Imaris interactive visualization and analysis Workshop
Dr Michael Mahlert, Oxford Instruments

Workshop location: Meeting room, 1.624

Imaris is a powerful and solution for interactive visualization and flexible analysis of 3D microscopical datasets and 3D time series. It includes modern machine learning tools for solid and reproducible segmentation and is designed to work with very large datasets in the terabyte range. The latest Imaris version 11 introduces a new interface with an intuitive step-by-step protocol system that streamlines 3D image analysis at all levels. This enables the user to accelerate discovery through automated, reproducible segmentation and data exploration. This workshop gives an introduction and overview about the Imaris software. In interactive hands-on participants will learn how to use the new interface and how perform the most important and powerful visualization and analysis steps and how to apply analysis to multiple datasets and to identify trends in experimental groups. Imaris will be provided for the workshop in virtual machines running in the browser. Please bring your own laptop with internet access and a 3-button mouse to the workshop.

Key experience: Software demonstration with the option to have hands-on, if you bring your own laptop and a 3-buttion mouse.

Time: 45 min

In-vitro modelling by ibidi - From cell-based biochips to microfluidics and physiologically environment
Dr Christiane Thanisch, Ibidi

Workshop location: Meeting room, 02.322

This workshop highlights how ibidi imaging chambers enable physiologically relevant 2D and 3D cell culture optimized for high resolution microscopy. Their unique geometries, the use of biocompatible materials (such as hydrogels), and excellent optical quality support reliable in vitro cell models for live cell imaging and quantitative analysis under physiological conditions.
In this workshop, we will provide tips and tricks for sample preparation for flow environments in microfluidic chips and present innovative technologies for specialized surfaces that promote structured cell growth and allow customized design.

Key experience: Learning about ibidi chambers/surfaces and get tips for sample preparation microfluidics and micropatterning.

Time: 45 min

VisiSRRF – Super-Resolution by Radial Fluctuations live on the VisiScope 4-Elements System
Dr Marcel Dunkel, Visitron Systems

Workshop location: 00.261 Microscopy lab

Our workshop focuses on the (e)SRRF algorithms (Super Resolution by Radial Fluctuations) by Gustafsson et al. (2016 Nature) and Laine et al. (2023 Nature), which are implemented in the VisiView software via a virtual camera (SRRF acquisition mode).VisiSRRF delivers universally applicable super-resolution (70-110 nm) on any conventional fluorescence microscope – without special fluorophores, without high light intensity and without 3D data. The algorithm utilises radial fluctuations in short image sequences (~100 frames at ~10 ms), works with any conventional fluorophore and is specifically optimised for live-cell imaging: extremely low excitation power, maximum speed thanks to the ViRTEx real-time controller, and significantly faster processing in VisiView than nanoJ-(e)SRRF. In the workshop, we will demonstrate live on the VisiScope 4-Elements system (Spining Disk CSU-W1 + sCMOS cameras) the simple setup of a SRRF experiment in VisiView and the real-time processing of the acquired data into high-resolution images. This workshop offers a unique opportunity to discover an affordable, ready-to-use super-resolution technique for your own system and to discuss SRRF technology with a Visitron expert.

Key experience: Learn how to implement real-time super-resolution imaging based on nanoJ-(e)SRRF for live-cell applications.

Time: 45 min

ZEISS Axioscan 7: Your key to upscaling spatial biology
Dr Kieren Sommer, Zeiss

Workshop location: Lab 01.173 (Khmelinskii)

Join Kieren from ZEISS in our lunchtime workshop, together with Adrian from Revolune, to illuminate what matters as you explore the entire workflow from staining to final analysis. See firsthand how effortlessly the Axioscan 7 spatial biology platform streamlines every step, and discover how you can turn your spatial biology questions into a robust, high throughput, end-to-end workflow in your own lab.

Key experience: entire spatial proteomics workflow from staining to final analysis.

Time: 45-60 min

EVOS S1000 Hands-On Workshop — Effortless 9-Marker Multiplex Tissue Imaging
Dr Maxime Mioulane, Thermo Fisher

Workshop location: 00.261

For researchers looking to move beyond 3–4 markers, the EVOS S1000 offers an accessible path to expanded multiplex immunofluorescent tissue imaging without the complexity of ultra-high-plex platforms. In this hands-on workshop, we will introduce the EVOS S1000 spatial imaging system and demonstrate how its intuitive software supports up to 9-marker imaging to give you deeper spatial context in your samples. Following an overview, we will deliver a live demonstration showcasing its user-friendly interface and powerful features. The workshop concludes with an open Q&A where you can explore how the EVOS S1000 fits into your research or service pipeline.
If you would like to bring your own samples to the workshop, please contact **Dominic Kamps** at dominic.kamps@thermofisher.com.

