

## Using the LCI OMERO server for data management, sharing and much more

### **1. What is OMERO and how can it help you?**

OMERO is a database that allows you to manage and share your data easily (even outside of KI) as well as do other useful stuff like make figures for publications or posters. The OMERO server and database are located inside KI so it is safe to use but you can anyway access your data from anywhere, over the web.

- You can mark your best images with a star to be able to easily find them in a few months.
- You can attach a protocol, an article or a presentation to the images...
- Most importantly the images are in the original format delivered by the microscope, so all the metadata (details of the acquisition) is there. This way, you will always be able to tell which microscope you acquired the images and which laser power you used.
- You can tag the images so that you can later filter all the images you acquired on one microscope or using samples labelled with your favourite antibody... Tagging the images is easy and can be done in batches, when uploading the data.
- OMERO.figure is a fantastic tool to easily make figures for publication. All the channels images are zoomed in the same way and aligned automatically, including the name of the labelled molecules, the scale bar...

### **2. How to get started**

#### **a. Ask the LCI staff to create an account for you on the LCI OMERO server.**

We will send you an email with your credentials.

#### **b. Change your password**

Open your browser and type [omero.ki.se](http://omero.ki.se) in the address bar. Login with your credentials. The first time you log in, change your password by clicking on your name at the top right and selecting User settings. It is best to use a password that is not the same as your KI password to avoid getting confused when you are requested to change your password for KI.

#### **c. Download the OMERO.Insight client software to your computer.**

OMERO.Insight is a freeware located on your computer. **OMERO.Insight is only used to upload images to the LCI OMERO server. After the upload, you will access and work on your data via your browser.**

Follow the instructions [in this video](#) to install OMERO.Insight and log in to your account on the LCI OMERO server.

Windows users: please download the .exe file. The server address is [omero.ki.se](http://omero.ki.se).

If you get a message when downloading saying that 'the developer has not been verified', do the following:

- Open your System Preferences, you can do it if you click on Apple icon in top left of your Mac screen, see [1]
- Find the "Security and Privacy" icon and click onto it [2]
- Make sure you are on the "General" tab in the window which newly opens [3]
- Click "Open Anyway"
- In the new dialog, click "Open" [4]

### **3. How to use OMERO**

#### **a. Uploading data to the database**

To upload data, use OMERO.insight. Also follow the instructions in the video above to upload all your images to the server. Only upload images in the original format delivered by your microscope. [Help to upload images with OMERO.Insight](#)

**Once the upload is finished, close OMERO.Insight as it is only used to upload data, not to work on them. Work with your uploaded data using OMERO.web via your browser.**

**b. Make figures and poster with OMERO.figure**

OMERO.figure will allow you to:

Use your images in the original format (no need to convert)

Add a scale bar and any annotation you want (arrows, text, freehand form...)

Adjust brightness and contrast

Split the image to show the overlay in colour and each channel in black and white

Change the name of the channels and place the name e.g. vertically or horizontally near each panel

Include any segmentation that you have done in another software

Show a full image as well as a zoomed in part of that image. You can move the zoomed in part around in the full image and display will automatically update everything

All images can automatically be aligned just in one click

And much more ☺

Omero.figure is free and offers a lot more possibility (link to metadata, analysis...) compared to Illustrator, which is not free. Photoshop is expensive and is meant for photographers, not scientists. It is very easy to make serious scientific mistakes with Photoshop and be later accused of manipulating the images.

Follow the instructions in [this video](#) or [this written guide](#) to modify and annotate your images then create a figure. Ignore the 'Install OMERO.figure' button on the page. You do not need to install anything else than OMERO.Insight which is used to upload your images.

Tips: Here is [how to draw ROIs](#). Note that you need to use Click - Move - Click to create an ROI, not Click and Drag as this moves the image. ROIs created in other software (e.g. Fiji, Python...) can also be imported in OMERO.

If you double click on an image, the full viewer opens. Note that drawing an ROI is not done the same way in the full viewer (1 single click to select the starting point of the ROI and 1 single click to select the end) and in OMERO.figure/label (Click at starting point, drag and drop at end).

The Draw polygon tool: click shift then draw the shape without clicking, only drawing.

Select the ROIs by clicking on each ROI row (they become blue) to delete them.

Using ctrl one can select several images then right click and open in iviewer, one can open several images at once.

**c. Sharing data with KI or external collaborators**

Ask the LCI to create an account for your boss or your collaborator. We need the name, which group the collaborator should be associated with and the level of permissions (only viewing or able to download or to modify).

To share data, place it in the public group. The images are moved, not duplicated. There is a way to duplicate it first. Share the link from the public group. Watch [this video](#) to learn how to move data between groups.