USER GUIDELINES

Updated 2026

1 FACILITY ACCESS

The CECAD Imaging Facility is accessible to all research groups from CECAD, the university and any other research institutes (private and public). CECAD groups are privileged in terms of booking and price rates. The Imaging Facility offers well maintained state-of-the-art light microscopes, electron microscopy equipment and and a transmission electron microscope, as well as highly qualified staff and a very good working environment. Services include, but are not limited to: microscope training, consultations during booking, advice on microscope techniques and sample preparation, software use, data handling & storage, or programming support for data analysis.

Access to the CECAD building is managed by the University Clinic. The Imaging Facility provides the necessary paperwork and helps with the process to obtain access to the building.

A university account is necessary to login at the workstations. The Imaging Facility assists users to obtain a guest account from the ITCC (Regionales Rechenzentrum Köln).

An initial training is mandatory before access to the Imaging Facility resources is granted.

LIST OF RESOURCES

Light Microscopy Platform

TCS SP8 MP-OPO, Multiphoton Microscope, FLIM (Leica Microsystems)
Stellaris 8 STED Superresolution and Confocal Microscope (Leica Microsystems)
SP8 Confocal Microscope (Leica Microsystems)
TCS SP8 gSTED Superresolution and Confocal Microscope, FLIM (Leica Microsystems)
Stellaris 5 Confocal Microscope (Leica Microsystems)
LSM980 Airyscan II (Carl Zeiss)
Elyra7 with Lattice SIM ^{2} (Carl Zeiss)
LMD 7 Laser Microdissection Microscope (Leica Microsystems)
SR GSD Superresolution and Widefield Microscope, TIRF (Leica Microsystems)
Nanozoomer S360 Histoscanner (Hamamatsu)
ImageXpress Micro4 (Molecular Device)
Evos FL Auto2 (Thermofisher Scientific)
2 Analysis Workstation for Image Analysis (e.g. Imaris, Huygens, Aivia)

Electron Microscopy Platform

Transmission Electronmicroscope JEM-2100Plus (JEOL)
Ultramicrotome UC6 with Cryo box (optional) (Leica Microsystems)
Ultramicrotome UC7 (Leica Microsystems)
High Pressure Freezer EM PACT2 (Leica Microsystems)
Freeze Substitution AFS2 (Leica Microsystems)
Trimming EM Rapid (Leica Microsystems)
Carbon Coater (Leica Microsystems)
Biowave (Pelco)
Cryo CLEM system (Leica Microsystems)

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2 COSTS & BILLING

The CECAD Imaging Facility charges for training and booking time of available resources. Resource booking is charged in 30 minute intervals and users only have to pay for the time they actually use equipment. Current price lists are available in the facility. Fee changes will be announced at least 3 months in advance. Booking times are recorded with an online-booking system and PI's are billed quarterly.

These fees are used to maintain equipment, pay for consumables and software updates to provide best working conditions.

The use of facility infrastructure can be financed by funding agencies (e.g. DFG) and the Imaging Facility can assist with necessary details.

3 GENERAL RULES AND USER RESPONSIBILITIES

Users are obliged to handle equipment according to the instructions given during training. Workspace should be left clean and data should be removed from workstations according to the instructions. The PI is responsible for the behavior of the user and the safety features of the particular experiments. The Imaging Facility provides the necessary training and equipment maintenance.

S1 areas within the facility are clearly marked and common S1 rules apply within these areas: e.g. no food and drink at all times, lab coats mandatory. The PI is responsible to register any S1 work with authorities; following these guidelines, the PI (or authorized person) is required to be a project manager for the particular user within the Imaging Facility. The project manager has to register the user's work within the Imaging Facility with authorities and copies of according documents ('Formblatt Z') have to be provided.

The rooms of the Imaging Facility are not designed for work with organisms classified S2 or higher.

Most microscopes in the Imaging Facility are equipped with class 3 and/or class 4 laser systems. These require that we adhere to German legislation regarding their safe use. Mandatory measures include yearly user training. Users have the responsibility to perform a laser safety training at least once a year to work in the Imaging Facility. This laser safety training is offered by the Imaging Facility.

Official working times in the Imaging Facility are Mo-Fr 8:00 – 17:00. Outside these times, the user is responsible to follow safety rules applicable to the particular experiments and to assure that help can be called in case of emergency.

The user has the responsibility to ensure that the employer's liability insurance covers the work in the Imaging Facility.

RESOURCE BOOKING GUIDELINES

An online booking calendar is used to create, modify and delete reservations of Imaging Facility resources. After training, a user obtains access to the respective resources in this calendar. User data (name, email, work phone, PI) are stored in the booking calendar and secured with a personal user login. The booking software is used to record booked time and calculate bills.

BOOKING CHANGES

Microscopes can be booked up to 2 weeks in advance. Reservations in the booking calendar are mandatory prior to the usage of Imaging Facility resources. In case a user repeatedly uses equipment without prior booking, facility access will be revoked and the PI will be informed about this behavior.

