

Ultra Precision Manufacturing Conference 2015
Tuesday 12 May 2015
Institute for Manufacturing, Cambridge, Lecture Theatres

Agenda

- 08:45 – 09:15 [Arrival and Registration](#)
- 09:15 – 09:30 [Welcome and Introduction](#)
Conference Team
- 09:30 – 09:50 [Introduction to the TRL \(Technology Readiness Level\)](#)
Martin O'Hara, National Strategy Manager
EPSRC Centre for Innovative Manufacturing in Ultra Precision
- 09:50 – 10:10 [How to Approach the Next Generation of Optical Instruments](#)
Prof. Richard Leach, University of Nottingham
- 10:10 – 10:30 [The Latest Advances in High Precision Laser Micromachining](#)
Dr. Alan Ferguson, Oxford Lasers
- 10:30 – 11:00 [BREAK](#)
- 11:00 – 12:20 [Ultra Precision PhD Presentations](#)
Centre for Innovative Manufacturing and Centre for Doctoral Training in Ultra Precision PhD Students
- 12:20 – 13:20 [Networking Lunch](#)
- 13:20 – 13:40 [Nano Ploughing – A Scale Up Nanofabrication Method](#)
Dr. Sun Jining, Heriot-Watt University
- 13:40 – 14:00 [Nanoanalysis in the SEM: From Nanolayer Down to Single Atoms](#)
Dr. Matthew Hiscock, Oxford Instruments
- 14:00 – 14:20 [Nano-Metrology: X-rays, Optical Interferometry, AFM Metrology and Nano Positioning](#)
Andrew Yacoot, National Physical Laboratory (NPL)
- 14:20 – 14:40 [AFM Probed-Based Machining](#)
Dr. Emmanuel Brousseau, Cardiff University
- 14:40 – 15:10 [BREAK](#)
- 15:10 – 15:30 [Challenges in Geometrical Metrology for Additive Manufacturing](#)
Prof. Xiangqian (Jane) Jiang, University of Huddersfield
- 15:30 – 15:50 [Engineering of Surface using Laser-Initiated Liquid-Assisted Colloidal Lithography](#)
Dr. Magdalena Ulmeanu, University of Bristol
- 15:50 – 16:10 [Ultra Precision Machining for Integrated Photonic Devices](#)
Dr. Lewis G. Carpenter, University of Southampton
- 16:10 – 16:30 [PiMag 6D Levitation in Six Degrees of Freedom](#)
Dr. Thomas Haas, PI GmbH
- 16:30 – 16:50 [The Marriage of Robots and Zeeko Machines - Steps Towards a Versatile, Automated, Manufacturing cell](#)
Richard Freeman, Zeeko Ltd
- 16:50 – 17:00 [Closing Remarks](#)
Conference Team

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**EPSRC Centre for Innovative Manufacturing &
Centre for Doctoral Training in Ultra Precision PhD Students**

- 11:00-11:05 **Welcome and Introduction**
Prof Bill O'Neill
- 11:05-11:08 **Clare Collins**
Nanomaterial-Based Field Emission X-Ray Sources
- 11:08-11:11 **Matt Bannister**
The Use of Ultrafast Laser Annealing to Remove Ion Beam Implanted Gallium
- 11:11-11:14 **Adam Bennett**
Laser Assisted Reactive Atom Plasma Processing for Ultra Precision Engineering of Space Optics
- 11:14-11:17 **Sam Brown**
Design and Development of Solid State Additive Manufacturing Techniques
- 11:17-11:20 **Tianqi Dong**
Femtosecond Laser Direct Micro-Cutting Graphene for Device Applications
- 11:20-11:23 **Wenhe Feng**
Ultra Precision Fabrication of Fused Silica Devices by Femtosecond laser Irradiation and Chemical Etching
- 11:23-11:26 **Jiho Han**
High Power Laser System with Built-In Dynamic Beam Shaping Capabilities
- 11:26-11:29 **George Meakin**
Ferroelectric Liquid Crystal Displays and Binary Dithering Schemes
- 11:29-11:32 **Laurent Michaux**
Laser Induced Shock Wave Processing of Metallic Coatings
- 11:32-11:35 **James Norman**
Advanced Technologies for Ultra Precise Light Weight Space Optics
- 11:35-11:38 **Francisco Orozco**
Laser Processing of Carbon Nanotube Fibres and Films
- 11:38-11:41 **Jon Parkins**
High Speed, High Power, Variable Focus Laser Additive Manufacturing of Metallic Biomedical Implants
- 11:41-11:44 **Andy Payne**
Multiple Beam Powder Bed Fusion Additive Manufacturing
- 11:44-11:47 **Matt Pryn**
Holography as a Consumer Display Solution
- 11:47-11:50 **Jaliya Senanayake**
Holographic Enhancement of Fibre Optic Sensors
- 11:50-11:53 **Jason Ten**
High Speed Mask-Less Laser Controlled Precision Additive Manufacture
- 11:53-11:56 **Chris Williamson**
High Speed Patterning of Individual Carbon Nanotubes
- 11:56-11:59 **Chris Wright**
Ultra Precision Hybrid Laser FIB Platform
- 11:59-12:02 **Peter Xia**
Diamond Machinable Coatings for Fluid Film Systems
- 12:02-12:05 **Karen Yu**
Control System for Ultra Precision Processing
- 12:05-12:08 **Nan Yu**
Advancement of Plasma Figuring Technology to Reduce MSF Errors on Metre-Scale Optical Surfaces