Friedrich Miescher Institute for Biomedical Research

UNIVERSITÄT BERN

PERFORMANCE TESTS IN LIGHT MICROSCOPY

OVERVIEW	Modern light microscopes are sophisticated devices that require periodic maintenance to provide the best image quality. This course will present some basic performance tests to diagnose issues and benchmark performance of light microscopes.
LEARNING OUTCOME	Participants will be able to perform themselves tests on light microscopes to diagnose and potentially fix most common problems
DATE AND TIME	26 and 27 April 2023, from 09:30 to 17:30
LOCATION	Friedrich Miescher Institute for Biomedical Research Maulbeerstrasse 66, 4058 Basel
ORGANIZERS	Laurent Gelman, Friedrich Miescher Institute, Basel Yury Belyaev, University of Bern Sabine Reither, Friedrich Miescher Institute, Basel Laure Plantard, Friedrich Miescher Institute, Basel
PARTICIPANTS	Max. 12
REGISTRATION	Fee 60 CHF (includes 2 lunches and 4 coffee breaks) Selected participants will be informed by e-mail at the latest one week after the application deadline. Access registration page with this link, or with QR-Code: Performance Tests in Light Microscopy Friedrich Miescher Institute 26-27 April 2023
APPLICATION DEADLINE	10th of March 2023
AUDIENCE	Anyone in charge or planning to oversee a light microscope. This course is not suited for beginners in microscopy.
CREDITS	Certificate of attendance

PROGRAM

Day 1	
9:30 - 10:00	Welcome and introduction (room 5.39)
10:00 - 10:30	Microscope quality control overview Yury Belyaev
10:30 - 11:00	Point-Spread-Function Laurent Gelman
11:00 - 11:30	Coffee Break
11:30 - 12:00	Illumination power Laure Plantard
12:00 - 12:30	Field illumination uniformity Sabine Reither
12:30 - 13:00	Introduction to hands-on
13:00 - 14:00	Lunch break
14:00 – 15:30	Hands-on rotation 1 (room 2.16)
15:30 – 16.00	Coffee break (room 2.16)
16:30 – 17:30	Hands-on rotation 2 (room 2.16)
18:30 – 20:30	Course dinner (optional)
Day 2	
09:30 – 11:00	Hands-on rotation 3 (room 2.16)
11:00 – 11:30	Coffee break Room 2.16
11:30 – 13:00	Hands-on rotation 4 (room 2.16)
13:00 – 14:00	Lunch
14:00 – 14:45	PSF analysis with Napari and FIJI (room 5.39)
14:45-15:30	Field illumination uniformity analysis
15:30 – 16:00	Coffee break (room 2.16)
16:00 – 16:30	Illumination power analysis (FIJI, Excel)
16:30-17:00	How to store and compare all metrology data?
17:00-17:30	Wrap-up session

HANDS-ON SESSIONS

Hands on Session 1	Test sample preparation Laure Plantard
Hands on Session 2	Field illumination uniformity measurements Sabine Reither
Hands on Session 3	Illumination power measurements Yury Belyaev
Hands on session 4	Point-Spread-Function measurements Laurent Gelman