

# From Images to Knowledge with ImageJ & Friends

virtual conference

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Conferences



## Management, sharing, publication and analysis of data in OMERO

**Tutors:** Jean-Marie Burel (j.burel@dundee.ac.uk)  
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**Session 1:** 2020-11-30 19:00 UTC – 2020-11-30 23:00 UTC

**Session 2:** 2020-12-02 09:00 UTC – 2020-12-02 13:00 UTC

## Topic area

Image data annotation and sharing and Bioimage analysis workflows

## About the tutors

Petr Walczysko, see [information about the tutor on the OME website](#)

One other member of the [OME team](#)

## Tutorial Title

Management, sharing, publication and analysis of data in OMERO

## Tutorial Abstract

The Open Microscopy Environment ([OME](#)) is an open-source software project that develops tools that enable access, analysis, visualization, sharing and publication of biological image data. OME supports more than 150 image data formats across many imaging modalities including fluorescence microscopy, high-content screening, whole-slide imaging and biomedical imaging.

OME's tools support multi-dimensional imaging data acquired across a wide number of domains in biological imaging, including multi-dimensional timelapse, high content screen and digital pathology. OME's OMERO is an open source, enterprise software platform for image data management and analysis. OMERO is used in 1000s of institutions worldwide for managing, sharing, analysing and publishing imaging datasets.

This workshop will cover all of the main functions of OMERO. We will demonstrate data import, organisation, viewing, searching, annotation and publishing. After we cover the basics of OMERO, we will demonstrate manual data processing and automated processing workflows using a range of open source applications running alongside OMERO. We will demonstrate how to integrate a variety of processing tools with OMERO such as ImageJ/Fiji, ilastik, CellProfiler, and how to store analytical results alongside the image data for further analysis or, for example, publication.

These hands-on practicals will be run using public examples of multi-dimensional fluorescence, HCS and digital pathology data, hosted in the Image Data Resource ([IDR](#)), which is based on OMERO and other public resources.

This workshop is designed for researchers at all levels who work with data from digital microscopes or other imaging systems. The workshop includes presentations and a hands-on session. Prior knowledge in microscopy, scripting and data analysis is not required. Any student/researcher dealing with scientific images is more than welcome to join this workshop.

## Tutorial Outline

The technical requirement for the course participants is to have a working internet connection, a laptop or desktop computer, preferably with a pre-installed Fiji application (not a necessity). All the other materials and resources, such as access to OMERO.server will be provided by the tutors. Due to the time limit, we will focus on the OMERO.web client using your favorite web browser. Desktop and Command line tools are also available.

The rough programme of the course is:

## OMERO core concepts

- Data management: Cooperation and Metadata
- Viewing data in the web
- Mining analytical results using OMERO.parade
- Prepare data for publication using OMERO figure
- Analyse data hosted in Image Data Resource using 3rd party tools: We will show how to analyse data using User Interfaces and/or APIs in multiple programming languages.