

Terms of Use for the Cryo-EM Facility at the University of Potsdam.

These regulations govern access to the cryo-electron microscopy (EM) facility at the University of Potsdam (UP). The facility allows transmission electron microscopy measurements under cryogenic temperatures primarily for biological samples and single particle analyses. The entire workflow for cryo-electron microscopy for structure determination of molecular protein complexes can be performed. The facility is located on the UP campus Golm (Karl-Liebknecht-Str. 24-25, 14476 Potsdam-Golm), building 25.A.2.17 and building 26.0.41. The facility can be contacted by e-mail at pewendler@uni-potsdam.de.

1. Setup of the facility

The facility is equipped with

- Equipment for sample preparation (located in building 25.A.2.17):

- Diener Zepto glow discharge unit
- Leica plunger EM GP2
- Manual plunger
- Carbon coater

- Cryo-FEG transmission electron microscope for analysis of cryo samples and contrasted samples (in building 26.0.41):

- FEI Talos F200C G2
- File server (60 TB) for short-term storage and redistribution of data

All equipment is owned by the University of Potsdam and was funded by the state of Brandenburg and the DFG through a DFG large-scale equipment application according to Art. 91b GG.

2. Facility Support

The facility is maintained by AG Wendler from Mon-Fri from 9:00-17:00. AG Wendler maintains the equipment, acquires data for users, assists users in using the facility, and can also provide training if time is available.

Petra Wendler (PW) manages the facility, which includes implementing new technology, scheduling upgrades, and monitoring access. Setup support continues to include:

Melanie Anding (Technical Assistant): anding@uni-potsdam.de

3. Access to facility

Appointments for the use of the cryo-EM infrastructure must be coordinated in advance with PW (reachable at pewendler@uni-potsdam.de). Access to the equipment is generally based on the order of requests and the availability of the

required resources and personnel. In the event of booking conflicts, PW will prioritize the allocation of microscopy time in consultation with users. Criteria include: Order of pre-registration, obligations for externally funded projects, internal use of UP, use by scientific cooperation partners outside UP.

Appointments must be requested in writing or via email to PW. The request should include: a) name, molecular weight, concentration, and buffer of the sample protein(s) b) name(s) of the person(s) visiting the facility c) goal of the project d) biosafety requirements of the sample. The facility will treat all data and user materials as proprietary and confidential to the user and will not disclose any data or user materials to anyone other than its employees as necessary to perform the work.

There are different types of users with different access rights and different user fees. Users are classified after consultation with PW.

User group 1:

Experienced users who can operate the equipment independently and safely. Usage includes: Grid preparation with the Leica Plunger, sample transfer, basic microscope setup, setting up automatic data acquisition with EPU, and minor troubleshooting. Generally, these users do not require assistance and can help others use the instrument (act as a mentor).

User Group 2:

These users need help using the instrument (e.g., sample preparation, sample transfer, microscope setup, and/or setting up EPU sessions). You will not be able to use the microscope without assistance. Your access will be granted either by the members of AG Wendler or by a mentor (of user group 1).

User group 3:

These users are students of the University of Potsdam who need electron microscopy for their bachelor or master theses or students who participate in structured training courses in electron microscopy as part of the curriculum. Students always need mentor support.

The facility is only available to internal users (members of the University of Potsdam).

4. Available times

The Talos microscope is available approximately 235 days per year. The unavailable time (15 days) takes into account breakdowns, repairs and maintenance work (e.g. warm-up cycles, updates). The access rules govern all available time on the Talos microscope. They apply to all users in groups 1-3.

The microscope can be operated in either 4h slots or 24h slots, depending on the type of experiment (screening or data collection).

5. Booking rules

Users of user groups 1 and 2 can book a slot in advance. A regular slot is 4 hours from 9.00h to 13.00h or from 13.00h to 17.00h. For overnight data collection, 24-hour slots can be reserved from 9.00h to 9.00h. Occupancy can be viewed via the online calendar linked to the University of Potsdam mail address. Users book through this online calendar (access through PW or to the email address pewendler@uni-potsdam.de).

If a scheduled appointment is cancelled by the facility due to unplanned disruptions, it will be rescheduled with highest priority to the next available appointment as soon as the equipment is operational again. Scheduled slots may be cancelled by the user up to 24 hours prior to the scheduled appointment at no cost. If the user cancels at short notice (<24h), the facility may charge the user for the slot if the scheduled time cannot otherwise be used efficiently.

6. Booking rules

All users are allowed to be in the cryo-EM facility rooms only after prior safety instruction. Users should use all equipment in the facility with care and respect. Instruments and workstations should be left in a clean and previously agreed upon condition. If this is not possible, the user should inform the next user of the condition of the instrument (at least by noting it in the logbook). Use of the electron microscope and the Leica plunger must be recorded in the logbook. Before the start of each use, all users must read the logbook in order to be informed about current operational problems.

If problems occur with any equipment, users should notify PW. There is no insurance on the equipment at the Cryo-EM facility. In the event of gross misuse by the user, repair costs may be charged to the user. Each research group is responsible for compliance with legal requirements and for proper handover of laboratories and equipment during their period of use.

New users should not use the equipment without supervision by a mentor or members of AG Wendler.

All instructions in these terms and conditions and from members of the facilities support team must be followed without fail. Repeated violations of the rules of use will result in denial of access. Project managers apply for access for project-related users and are thus responsible for the proper use of the equipment by their employees.

7. Data handling

Data that is recorded manually or automatically at the Talos is transferred from the acquisition workstation to an offload server via a private network. Once the transfer is complete, the data is deleted from the acquisition workstation. The offload server is accessible to users independent of the microscope and can be used to redistribute data over the University of Potsdam network (internal users only). The file server provides short-term storage for a maximum of 2 months. The data will be deleted

from the file server after 2 months without further notice. The institution assumes no responsibility for the loss of data.

8. Costs

9. Acknowledgement

All exploitation rights belong to the respective research group that made the invention. Users should mention the facility in all research publications that have made use of the facility with the following sentence:

"Electron microscopy data were collected at the EM facility of the University of Potsdam, which was supported by the German Research Foundation (DFG) through grant no. INST 336/148-1 FUGG."

In addition, users are requested to inform the facility management (PW) about all publications where the facility was used.

If justified in scope (e.g., development of new methods, participation in experimental design, extensive analyses, etc.), the staff members involved are to be considered as co-authors in accordance with the rules for ensuring good scientific practice and are to be involved in the preparation of the manuscript.

10. Signatures

We have taken note of these User Regulations and accept the terms and conditions stated herein.

Signature: User and project management

User (surname, first name)

Associated work group/project management:

Institution:

Signature: Petra Wendler