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UNIVERSITÄT  
BERN

<b>MIC training:</b>	<b>Adaptive feedback microscopy</b>
<b>Date:</b>	November 09-10, 2023
<b>Time:</b>	9 am – 5 pm
<b>Location:</b>	IEE, Baltzerstr. 6, room D107, 3012 Bern.
<b>Trainer:</b>	Dr. Aliaksandr Halavatyi, EMBL Heidelberg (DE).
<b>Organizer:</b>	MIC of the University of Bern ( <a href="http://www.mic.unibe.ch">www.mic.unibe.ch</a> ). Dr. Yury Belyaev, MIC, University of Bern (CH) Supported by the PhD specialization Cutting Edge Microscopy.
<b>Number of participants:</b>	minimum 6, maximum 8.
<b>Registration:</b>	until November 2, 2023, <a href="#">here</a> .
<b>Target audience:</b>	PhD students, postdocs, and everyone interested in adaptive feedback microscopy. Previous experience with Zeiss confocal microscopes and basic knowledge of image analysis is preferable.
<b>Credits:</b>	Certificate of attendance. On request, PhD students of the Cutting-Edge Microscopy program can obtain 0.5 ECTS for this course upon presenting the learning outcome in the context of his/her project at a separate meeting.
<b>Background:</b>	The adaptive feedback microscopy combines different imaging modalities with automated image analysis to allow real-time adjustment of the image acquisition parameters based on feedback from the imaged sample (see C. Tischer et al. (2014) <i>Methods Cell Biol</i> ). For example, low-resolution images can be automatically processed to identify target objects (e.g. organelles, cells or multicellular structures) and subsequently image them in high content modality. Moreover, adaptive feedback microscopy is frequently applied to automate object tracking, photo-manipulation experiments (e.g. FRAP, photoactivation), perform ablations, etc.
<b>Content:</b>	Basic concepts of adaptive feedback microscopy. Overview of possible implementations and biological applications. Use of Zeiss Zen Blue confocal microscopes with Fiji AutoMicTools plugins for microscope automation.
<b>Learning outcome:</b>	Participants will learn how to design adaptive feedback microscopy experiments for different applications. They will practice debugging and running automated experiments on confocal microscopes controlled by Zeiss ZEN blue software.
<b>Course fee:</b>	Free or charge. Cancellation after November 2, 2023 or no show – administrative fee of 100 CHF.
<b>Schedule:</b>	See next page.

## MIC training: Adaptive feedback microscopy

November 09-10, 2023

Time	Day 1 Thursday, 09.11.2023	Day 2 Friday, 10.11.2023
9:00-12:30		Hands-on group 1  Zeiss LSM 980 DBMR, Murtenstrasse 24, room 454.  Adaptive feedback microscopy A. Halavatyi, EMBL
12:30-13:30		Lunch
13:30-17:00	Lecture  Design and operation of adaptive feedback microscopy experiments A. Halavatyi, EMBL  Hands-on  Use of FIJI AutoMicTools plugins for testing image analysis and decision making in feedback microscopy A. Halavatyi, EMBL  Discussion of the participants projects	Hands-on group 2  Zeiss LSM 800 TKI, Freisetrasse 1, room 015.  Adaptive feedback microscopy A. Halavatyi, EMBL