SEE THE HIDDEN AT MICRON: VISUALIZING ORGANOID COMPLEXITY THROUGH ADVANCED IMAGING

Friday, February 27th, 2026 | 09:30 AM (London)

Professor Lothar Schermelleh

Director, Micron Bioimaging Facility, University of Oxford

Dr Pablo F. Céspedes

Group Leader, Nuffield Department of Medicine, University of Oxford

Dr Ricardo Marquez Gomez

Postdoctoral Research Scientist, Department of Physiology, Anatomy and Genetics, University of Oxford

Dr Colin Chu

Academic Ophthalmologist, UCL Institute of Ophthalmology

Dr Tom Phillips

Advanced Workflow Specialist – Lightsheet Microscopy, Leica Microsystems

Dr Emmanuelle Steib

Advanced Workflow Specialist – Confocal Microscopy, Leica Microsystems

Dr Deirdre Kavanagh

Manager, Micron Bioimaging Facility, Department of Biochemistry, University of Oxford

Dr Niloufer Irani

Deputy Manager, Micron Bioimaging Facility, Department of Biochemistry, University of Oxford

You will learn:

- How human-relevant models are helping to answer key questions across applications including cancer immunotherapy, neurodegenerative disease, and ocular immunology
- How new confocal and light sheet imaging approaches can enhance throughput, depth, and compatibility with complex organoid and 3D human-relevant models
- How spatial biology tools can be applied to characterize organoids

Image: Patient-derived pulmonary neuroendocrine tumor organoid labelled with DAPI (cyan), phalloidin (magenta), beta-catenin (green), and ZO-1 (yellow). Sample courtesy of Marina Cuenca and Heleen Jungen, Talya Dayton lab, EMBL Barcelona.

Leica MICROSYSTEMS

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SCIENTIFIC PROGRAMME

- **Welcome and opening remarks**
  09:30–09:35 | Professor Lothar Schermelleh, Micron Oxford & Binson John, Leica Microsystems
- **Micron at-a-glance: facilitating cutting edge research**
  09:35–09:45 | Professor Lothar Schermelleh, Micron Oxford
- **Imaging approaches to visualize organoid complexity**
  09:45–10:05 | Emmanuelle Steib, Leica Microsystems
- **Spatial biology as a tool to characterize retinal organoids**
  10:05–10:35 | Dr Colin Chu, University College London, Institute of Ophthalmology
- **Visualizing life in 3D with innovative lightsheet solutions: an introduction to Viventis SCAPE and Viventis Deep**
  10:35–11:05 | Tom Phillips, Leica Microsystems

COFFEE BREAK: 11:05–11:25

- **Decoding how immune receptors and extracellular vesicles build lymphocyte networks using synthetic cells and lymphoid organoids**
  11:25–11:55 | Dr Pablo F. Céspedes Donoso, Oxford Institute, Nuffield Department of Medicine, University of Oxford
- **Implementing optical readouts for hiPSC neuronal circuits**
  11:55–12:25 | Dr Ricardo Marquez Gomez, Department of Physiology, Anatomy and Genetics, University of Oxford
- **Closing words**
  12:25–12:30 | Professor Lothar Schermelleh, Micron Oxford & Binson John, Leica Microsystems

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Join us for the next hybrid edition of our See the Hidden series, broadcast live from the University of Oxford, in collaboration with the Leica Centre of Excellence at the Micron Bioimaging Facility. Leading researchers will share how they use advanced 3D model systems to explore cellular organization, dynamic processes, and disease phenotypes.

Organoids and other human-relevant models are transforming biomedical research and drug discovery as part of new approach methodologies (NAMs) and non-animal technologies (NATs). Their growing complexity, however, creates new challenges for visualizing deep structures and processes across large spatiotemporal scales.

In this event, we will explore how the latest imaging strategies can help address these demands and provide an exclusive look at what's coming next in organoid imaging!

Featured technologies:

- High-speed confocal imaging with THUNDER Imager Cell Spinning Disk
- Advanced, gentle dual illumination, dual view light sheet imaging with Viventis Deep
- Plus, a special preview of Viventis SCAPE (Swept, Confocally-Aligned Planar Excitation) microscopy – the next generation of light sheet microscopy!*

Join live to put your questions to the experts and gain fresh insights to advance organoid research and imaging performance.

Special thanks to Niloufer Irani, Deirdre Kavanagh, and Lothar Schermelleh from the Micron Bioimaging Facility, and Deepthi Konthalapally, Sarah Piper, Tom Phillips, Emmanuelle Steib, and Tracey Williams from Leica Microsystems for their support with this event.

* This is a preliminary status of Viventis SCAPE. Specifications might be subject to modifications