

Workshop

Title:	Conventional fluorescence microscopy, laser scanning microscopy and digital image processing
Date, duration:	On demand, 17-19 September 2024 / 3 days
Location:	DBMR LCI Core Facility, Murtenstrasse 28, 3008 Bern
Lecturer(s):	PD Dr. Fabian Blank (DBMR, LCI) Dr. Yury Belyaev (MIC) Dr. Seyran Mutlu (DBMR, LCI) Dr. Ana Stojiljkovic (DSL) Martina Dzepic (DBMR, LCI)
Contact:	fabian.blank@unibe.ch
Number of participants:	Max. 20 students
Target audience:	Master and PhD students of the University of Bern. Attendees of the Lecture Series on Advanced Microscopy plus exam (KSL 9256)
Registration:	Send request to Fabian Blank (fabian.blank@unibe.ch)
KSL:	12284
Reward:	1.5 ECTS/Poster
Costs:	CHF 300 per student of the University of Bern. - Other participants, please request quote. - PhD students enrolled in the Graduate School for Cellular and Biomedical Sciences (GCB) can apply for refund at the PhD specialization program Cutting Edge Microscopy. Contact cem.mic@unibe.ch .
Learning goals:	Overview of workflow in fluorescence imaging from sample preparation to image processing, highlighting most important procedures.
Description:	Teaching of basics 1. Sample preparation (Theory) a. The use of fixed samples (what is the ideal fixation method?)



- b. Labelling of individual samples with immunofluorescence and fluorescent labeling
 - c. Mounting of samples (requirements for mounting media and coverslips etc.)
- 2. Microscopy (Practical)
 - a. Conventional Fluorescence Microscopy
 - b. Single-point confocal
 - c. Multi-point confocal
 - d. Live cell imaging
- 3. Image processing (Practical)
 - a. Visualize, process and analyze your data: We will focus on workflows employing FIJI and will touch on other software applications (e.g. QuPath)
 - b. Optimizing fluorescence signal quality (deconvolution, Huygens Remote Manager)

Course structure: Lectures and practical trainings

Assessment: Poster or oral presentation or exam