad**WEDNESDAY**

- 10:55 **Introduction and welcome**
 Laurence Devereux, Xmark Media
- 11:00 **National Centre for Healthcare Photonics**
 Dr Tom Harvey, Healthcare Photonics at CPI
- 11.15 **The Future Photonics Hub Innovation Fund – Q & A session**
 Tom Carr, The Future Photonics Hub
- 11:30 **Components for ranging and guidance applications**
 Dave Barry, Laser Components (UK) Ltd
- 11:50 **How to select the right spectrometer for your application?**
 Dr Thomas Rasmussen, Ibsen Photonics A/S
- 12:10 **A VACUUM TECHNOLOGY PRESENTATION**
Monitoring of atomic layer deposition processes using remote optical emission spectroscopy
 Tony Williams, Omni Technologies
- 12:30 **NIR-enhanced SiPMs target LiDAR applications**
 Martin Sharratt, AP Technologies Ltd
- 13:00 **A cost-savings cascade for silicon photonics production**
 Scott Jordan, PI Ltd
- 13:30 **Radiometry, Photometry and Colorimetry: Understanding the basics of light measurement**
 Robert Yeo, Pro-Lite Technologies Ltd
- 14.00 **Modelling photonic crystals with COMSOL Multiphysics® - demonstration**
 Dr Simone Zonetti, COMSOL Ltd
- 14:15 **Seeing life in Short Wave Infrared - The role of InGaAs based cameras in scientific imaging**
 Mark Donaghy, Raptor Photonics Ltd
- 14.35 **Applications of continuously variable filters in spectroscopy and fluorescent measurements**
 Dr Oliver Pust, Delta Optical Thin Film A/S
- 14.55 **Optical components for high powered lasers**
 Chris Bridle, Manx Precision Optics Ltd
- 15:15 **A VACUUM TECHNOLOGY PRESENTATION**
Lubrication Technology for Vacuum Applications
 Jay Weikel, Nye Lubricants
- 15.45 **End of programme**

Silicon Photonics Adoption in UK Industry

WEDNESDAY

10:30 **Introduction and welcome**
Prof Graham Reed

SESSION 1 : CHAIR | Dr Callum Littlejohns

- 10:40 **KEYNOTE SPEAKER**
How Rockley Photonics works with academia, and why it works for us
Dr Andrew Rickman, CEO, Rockley Photonics, UK
- 11:10 **The Cornerstone Project: UK Silicon Photonics Fabrication Capability based on DUV Photolithography**
Dr Stevan Stankovic, University of Southampton, UK
- 11:30 **Dielectric Photonics as a technology for next generation LAN-WDM**
Dr Bill Ring, BB Photonics, UK
- 11:50 **Silicon Photonics and UK industry strategy**
Dr John Lincoln, CEO, Photonics Leadership Group, UK
- 12:10 **400G and beyond: the role of silicon photonics in high speed optics**
Tony Pearson, Finisar Corporation, USA
- 12:30 **Conclusion and close of morning session**
Poster session will take place in the exhibition hall
- 12:40 **POSTER SESSION**
Lunchtime break

SESSION 2: Chair | Dr Callum Littlejohns

- 13:50 **KEYNOTE SPEAKER**
Nanoscale epitaxy: enabling III-V on Silicon
Prof Diana Huffaker, Director of the Institute for Compound Semiconductors, UK
- 14:20 **Silicon photonics - a gateway to the digitisation of society**
Richard Pitwon, Seagate Technology, UK
- 14:40 **Practical quantum-dot lasers monolithically grown on silicon for silicon photonics**
Professor Huiyun Liu, University College London, UK
- 15:00 **Don't forget the electronics – considerations for highly integrated silicon photonics devices**
Christian Rookes, HiLight Semiconductor Ltd, UK
- 15:20 **The evolution of photonics packaging**
Bob Musk, Entroptix Ltd, UK
- 15:40 **Concluding comments and poster awards**
Professor Sir David Payne
- 15:50 **End of meeting**