Reservations can be canceled prior to the start of a reservation; however, we ask users to be considerate with this short-term canceling which should only be used as an exception. In case this booking freedom is abused, we reserve the right to restrict possible cancellations of individual users.

Only Imaging Facility staff can change times during, or after, an active reservation. However, if the duration of an experiment changes (e.g. work done prior to the end of a reservation), we will change the reservation duration (30 minute intervals).

In case of technical issues or required maintenance work, resources will be blocked by Imaging Facility staff as early as possible and users with conflicting reservations are notified.

BOOKING PRIORITIES

Most cases of conflicting reservations should be directly handled between respective users; the Imaging Facility can help mediate these discussions. If this is not possible or no solution is found, following rules apply:

1. CECAD users have priority access
2. Resource access to meet publication deadlines (e.g. revision dates) are prioritized
3. Worst case, a commission consisting of the Imaging Facility Head and the Imaging Board will determine which user will be given priority access. This commission will be constituted case dependent and decides as quickly as possible.

MICROSCOPE USAGE GUIDELINES

Training is mandatory prior to microscope usage; this training is microscope specific. A maximum of 3 people can participate in group training. After this initial training, a user can independently book and use the

microscopes he has been trained on. For the first few sessions, we recommend to work in core hours in case further assistance is necessary.

At any time during microscope usage, users are free to ask Imaging Facility staff for assistance. If continuous assistance is necessary or experiments require more support by the Imaging Facility, possible collaborations should be discussed.

Furthermore, general rules apply (see above). Work instructions and a short reference poster can be found at each microscope workstation.

DATA HANDLING AND STORAGE GUIDELINES

During microscope usage, data is usually stored on local workstations. Each workstation has a dedicated data storage partition (usually D:\Users\). We recommend to use a folder structure following the scheme Group\User\AcquisitionDate\. Data which cannot be assigned to a group or user (e.g. D:\Users\New Folder\Image1.lif) and data stored on the system partition C:\ (e.g. C:\Users\jdoe\Desktop\Image1.lsm) will be deleted without further notice. After data acquisition, users have to transfer their data off these workstations within a week (4 weeks for data analysis workstations). Old data will be deleted without further notice to ensure that other users can use the microscope workstations without any problems.

For users affiliated with CECAD or the University of Cologne, we highly recommend the image database OMERO to manage microscopy data. On the acquisition computer the OMERO.insight client allows transfer of the data to the Omero.server. Contact the Imaging Facility staff if your group still needs to be registered for the use of Omero or if you require customization of metadata templates.
If your group's data management policies is not not favor of the management of image data via OMERO, an alternative option is to transfer the images to the NAS storage offered by ITCC via LAN-connection. In this context the Imaging Facility can assist users to obtain storage space at the RRZK and can provide individual storage solutions (up to TB+ range) for a fee.

Users from MPI Metabolism Research have access to another central network drive from which data is automatically transferred to MPI via a secure connection and fed into their own data management platform. For detailed instructions refer to this document: https://uni.koeln/MVXF4

For users from the MPI AGE, transfer via sFTP connection by means of the FTP client available on the acquisition computer to the central storage of MPI AGE is recommended. Contact the Imaging Facility or the IT staff at MPI AGE if you need support.

If a user generates >200 GB per week or session, we recommend to discuss individual solutions for efficient data handling, transfer and storage.

4 RULES FOR CITATION AND CO-AUTHORSHIP

The German Science Foundation (DFG) evaluates the impact and importance of core facilities to the cluster/institute/university based on their number of acknowledgments, citations and co-authorships. To ensure that the Imaging Facility can continue to provide the best service possible, maintain staff and acquire new equipment and software, it is important that all users adhere to the following guidelines.

ACKNOWLEDGMENTS

As soon as data were acquired or analyzed within the Imaging Facility or by Imaging Facility staff, the role of the facility has to be cited within the acknowledgments. This includes publications, talks, as well as Bachelor, Master and PhD theses. Also, please let us know whenever you acknowledge the CECAD Imaging facility!

Example:
We thank the CECAD Imaging Facility (and STAFF MEMBER) for their support (in microscopy / technique / data analysis).

In accordance with the DFG guidelines for Major Research Instrumentation, equipment acquired within the framework of DFG must be mentioned in the publication with the DFG funding number e.g. ***Funding for instrumentation: Zeiss LSM 980 Airyscan 2: DFG-INST 216/1068-1 FUGG***

CO-AUTHORSHIP

Core facilities have to bill for their services to keep the equipment in excellent condition, maintain staff, pay for software updates and consumables to obtain an optimal working environment for their users. Despite these fees, common rules for co-authorship also apply to Imaging Facility staff members (substantial intellectual or experimental contributions). Prior to a substantial contribution, the user has to inform the PI; the Imaging Facility further strongly suggests that a meeting between everyone involved (user, PI, Imaging Facility staff and head) should be held.