

How to use the Research Core Unit for Laser Microscopy

Version 20230102

Using any of the microscopes requires training. An individual training session will be arranged on short notice. If possible bring your own samples to the training session.

A Windows log on account for the MHH domain is required (not for external users).

Every user should fill in the web “[application form](#)”. We will contact you and arrange a training session.

After the training session you can use the microscope on your own, but feel free to ask any time for additional assistance.

The user fees for the microscopes are:

For MHH and collaborators: 12 Euro per hour for all microscopes.

(External academia users pay 20 Euro per hour; industry 60 Euro per hour.

In order to make working in the facility easy, convenient and fair for everyone, it is necessary for all users to follow some rules:

1. Booking

The facility can be used 24 hours at 7 days a week.

Booking before use is obligatory. For booking use the web browser based booking system: <https://confocal.bpc.mh-hannover.de/>

The booking system is only accessible within the MHH.

Do not reserve a microscope more than 2 weeks in advance.

Overnight hours (22:00 - 7:00) are not shown in the scheduler but can be booked as other hours within the pop up window "Make a New Reservation".

If you do not use your slot delete your reservation. If you made a reservation you are responsible that the system is switched off. If you cancel your reservation on short terms make sure that the system is switched off, since the previous user did not know that you are going to cancel your reservation. If a microscope was not switched off the user will be charged for the hours the microscope was running.

2. Keys

The facility can be used 24 hours at 7 days per week.

From Mo to Fri, 9-17:00 all rooms are unlocked

If you are planning to use a microscope outside these hours, pick up a key in advance.

If your reserved time starts or ends between 17:00 and 9:00, or on Saturday, Sunday, and holidays, pick up a key from Oliver Terwolbeck between 9 to 17:00, Mo to Fri. If your work ends between 17:00 and 9:00, or on Saturday, Sunday, and holidays, lock the microscope room and the main exit.

Return the key to the mail box of the Laser Microscopy Facility, level S, in the hallway left from the stair case, second row, in the center.

The microscope rooms and the facility main door should only be locked between 17:00 and 9:00, or on Saturday, Sunday, and holidays.

3. Biological safety

Every room in the facility is S2 laboratory.

At times when S2 experiments are performed in this room, you are not allowed to enter the room. S2 experiments will be indicated by a sign at the outside of the door. When no S2 experiments are performed the room is run under S1 conditions and everyone who is authorized by the facility staff can enter the room.

4. Laser safety

During scanning, the laser radiation is freely accessible after exiting the objective in the specimen area of the laser scanning microscope. This circumstance demands special attention and caution. If the laser radiation comes in contact with the eyes, it may cause serious eye injuries. For this reason, prudent handling is absolutely necessary as soon as one or several laser emission warning indicators are lit. If used as prescribed and observing the safety notes during the operation of a laser scanning microscope, there are no dangers to the user.

1. According to IEC/EN 60825-1, the laser scanning microscopes are laser devices of class 3B or 4 (multi photon lasers only).
2. Never look directly into a laser beam or a reflection of the laser beam. Avoid all contact with the laser beam. Otherwise, your eyesight may be permanently damaged. A reflected laser beam is just as dangerous as a direct beam.
3. Never deactivate the laser protection devices. Read the chapter "What are the safety devices of the laser scanning microscope?" to familiarize yourself with the safety devices of the laser scanning microscope. If you find any of the laser protection devices inactivated, please contact the facility staff immediately.
4. Note that objects (such as micromanipulators) in the specimen area may cause laser light to exit the safe beam path during the scanning in an uncontrolled manner by means of reflection or scattering and endanger the environment.
5. Do not change a specimen during scanning.
6. Do not change any objectives during scanning.
7. All unused positions of the objective turret should be closed with a cap.
8. Do not change any filter cubes or beam splitters during scanning. Never disconnect an optical waveguide.
9. Never remove the scan head from the microscope stand during operation. Before removing the scan head, the system must be completely switched off.
10. Do not remove the microscope condenser.

5. Immersion oil

Always remove old immersion oil from the objective, before you add fresh ones.

Only use the lens tissues provided by the Laser Microscopy Facility staff.

In case there is oil on no-oil objectives, don't try to clean them but leave a note in the log book.

6 Data storage

You should never store data on the local computer hard disk. It is recommended to store original data always on the departmental HDD (P:). USB connected sticks or hard drives are not allowed.

7. Important phone numbers

Oliver Terwolbeck	8458	Rudolf Bauerfeind	3914
Zeiss 980 Airyscan	4429	Leica Inverted-2	4188
Leica Upright-MP	4111	Leica Inverted-3	4417
Nikon Spinning Disk	4157	Olympus FV1000	4941
ImageXpress	4299	Cell culture	4395
Computer room	4175		

8. Additional information for external users

- The user fees for external users are: 20 Euro per hour or 40 Euro per hour for the MP microscopes.
- Please try to make your reservations yourself using the online booking system. You are required to have your own booking account. If you are outside the MHH computer network you may call Oliver Terwolbeck (0511 5328458). He can make and delete reservations for you.
- Since you can not use the MHH network for data storage you are allowed to leave data on the local computer. Use USB devices data transfer and delete your data as soon as possible. Data that are older than three month will be deleted without further notice.