

Details

Advanced Light Microscopy Technology Platform (ALM)

The Advanced Light Microscopy Technology Platform (ALM) of the Max-Delbrück-Center (MDC) for Molecular Medicine, Berlin-Buch provides scientific support for research groups from MDC and from the associated Berlin Institute for Medical Systems Biology (BIMBS) and the Experimental and Clinical Research Center (ECRC), but allows also external users access to state of the art, high-end imaging techniques. ALM supports the research projects of the scientific groups with customised methodological expertise. ALM currently hosts 15 different high-end microscope systems covering confocal laser scanning microscopy, two-photon microscopy, wide-field fluorescence microscopy, TIRF microscopy, light-sheet microscopy, laser-assisted microdissection. These advanced imaging techniques can be applied to the study of a wide range of samples, from fixed specimens to live cells, tissue preparations, small organisms and animals. Advanced image analysis and processing tools as well as wet lab space and cell culture possibilities are available. Regular seminars covering the basics of light and fluorescence microscopy are offered. In addition to teaching theoretical and practical aspects of light microscopy to ALM users and assuring optimal performance of the instrumentation, we offer collaborative imaging projects tailored for individual user support covering a wide range of expertise, i.e. project planning, optimisation of sample preparation and image acquisition conditions as well as customised image analysis or establishment of imaging methods.

Address: Robert-Rössle-Str. 10
13125 Berlin
Berlin
Deutschland
[To website](#)

Host Institution

Max-Delbrück-Centrum für molekulare Medizin (Berlin) in der Helmholtz-Gemeinschaft
Robert-Rössle-Str. 10
13125 Berlin
Berlin
Deutschland
<http://www.mdc-berlin.de/en>

Scientific Domain

Primary Subjects:

- Biology

Secondary Subjects:

- Medicine
- Chemistry
- Physics

Category

Biomedical Imaging Facilities

Scientific Services

Wide-field fluorescence microscopy; Confocal Laser scanning microscopy; Two-Photon microscopy, second/third harmonic (SHG/THG); TIRF-Microscopy; Laser dissection microscopy; Photobleaching/-activation techniques; FLIM/FRET measurements; in-vivo/intravital Microscopy; Image processing (e.g. Deconvolution, Stitching); Image analysis (e.g. 3D Reconstruction, Tracking, Tracing, Colocalisation); Establishment and development of microscopy methods

Scientific Equipment

- confocal laser scanning microscope LSM 700, inverted
- confocal laser scanning microscope LSM 880 with 2P Laser, inkub., upright

- confocal laser scanning microscope LSM 980 with Airyscan, inverted
- confocal laser scanning microscope SP5, Tandem scanner, HyD, incubation, inverted
- confocal laser scanning microscope SP8, Tandem scanner, HyD, incubation, inverted
- confocal laser scanning microscope SP8 DLS, Tandem scanner, HyD, digital lightsheet, incub., inverted
- wide field fluorescence/TIRF microscope with 6 laser, EMCCD, incubation, inverse
- wide field fluorescence/laser microdissection microscope Zeiss with color camera, sCMOS, inverse
- Light-sheet microscope (Ultramikroskop) LVBT with white-light laser and sCMOS
- multi-photon microscope TRIMScope/LVBT with fixed stage, OPO , EMCCD and HsPMTs
- confocal Spinning Disc microscope, dual EMCCD-camera, FRAPPA unit inverted
- microscope with 2 ex. lasers (488/561 nm), 2 photon counting hybrid detectors, TCSPC, FLIM/PLIM, inverted
- Selective plane illumination-microscope, 4 lasers, 2 sCMOS cameras flexible sample holder
- STED microscope, 4 ex lasers, 2 depl. lasers, 4 APD detectors, inverted
- 4 high-end PC workstation of image analysis and processing

Keywords

- confocal laser scanning microscopy
- total internal reflection microscopy
- 2-photon microscopy
- wide field fluorescence microscopy
- laser microdissection
- Image analysis/deconvolution
- SHG/THG Imaging
- functional imaging: FRET, FLIM
- photoactivation, photoswitching
- Ca²⁺-imaging
- live/in-vivo/intravital imaging

Networks

GermanBioImaging

<https://www.gerbi-gmb.de/>

ELMI - European Light Microscopy Initiative

<https://elmi.embl.org/>

Users per annum

Internal Users: 200

External Users in total: 30

External Users: 30

External Users in the EU: 0

External Users outside of EU: 0