*Key experience: E*xpand your spatial tissue imaging up to 9 markers using the EVOS S1000 system.

Time: 45 min

Hands-on with Vulcan: Fast Temperature Control at the Microscope
Dr Juan Manuel Iglesias & Dr Anatol Fritsch, Blue Ice Lab

Workshop location: seminar room 00.322 & -1.291 (Thunder Microscopy lab)

This hands-on workshop offers participants the opportunity to explore Vulcan in action. Vulcan is a microscope slide based system that covers a temperature range from -10 to 80°C. It allows for rapid temperature transitions of up to 1.3°C/s and is fully software controlled. Experiment profiles can be designed, saved, and exported directly, making data management and preparation for publication straightforward.
The session will walk participants through the full experimental workflow, starting with sample preparation and assembly on the temperature-controlled stage. Participants will also explore the software hands-on, creating an experiment profile from scratch, running it live on the system, and exporting the resulting data. As a live demonstration, we will use an ATP/Polylysine model system to visualize reversible phase separation in real time, where droplets form at low temperatures and dissolve as the temperature rises, providing an intuitive and visually striking illustration of what precise thermal control makes possible at the microscope.
Participants are also welcome to bring their own samples to test Vulcan's capabilities directly on their system of interest, and to discuss how the system could be integrated into their own experimental workflows.

Key experience: Theory and hands-on experience about precise thermal experiments on the Vulcan stage, e.g. visualization of real-time phase separation.

Time: 45 min

Smart Imaging Workshop with Nikons Eclipse Ji and Cicero Spinning Disc
Dr Kevin Küpper & Dr Steven Bump, Nikon

Workshop location:
LMCF – Light Microscopy Core Facility
Hanns-Dieter-Hüsch-Weg 15 6 17
55128 Mainz

Date: 11 – 13 May 2026
Registration:
https://outlook.office.com/book/NikonWorkshopEclipseJiCiceroSpinningDisc@nikonglobal.onmicrosoft.com/s/NWQK5LDshUW--orOPJcb9A2?ismsaljsauthenabled
Or contact: Steven.Bump@nikon.com

Nikon is proud to present its newest Digital Smart Imaging Inverted Microscope, the Eclipse Ji. Experience the superior optical quality and intuitive operation in a hands-on session with the opportunity to bring your own samples. Additionally, the workshop will also give you the opportunity to test one of the newest spinning disc systems on the market, the Crest Cicero. This easy-to-use, benchtop solution offers an affordable introduction into the world of spinning disc-based confocal imaging. We look forward to welcoming you to our workshop at the LMCF on the JGU Campus from May 11th to 13th.

Key experience: Hands-on experience testing the new Eclipse Ji microscope and Crest Cicero spinning disc confocal system, with the opportunity to bring own samples.

Beyond Labels: Correlative 3D Imaging of Live Cells and Complex Models with Holotomography and Spinning Disk Confocal Microscopy

Workshop location:
IMB Microscopy & Histology CF
00.261 (Histology lab, demo space)

Date: 07 – 11 May 2026
Contact: Dr. Reza Pari-Nejad, Tomocube (Reza.p@tomocube.com)

Understanding complex biological samples requires more than structural imaging or fluorescence labelling alone. Holotomography (HT) and spinning disk confocal microscopy (SDC) offer a complementary solution. HT provides label-free 3D visualisation and quantitative refractive index information from live specimens. In contrast, SDC enables optically sectioned fluorescence imaging for precise localisation of molecular targets, particularly in multicellular and optically complex samples.
In this talk, we will present HT-X1 Plus with SDC and show how this correlative imaging workflow connects 3D cellular architecture with molecular information in the same sample. By combining label-free structural context with targeted fluorescence information, researchers can interpret subcellular features more confidently, track phenotypic change over time, and examine organisation and variation within complex specimens.
Representative applications include adherent cells, organoids, and iPSC-derived models. These examples illustrate how integrated HT and SDC support live-cell studies that benefit from both non-invasive 3D imaging and fluorescence-based specificity, including advanced *in vitro* models relevant to regenerative medicine. Overall, this presentation will highlight how correlative HT and SDC expand live-cell imaging from observation to deeper biological interpretation.

Key experience: Discover how correlative Holotomography and Spinning Disk Confocal microscopy combine label-free structural context with fluorescence specificity to enable deeper live-cell biological interpretation.