

Learning objectives for the LCI training for Theia and Iris

During the LCI training, we provide teaching as well as scientific advice.

A. Scientific advice

We discuss with you how to adapt your sample preparation and experiment goals to minimize sample to sample variability and ensure extraction of reliable data.

B. Training

At the end of the training, you should be able to independently perform the following actions:

1. Operate the equipment.

- ☐ Turn the equipment on/off according to the recommended procedure that leaves the equipment and the whole area clean.
- ☐ Mount and find your sample according to the recommended procedure that is safe for the sample and the equipment.
- ☐ Transfer the data according to the recommended safe procedure.
- ☐ Write the Material and Method section for your imaging experiment to enable reproducibility by other researchers.

2. Identify and eliminate typical microscopy artifacts: bleedthrough, saturation, undersampling.

- ☐ Assess the efficiency of imaging and the potential for bleedthrough for the fluorophores in the sample when using the microscope selected for the training.
- ☐ Identify saturation/underexposure in acquired images, explain the consequence of both and explain how to eliminate these artifacts.
- ☐ Choose appropriate optical and digital resolutions to minimize undersampling artifacts and be able to reliably answer your scientific question.
 - ☐ Objective
 - ☐ Binning

3. Adapt the imaging parameters to ensure extraction of reliable data.

- ☐ Choose appropriate acquisition parameters to optimize acquisition speed and signal to noise ratio to be able to reliably answer your scientific question.
 - ☐ Illumination power
 - ☐ Exposure time
 - ☐ Gain
 - ☐ Look-Up Tables