

## SUMMARY

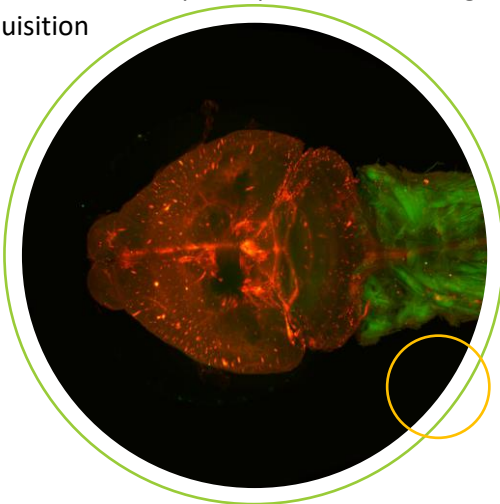
Exploring the three-dimensional organization of intact tissues has a high impact in the biomedical research field. Lightsheet fluorescence microscopy (LSFM) has arisen as a powerful method for efficient 3D imaging of live and fixed specimens. Its high acquisition speed and low bleaching, combined with the new tissue clearing techniques, enables imaging from millimeters to centimeters of tissue, revealing the full 3D structure of the specimen without sectioning.

In this workshop, we will focus on the advantages and the main challenges in the state-of-the-art clearing techniques. We will demonstrate the LSFM imaging capabilities with readymade cleared samples, using the 3i Cleared Tissue LightSheet and the Zeiss LS7 microscopes.

In addition, we will briefly show different approaches for the large data handling, analysis and rendering

The workshop will start with lectures open to 80 participants, followed by hands on sessions for 16 participants on clearing methods, and image acquisition with both microscopes.

If you are interested, you could discuss the experimental design of your project with the leading experts from Zeiss and 3i and bring your own samples for imaging.



# Lightsheet Imaging Workshop

4-5 December  
2023



CFIM  
BMI at Copenhagen University



**SCHEDULE** **December 4th**

9:00	9:30	Challenges in thick sample imaging	Pablo Varas CFIM	Faculty club 16.6, Panum
9:30	10:00	Introduction to lightsheet microscopy	Jana Harizanova CFIM	Faculty club 16.6, Panum
10:00	10:45	Overview of the tissue clearing approaches	Jacques Paysan Zeiss	Faculty club 16.6, Panum
10:45	11:00	Coffee break		
11:00	11:15	Introduction on Zeiss LS7 microscope	Maria Trulsson Zeiss	Faculty club 16.6, Panum
11:15	11:30	Introduction on 3i CTL microscope	Daniel von Wangenheim, 3i	Faculty club 16.6, Panum
11:30	12:00	Image analysis of large 3D data sets – challenges and opportunities	Tricia Loo DBI-INFRA	Faculty club 16.6, Panum
12:00	13:00	Lunch		
13:00	16:00	Hands on sessions		CFIM, 21.01

**December 5th**

9:00	10:30	Hands on sessions	Zeiss, 3i, CFIM	CFIM, 21.01
10:00	10:45	Coffee break		
10:45	12:15	Hands on sessions	Zeiss, 3i, CFIM	CFIM, 21.01
12:15	13:00	Lunch		
13:00	15:00	Individual 15 min booking slots for project discussion or user samples' imaging	Zeiss, 3i	CFIM, 21.01