POSTER SESSION

- 1 **Modelling and experimental characterization of InAlAs-InGaAs Avalanche photodiodes for 10 Gb/s data rate and higher**
Omar Abdulwahid, University of Manchester
- 2 **2D materials and liquid crystals integrated in silicon nitride platform for WDM optical interconnects applications**
Joaquin Faneca, University of Exeter, UK
- 3 **Flat-Top Spectral Response Angled Multimode Interferometer (AMMI)**
Senta L. Scholl, Optoelectronics Research Centre, University of Southampton, UK
- 4 **SiP in disaggregated data centre architectures**
Arsalan Aaljoghei, University College London, UK
- 5 **Early results from an innovative modulator that is taking advantage of a custom design and SiGe composition**
Lorenzo Mastronardi, University of Southampton, UK
- 6 **Design and Fabrication of a Label-free Silicon-on-Insulator "Lab on a Chip" Optical biosensor**
Najla Najeeb, University of Nottingham, UK
- 7 **Fabrication and assembly techniques for passively aligned silicon photonic integrated chips**
Nathan Soper, University of Southampton, UK
- 8 **An Optimal Design for Universal Multiport Interferometers**
William Clements, University of Oxford, UK
- 9 **High speed modulators in silicon-on-insulator for the 2µm wavelength band**
Wei Cao, University of Southampton, UK
- 10 **A novel silicon photonics Ring Enhanced Mach-Zehnder Interferometer (REMZI) exhibiting CIFS, CRIT & anti-crossing effects**
Iain Crowe, University of Manchester, UK

Graphene & Emerging 2D Materials

THURSDAY

10:30 **Introduction and welcome**

SESSION 1: CHAIR

- 10:40 **KEYNOTE SPEAKER**
Graphene Photonics and Optoelectronics
Prof Andrea Ferrari, Cambridge Graphene Centre, University of Cambridge, UK
- 11:10 **Fabrication 2D materials and heterostructures: technology and processes**
Dr Ravi Sundaram, Oxford Instruments, UK
- 11:30 **Wafer Scale Integration of 2D materials on Si photonics platform**
Dr Anna Baldycheva, University of Exeter, UK
- 11:50 **Ionic solutions of 2d materials**
Dr Chris Howard, UCL, UK
- 12:10 **Optical plasmonic modulators based on 2D materials**
Professor Sasha Grigorenko, University of Manchester
- 12:30 **Conclusion and close of morning session**

SESSION 2: CHAIR

- 13:55 **Introduction to session**
- 14:00 **KEYNOTE SPEAKER**
Graphene Wafer Scale Integration
Richard White, Business Development Director, Graphenea, Spain
- 14:30 **Emerging photonics applications enabled by printed non-carbon twodimensional materials**
Dr Zlatka Stoeva, DZP Technologies, UK
- 14:50 **Extremely high-temperature molecular beam epitaxy of graphene and boron-nitride**
Professor Sergei Novikov, University of Nottingham, UK
- 15:10 **Tomorrow's materials available today**
Neill Ricketts, Versarian, UK
- 15:30 **Graphene protected plasmonics for ultrasensitive toxin biosensing**
Fan Wu, Postgraduate, University of Manchester, UK
- 15:50 **Concluding comments**

LOUNGE SOUTH **9** LEVEL 1

Thin Film and Coating Technologies for Science & Industry - from fundamental research to applied coatings

WEDNESDAY

This meeting starts at 09:25. Please visit the Vacuum Symposium in the Atrium for programme details.

JAGUAR LOUNGE **5** GROUND LEVEL

RGA13 - The Residual Gas Analyser: an instrument for many applications

THURSDAY

This meeting starts at 10:30. Please visit the Vacuum Symposium in the Atrium for programme details.

EXHIBITION HALL **2** GROUND LEVEL

Launchpad & tutorials in photonics and vacuum

THURSDAY

Photonics Presentations

- 11:00 **Applications of continuously variable filters in spectroscopy and fluorescent measurements**
Dr Oliver Pust, Delta Optical Thin Film A/S
- 11:20 **Computing at the Speed of Light – how advances in nanoscale alignment is cutting time and costs with manufacturing processes**
Scott Jordan, PI Ltd
- 11:40 **Radiometry, Photometry and Colorimetry: Understanding the basics of light measurement**
Robert Yeo, Pro-Lite Technologies Ltd
- 12:10 **A LAUNCHPAD! PRESENTATION**
Hacking spectroscopy solutions to deliver more for medical, (10 mins) industrial and lab applications
Andy Tomlinson, Phase Photonics Ltd
- 12:40 **Swept Source Optical Coherence Tomography (SS-OCT) for industrial metrology**
Andrea G. Geltrude, Santec Europe Ltd
- 13:00 **A VACUUM TECHNOLOGY PRESENTATION**
Lubrication Technology for Vacuum Applications
Jay Weikel, Nye Lubricants



