

EPSRC CDT in Intelligent Sensing and Measurement

Annual Conference

5th November 2019

Royal Society of Edinburgh | 22-26 George St | Edinburgh EH12 2PQ

09:00 **Registration and Coffee**

PROGRAMME

Session 1

Presider: *Jack Radford, University of Glasgow*

09:30 **Sensing and Imaging at Optos: Several non-obvious examples**
Jano van Hemert, Research Director, Optos

09:50 **Listening to Einstein's Messengers**
Giles Hammond, Institute for Gravitational Research, University of Glasgow

4th Year CDT-ISM Students

10:20 **Computational Imaging in Industry and Academia***
Tomas Aidukas, University of Glasgow

10:30 **Sensing in the Attoscale: The Case of Singlet Oxygen**
Sergio Bermudez, University of Edinburgh

10:40 **Solid State Neutron Detector Implementation at the European Spallation Source**
Laura Boyd, University of Glasgow

10:50 **Refreshment Break**

Session 2

Presider: *Jason Norman, University of Edinburgh*

11:20 **From Bench to Business...**
Damian Gardiner, Entrepreneur and founder of Optomel

4th Year CDT-ISM Students

11:50 **Blood Plasma Separation from Capillary Samples**
Giulia Deiana, University of Edinburgh

*Video Presentation

- 12:00 **A Step Closer Towards De Novo Sequencing of Monoclonal Antibodies**
Laurentis Galanopoulos, University of Edinburgh
- 12:10 **Sensing with a Twist: Biomolecular Detection Using Chiral Metamaterials**
Cameron Gilroy, University of Glasgow

2nd Year CDT-ISM Student Poster Pitches

- 12:20 **Planar Ge-on-Si SPADs: The Path to Short-Wave Infrared Single Photon Detection**
Conor Coughlan, University of Glasgow
- 12:21 **Investigation of Sub-Micron Fluctuations in Apparent Beam Position with Temperature in Silicon Quadrant Photodiodes**
Andrew Earle, University of Glasgow
- 12:22 **A Portable Lens-free Holographic Microscope for the Identification of S.Mansoni Eggs in Fecal Smear Samples**
Oliver Higgins, University of Glasgow
- 12:23 **Atomic Layer Deposition of TiN for the Development of Microwave Kinetic Inductance Detectors**
Ciaran Lennon, University of Glasgow
- 12:24 **Machine Learning and Inverse Problem Methods for Imaging through a Multi-Mode Fibre**
Jack Radford, University of Glasgow
- 12:25 **Fluids' Viscoelasticity Drives Chaining of Particles in Simple Shear Flow**
Matthew Smith, University of Glasgow
- 12:26 **A Semi-Absolute MEMs Gravimeter**
Richard Walker, University of Glasgow
- 12:27 **Tuneable Gels for Biosensing Applications: Utilising Electrochemistry to Control the Growth of Supramolecular Hydrogels**
Ian Bennett-Wright, University of Edinburgh
- 12:28 **Electrochemical Sensing for Continuous Monitoring of Fetal Health**
Kayleigh Doherty, University of Edinburgh
- 12:29 **Head Wearable Microwave Sensing Devices**
Mark Evans, University of Edinburgh
- 12:30 **Silicon Carbide Technology for Sensing in Harsh Environments**
Alberto Moreno Guerrero, University of Edinburgh
- 12:31 **Pick and Place Approaches for Uniformity Improvement on X-ray Flat Panel Sources**
Salvador Barranco Cárceles, University of Edinburgh
- 12:32 **Polyimide Derivatives for pH Sensing**
Gregory Myles, University of Edinburgh
- 12:33 **Use of a Fluorescent Base Analogue as a Sensor of Guanosine Self-Assembly**
Alix Bailie, University of Edinburgh
- 12:34 Lunch**

Session 3

Presider: *Conor Coughlan, University of Glasgow*

- 14:00 **The use of Silicon Cold Cathodes in a Commercial X-ray Source**
Aquila Mavalanker - Principal Scientist, Adaptix Ltd (Royal Society Industry Fellow)

4th Year CDT-ISM Students

- 14:30 **Ultra-Small Size, Ultra-Low Power Implantable Microchip for the Detection of Biopotential Signals**
Jose Cortes Guzman, University of Glasgow
- 14:40 **Structured Polarisation Using a Simple Glass Cone**
Ryan Hawley, University of Glasgow
- 14:50 **Measuring Oxygen Metabolism in the Retina**
Julia Noorbakhsh, University of Glasgow
- 15:00 **Vapour Etch Selectivity's for MEMS and NEMS Fabrication**
Markus Rondé, University of Edinburgh
- 15:10 **Sensing Habitability in Micro-Environments**
Yuchen Shang, University of Edinburgh
- 15:20 **Ultra-Thin and Flexible CMOS Technology: ISFET-Based Microsystems for Biomedical Application***
Anastasios Vilouras, University of Glasgow
- 15:30 **Refreshment Break**
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Session 4

Presider: *Salvador Barranco Cárceles, University of Edinburgh*

- 15:50 **Quantitative Mapping of Microfluidic Properties using Fluorescence Lifetime Imaging**
Anita Jones, University of Edinburgh

3rd Year CDT-ISM Student 3 Minute Thesis/Video

- 16:20 **Using Droplet Microlasers as Chemical Sensors**
Jason Norman, University of Edinburgh
- 16:23 **Cellular Redox Potential, Why Am I Interested and Should You Be?**
William Skinner, University of Edinburgh
- 16:26 **Mapping the World in 3D, One Photon at a Time**
Konstantinos Bantounos, University of Edinburgh
- 16:29 **Skin Surface Sensing for Health Monitoring**
Fiona Moore, University of Edinburgh
- 16:32 **How to Grow Organs (and Other Important Tissues)**
Michael Handley, University of Glasgow
- 16:35 **The Great Pyramids of Glasgow**
David Atkins, University of Glasgow
- 16:38 **Electrochemical Extraction of Neutron Poisons for Next Generation Molten Salt Reactors***
Nigel Lucas, University of Edinburgh
- 16:41 **Electrospinning Conductive Nanofibers for Wearable Flexible Sweat Sensing**
Michael Chung, University of Edinburgh
- 16:44 **Close**

We would like to invite all attendees to the drink's reception in the Royal Society of Edinburgh.
