



2nd Joint Symposium of
Microscopy Society of Ireland and
Scottish Microscopy Society



Programme

Wednesday 6th April

11:30 Registration and trade exhibition opens

13:00 LUNCH

13:45 Welcome by Dr Kerry Thompson & Dr Charlotte Buckley

13:55 – 14:00 [Bruker](#) Technobite

Session 1: Early Career

14:00 – 14:10 Introduction

14:00 – 14:30 Flash talks:

Ms Louise Colfer, Tyndall National Institute

Influence of Vicinal Surfaces on the Properties of Multiferroic Aurivillius Phase Thin Films

Mr Edward Gannon, Trinity College Dublin

Open-Source Drone Software Reimagined for the SEM

Mr Nuno G.B. Neto, Trinity College Dublin

Non-Invasive classification of macrophage polarisation by 2P-FLIM and machine learning

Mr Patrick McBean, Trinity College Dublin

Multiphysics Simulation for TEM Objective Lens Evaluation & Design



Mr Pietro Esposito, University of St Andrews

Awarded RMS ECR travel bursary

Role of dead-space microdomains of the extracellular space of the brain in protein accumulation and aggregation

14:30 – 14:35 [Oxford Instruments NanoAnalysis](#) Technobite

14:35 – 14:40 [Laboratory Instruments & Supplies](#) Technobite

14:40 – 15:00 Flash talks:

Ms Laura Gambini, Trinity College Dublin

Machine-learning approach for quantified resolvability enhancement of low-dose STEM data

Mr Maurice O' Mara, University College Dublin

The epithelial oxidase DUOX2 facilitates the formation of dynamic actin cytoskeletal structures during cell migration and cell to cell communication

Ms Muireann O'Reilly, NUI Galway

Using a High-Resolution Microcomputed Tomography Technique to Characterise the Complex Anatomy of Vascular Occlusions and Create Biomimetic Analogues

Ms Jade Monaghan, FOCAS Research Institute

Identification of micro-Raman spectroscopic signatures from lymphocytes and prognostic factors associated with radiation toxicity in high-risk localised prostate cancer patients enrolled on the SPORT radiotherapy trial

15:00 – 15:05 [Molecular Machines](#) Technobite
15:05 – 15:10 [Hitachi](#) Technobite

TEA/COFFEE BREAK

15:30 – 16:30 Early Career Panel Discussion
Panelists include:
Ms Tiina O'Neill (STO, University college Dublin),
Prof Garry Duffy (Personal Professor, NUI Galway),
Dr. Robbie O'Connell (Sales Account Manager, Thermo Fisher Scientific).
Dr. Debbie Wilkinson (Senior Microscopy and Application Specialist, University of Aberdeen)

16:30 – 16:40 Session wrap up

COMFORT BREAK

16:55 – 17:00 [Zeiss](#) Technobite

17:00 – 17:45 Keynote speaker
Dr Ulrike Boehm, Janelia Research Campus, Virginia

Thursday 7th April

Session 2: Instrument Development & Image Analysis

9:00 – 9:30 Invited speaker
Jonathan Taylor, University of Glasgow
Optical-computational techniques for timelapse imaging of heart structure and function in vivo.

9:30 – 9:35 [Jeol](#) Technobite

9:35 – 9:40 [Gatan](#) Technobite

9:40 – 9:50 Dr Sergey Alexandrov, NUI Galway
Label free approaches for 2d and 3d visualization of sub-wavelength structures and imaging beyond the resolution limit of the imaging system

9:50 – 10:00 Ms Frances Quigley, Trinity College Dublin
Building a Sub €2,000 Photoelectron Emitter

10:00 – 10:10 Dr Ruth Levey, NUI Galway
Development of a whole sample imaging approach using diffusion tensor imaging to examine the foreign body response to explanted medical devices

10:10 – 10:20 Questions

10:20 – 10:25 [Laser2000](#) Technobite

TEA/COFFEE BREAK

10:45 – 11:15 Invited speaker
Dr. David Barry, Francis Crick Institute
How To Be a Core Facility Image Analyst

11:15 – 11:20 [Quorum](#) Technobite

11:20 – 11:30 Ms Niamh Burke, University College Dublin
Democratising Science: Development of a Low-Cost and Versatile Field Microscope



11:30 – 11:40 Dr. Juan Varela, University of St. Andrews

New optical methods to study protein aggregates and their interactions with brain cells at the single-molecule level

