

“Optics as a Key Enabling Technology in Medical Technology Manufacturing and Business Excellence”

10:00 – 16:00, 24th February 2010

Clayton Hotel Galway

Irish Medical Device Association (IMDA) and Applied Optics Group, NUI Galway

Speaker Profiles

Presentation Title: "Using Lasers for Improved Manufacturing and Productivity"

Dr. Alexander Knitsch is the Senior Manager International Sales at TRUMPF Laser- und Systemtechnik GmbH, Germany. He has studied physics at Aachen Technical University (RWTH) and University of St. Andrews with a focus on laser technology. He earned his Ph.D. in mechanical engineering from RWTH Aachen while working as a project engineer at the Fraunhofer Institute for Laser Technology in Aachen on the topic of high power diode laser systems for materials processing. He joined TRUMPF in 2005 and has been working in the Industry Management with a primary focus on lasers for medical device manufacturing. Since October 2009 he works in the international sales management.

Presentation Title: “Near-Infrared Spectroscopic Detection of Lipid Core Coronary Plaques”

Dr. Michael Burka is the Director of Hardware Engineering at InfraReDx, Inc., a medical device manufacturer with expertise in near-infrared spectroscopic technology and its application to coronary imaging. He received a Ph.D. in High Energy Physics from the Johns Hopkins University in 1986. Since then he has developed optical instrumentation for use in the fields of gravitational radiation detection, high altitude atmospheric LIDAR, optical telecommunications, Fourier Transform Infrared Spectroscopy, Raman process spectroscopy and medical imaging.

Presentation Title: "Bringing Semiconductor-Industry Process Control to Medical Device Manufacturing".

Dr. Stephen Morris is Founder and Managing Director of Nightingale-EOS Limited. He was previously Director of Marketing at Therma-Wave Inc., a leading manufacturer of ion implant and thin-film metrology equipment for the semiconductor industry. Prior to taking the marketing role, he worked on the technology side of the business as a senior process development scientist. Before entering the semiconductor industry, he had also worked in the marine and aerospace industries. He has a BSc in Physics from Manchester University, a PhD in Physics from Cardiff University and an MSc in technology management from the Manchester Business School.”

Presentation Title: “Inspection and Quality Control Issues Associated with Medical Device Manufacturing”

Mr. Mark Curtis is the Managing Director of Vision Engineering Ltd. Mark’s background is as follows: BA(Hons)(Univ of Wales) PGCE (Dunelm) FIoD, Mark has had an extensive career in technical export sales. Mark joined Vision Engineering as Tech Export Manager in 1980 and has held the position of managing director since 2008, He has successfully started overseas subsidiaries in Italy, Japan and representative offices in China & SE Asia.

Vision Engineering Ltd is a UK based developer and manufacturer of ergonomic microscopes, measuring and inspection systems. Founded in 1958, Vision Engineering supplies innovative solutions to Quality Control and Inspection issues experienced by a broad range of manufacturers. Many of Vision Engineering’s product solutions are based on patented and innovative technology which addresses the ergonomic aspects of sustained microscope use.

Medical Device Manufacturing, by nature of its safety critical and liability issues is a discipline which values solution based technology and many global leaders in medical manufacturing use Vision Engineering systems in multiple sites, including many in Ireland.



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Speaker profiles cond.

Presentation Title: “Nanobiophotonics in Diagnostics and Therapeutics”

Prof Malini Olivo has just been appointed as SFI Stokes Professor of Biophotonics in NUI, Galway. She holds an adjunct professorship at the National University of Singapore. She was Head of Bio-optical Imaging at the Singapore Bioimaging Consortium, Biopolis and Principal Investigator of the Laboratory of Photodynamic Therapy and Biophotonics at the Singapore National Cancer Centre till December 2009. She obtained a Ph.D in Bio-Medical Physics in 1990 from the UK and since been active in research in Canada and Singapore. She pioneered biophotonics applications in photomedicine and nano-medicine in Singapore. She has published widely in peer-reviewed journals and has received numerous research awards for her research.

Presentation Title: “Enabling new Ultrafast Laser-based Manufacturing Processes: New facilities and opportunities at NUI Galway”

Dr. Gerard O’Connor received a B.Sc. in Experimental Physics in 1989 and received a Ph.D. on spectroscopic characterisation of III-V alloys semiconductor alloys in 1994. He has worked in laser applications, material characterisation, and materials science since 1989, both in NCLA (NUI Galway) and in the National Microelectronics Research Centre, NMRC Ireland (now Tyndall Institute, UCC). He was appointed to the academic staff at NUI Galway in 2005 and is currently a Senior Lecturer in the School of Physics, NUI Galway. His research work centres on investigations of short pulse laser material ambient interactions for micro- and nano-scale structuring.

Mr. Alan Conneely

Alan Conneely received an MSc in Applied Physics and Electronics from NUI Galway in 1993. Since then he has engaged in laser materials processing R&D at the National Centre for Laser Applications (NCLA) in NUI Galway except for a period as project engineer with Laser Fare (USA). He is currently Centre Manager at the NCLA and is also Programme Manager for LightHOUSE/NCLA in the Inspire (Integrated Nanoscience Platform for Ireland) consortium.

Presentation Title: “Illuminating Potential Pathways to Harness Optics Technology for the Medical Technology Sector”

Prof. Chris Dainty has been Professor of Applied Physics at NUI Galway since 2002. Before that he held appointments at Imperial College London (1984 - present, on leave) and The University of Rochester NY USA (1978-1983). He leads a group of around 30 researchers in diverse areas of applied optics, particularly in adaptive optics and the eye. He published 150 peer-reviewed papers, has received numerous awards and prizes, has held a number of leading positions in professional societies, and is the 2011 President of the Optical Society of America. He is also a Member of the Royal Irish Academy.

Dr James J. Browne, President, National University of Ireland, Galway

In 2008 Dr James J. Browne became the twelfth president of NUI Galway. He has a record of achievement in academic leadership, strategic planning and change management within NUI Galway. Dr Browne has published over 200 academic papers and 15 books, including translations into French and Chinese. He was awarded the degree of D.Sc. by the University of Manchester for published work in 1990 and he is a member of both the Royal Irish Academy and the Irish Academy of Engineering.

He has significant industrial experience and has consulted with a wide range of Irish and international corporations.



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