EXHIBITION HALL **1** GROUND LEVEL

Vision & Imaging Programme

THURSDAY

SESSION 1: Machine Vision and Industrial Applications

- 11:00 **Hikvision - a revolution in the machine vision camera market**
Paul Wilson, Scorpion Vision
- 11:20 **High dynamic WiDy Logarithmic response sensor in both Visible (silicon) and SWIR (InGaAs) cameras for demanding industrial applications and tomorrow's challenges**
Ian Alderton, Alrad Imaging
- 11:40 **What is the flatness of resolution**
Yukihide Nakazato, Fujifilm
- 12:00 **Scorpion Vision real world 3D vision applications**
Paul Wilson, Scorpion Vision
- 12:20 **Getting the best Colour Image, are you using the right technique?**
Tris Hurley, Stemmer Imaging

SESSION 2: Scientific Imaging

- 14.00 **Higher dynamic range imaging**
Jan Vermeiren, CAELESTE
- 14.20 **Seeing life in Short Wave Infrared - The role of InGaAs based cameras in scientific imaging**
Mark Donaghy, Raptor Photonics Ltd

LOUNGE NORTH **8** LEVEL 1

Surface Analysis - Innovations and Solutions for Industry

THURSDAY

This meeting starts at 10:00. Please visit the Vacuum Symposium in the Atrium for programme details.

Optical Metrology for Manufacturing

THURSDAY

- 10:30 **Introduction and welcome**
Roger Groves, Delft University of Technology, Netherlands
- SESSION 1: Chair | Caroline Gray**
- 10:40 **KEYNOTE SPEAKER**
Technical aspects of optical metrology for machine calibration
Dr Anas Jarjour, Technical Fellow, Renishaw PLC, UK
- 11:10 **Optical metrology of laser welding of metal components**
Daniel Lloyd, Laser Optical Engineering Ltd, UK
- 11:30 **Metrology Challenges Presented by the Fabrication of Large and High-value Optics**
Prof Paul Rees & Dr John Mitchell, Glyndŵr Innovations Ltd, OpTIC Technology Centre - Glyndŵr University, UK
- 11:50 **Optical metrology of composite structures using laser shearography**
Daniel Lloyd, Laser Optical Engineering Ltd, UK
- 12:10 **Non-contact metrology for advanced optical surfaces**
Neil Fitzgibbon, Taylor Hobson Ltd, UK
- 12:30 **Conclusion and close of morning session**
In the Launchpad and tutorial session, Theatre 2 there is an opportunity to hear:
- 12:40 **Swept Source Optical Coherence Tomography (SS-OCT) for industrial metrology**
Andrea G. Geltrude, Santec Europe Ltd

SESSION 2: Chair | Dr Andrew Henning

- 13:55 **Introduction to session**
- 14:00 **Position measurements for manufacturing applications using rangersolved interferometry**
Dr Thomas Kissinger, Research Fellow, Cranfield University, UK
- 14:20 **Wavelength scanning interferometry as used for in process metrology during roll to roll manufacture**
Professor Liam Blunt, Director of the Centre for Precision Engineering, University of Huddersfield, UK
- 14:40 **Dual-plane optical coherence tomography imaging for velocity measurement in small-scale flows**
Evangelos Rigas, Postgraduate Researcher, Cranfield University, UK
- 15:00 **Evaluation of an inverse rendering solution for the calibration of a projector's extrinsic parameters in fringe projection using CAD data**
Dr Petros Stavroulakis, Research Fellow, University of Nottingham, UK
- 15:20 **Laser speckle correlation sensing for industrial robots**
Dr Tom Charrett, Lecturer, Cranfield University, UK
- 15:40 **Concluding comments and end of meeting**



Thank you to all the Supporting Organisations, Technical Programme Committees and Advisory Panels who have made this conference possible. Particularly of note:

IEEE High Power Diode Lasers & Systems Conference

CONFERENCE SPONSOR  CONFERENCE BENEFACTOR 

TECHNICAL SPONSOR  SUPPORTED BY 

Metal Powder-Based Additive Manufacturing

SUPPORTED BY  

Hyperspectral Imaging  




Optical Engineering & Design 

Vision & Imaging 

Surface Analysis – Innovations & Solutions for Industry

SUPPORTED BY   

Thin Film and Coating Technologies

SUPPORTED BY   

Graphene & Emerging 2D Materials 

Silicon Photonics Adoption in UK Industry

Optical Metrology for Manufacturing



RGA 13  