

Confocal microscope Leica with multiphoton excitation Leica SP8 WLL MP

Inverted Leica DMI8 stand with binocular, motorized condenser, side port for camera for image acquisition in bright field (BF), DIC and fluorescence, motorized scanning table (with 127 × 83 mm scanning range, image acquisition for ROIs, TileScan, Mark&Find), with Super Z Galvo insert (z-range: 1500 μm).

More technical details are available at <https://www.fgu.cas.cz/en/articles/566-leica-sp8-aobs-wll-mp-confocal>.

Location

Room DaI / basement / room 010 (tel. 2582)

Laboratory of Biomathematics, Institute of Physiology of the Czech Academy of Sciences, Vídeňská 1083, Prague 4, Czech Republic

Contacts

Manager:

Mgr. David Vondrášek

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Administrative tasks and technical operation, consultations.

Deputy Manager:

Ing. Mgr. Daniel Hadraba, Ph.D.

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Administrative tasks and technical operation in manager's absence.

Head of the Laboratory of Biomathematics:

RNDr. Jiří Janáček, Ph.D.

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Consultations in the field of image processing and analysis.

Usage rules

1. Registered users are enabled to make reservations of the microscope. Reservation instructions and rules are at <https://www.fgu.cas.cz/en/articles/664-reservation-czbi>. Any problems with the reservation system should be reported to IT Helpdesk, IPHYS CAS (helpdesk@fgu.cas.cz).

2. Users training. After registration into the reservation system, the user gains a status of the untrained user. To acquire a status of the trained user (who can work on the microscope independently), it is necessary to complete a mandatory training. This training includes work safety rules, microscope control and

operation and application tips. The [Training protocol](#) is issued and signed after the successful training. For training please contact the manager.

3. The device is used by the trained users in accordance with the [Training protocol](#). The work may be consulted with the manager during working hours (workdays 8 am to 5 pm). Do not hesitate to contact the manager e.g. for consultation of the experimental design, while changing the measurement protocol, when considering the use of a non-standard fluorescent dye or having specific needs for image acquisition, urgent experiment etc.

4. The user is obliged to fill in specifications of his/her usage into the microscope attendance book (name, start time, end time, affiliation, financial source for payment, experiment duration, purpose and notes) and signature. Information about fees is at <https://www.fgu.cas.cz/en/articles/672-poplatky-czbi>.

5. When the results are used in a publication, the users have to mention the used device. The Open Access users are further obliged to include the CzBI project in Acknowledgments: "The results were obtained using the National Infrastructure for Biological and Medical Imaging (Czech-BioImaging LM2018129 funded by MEYS CR)." Any questions will be answered by the manager.

6. Guidelines for handling the microscope.

- All the microscope configuration changes (hardware, for example filters) must be consulted with the manager in advance. The configuration can be changed by the user if and only if the user is trained and explicitly allowed by the manager to change the specific microscope configuration. However, the microscope configuration changes have to be returned to the default state at the end of the experiment unless stated otherwise by the manager.
- The mercury lamp should not be switched on earlier than 5 minutes in advance. Do not turn off the mercury lamp when it is planned to use the mercury lamp again within 20 minutes. Do not turn on the mercury lamp when it is still hot due to potential exposure to mercury vapour.
- Lasers in general must be turned off in LAS X software. Special attention must be pointed to Argon laser usage, which requires special system shut down procedure. DO NOT turn off the hardware laser power button, the system must stay turned on for about 15 minutes for Argon laser to cool down. Not following this rule will result in decreased service life of Argon laser or to its complete malfunction.
- Do not directly touch any optical parts by hand (objective lenses, filters, etc.). Do not use excessive force to change the microscope setting (objectives, incubator box, etc.) and rather contact the manager.
- At the end, the user is obliged to clean the working area, i.e. place used glass into the dedicated container and remove the immersion media from the objectives by using lens cleaning tissues. The user also immediately reports any unusual behaviour of the system to the manager and states the problem into the microscope attendance book. If not stated otherwise by the manager, the user always returns the microscope site into its default state.