- 11:40 – 11:50 Mr Matthew Donoghue, NUI Galway
X-ray Phase Contrast Microscopy, A novel approach to 3D tomographic microscopy
- 11:50 – 12:00 Questions
- 12:00 – 12:05 [ThermoFisher Scientific](#) Technobite

LUNCH

Session 3: Biological & Life Science

- 13:00 – 13:45 Keynote Speaker sponsored by [Nikon](#)
Prof. Garry Duffy, NUI Galway
Using advanced imaging tools to understand and overcome the foreign body response to medical devices
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- 13:45 – 13:50 [Nikon](#) Technobite
- 13:50 – 14:00 Dr Amélie I.S. Sobczak, University of St. Andrews
Awarded RMS ECR travel bursary
Single-molecule imaging of ACE2 in living Calu-3 human lung cells
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- 14:00 – 14:10 Dr Helen Dodson, NUI Galway
Dynamics of GFP tagged chromatin factors RSF1, CENPS and CENPX at microirradiation induced DNA damage sites
- 14:10 – 14:20 Dr Sarah Keary, ICFO-Institut de Ciencies Fotoniques
Winner of focal plane travel award.
Super-resolution microscopy reveals hierarchical organisation of spatially segregated protein nanoclusters within focal adhesions
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- 14:20 – 14:30 Questions
- 14:30 – 15:00 Invited Speaker
Dr Jenna Cash, University of Edinburgh

TEA/COFFEE

Session 4: Community Development

- 15:15 – 15:45 Invited Speaker
Dr Caron Jacobs, University of Cape Town
- 15:45 – 15:50 [Mason Technology](#) Technobite
- 15:50 – 16:00 Dr Heiko Düssmann, RCSI Dublin
3D image analysis of mitochondrial morphology within the international research consortium PD-MitoQUANT
- 16:00 – 17:00 Panel Discussion
Panelists include:
Prof Garry Duffy (Vice Dean for Research and Graduate Studies, NUI Galway),
Dr Jennifer Brennan, Director of Research Development and Innovation, The Technological Higher Education Association
Dr Lisa Keating, Director of Research and Innovation, Irish University Association
Ms Ruth Kelly, SFI Strategy & Transformation Lead at Science Foundation Ireland

17:30 – 19:30 Poster session

20:00 - Late Gala dinner


Friday 8th April

Session 5: Materials

- 9:30 – 10:00 Invited Speaker
Dr Raymond McQuaid
Understanding functional properties of materials at the nanoscale using Scanning Probe Microscopy
- 10:00 – 10:10 Dr Jonathan Peters, Trinity College Dublin
Fast frame-rates from STEM interlacing: Two frames for the price of one
- 10:10 – 10:20 Ms Lucia Hughes, Trinity College Dublin
Winner of Jeol travel award
 *The Advanced Electron Microscopy Characterisation and Structure-Property Correlation of Barium Manganese Oxide for the Oxygen Reduction Reaction*
- 10:20 – 10:30 Mr Eoin Moynihan, University of Limerick
Experimental Optimization and Data Analysis of In-Situ Electron Energy Loss Spectroscopy
- 10:30 -10:40 Questions

TEA/COFFEE

Session 6: Correlative & Multimodal Imaging

- 11:00 – 11:30 Invited Speaker
Prof Paul Verkade, University of Bristol
Many ways to do CLEM
- 11:30 – 11:40 Dr Nirod Kumar Sarangi, Dublin City University
Microcavity array supported lipid bilayer model for visualizing lipid-protein and lipid-drug interactions
- 11:40 – 11:50 Ms Chenxi Hao, University College Dublin
Microfluidics and Microscopy: A Powerful Combination for the Development of Novel Micro- and Nano-structured Soft Materials with Designer Functionality
- 11:50 – 12:00 Ms Niamh Duffy, NUI Galway
Investigation and Characterisation of NanoStar-Labeled Mesenchymal Stem Cells for in vivo Cell Tracking in Osteoarthritis using Optoacoustic Imaging
- 12:00 – 12:10 Questions
- 12:10 – 12:55 Keynote Speaker sponsored by [Mason Technology](#)
 Dr Anna Rupp-Sartori, Institut Pasteur, France
Cryo-correlative light and electron tomography: a 3D glimpse into intact cells with nanometre scale resolution