



User rules for the
Electron
Microscopy Center

1. Preamble

The Electron Microscopy Center (EMC) user rules are formulated in accordance to the Basic Requirements for Research Infrastructures in Europe (European Science Foundation; published 04/2011: <http://www.esf.org/activities/mo-fora/research-infrastructures.html>) as well as the Guidelines for Research Facilities of the DFG (published 06/2016: http://www.dfg.de/formulare/55_04/55_04_de.pdf).

The EMC user rules are mandatory for all users of the EMC. The technical head of the EMC in consultation with the steering committee can make changes to the user rules.

2. Electron Microscopy Center (EMC)

The EMC is part of the Department of Biology of the University of Konstanz. Staff of the EMC consists of the technical head Dr. Michael Laumann and the technical assistant Paavo Bergmann, which both are entitled to issue instructions to the users of the EMC. Scientific head of the core facility is Prof. Dr. Christof Hauck, Chair of Cell-biology.

Information about the EMC is available on the Internet: (<https://cms.uni-konstanz.de/em-service/emc/home/>).

3. EMC Access

Upon consultation and registration the EMC is available to all workgroups of the University of Konstanz. EMC staff members for microscopy support are normally present during working hours.

Providing sufficient free capacity EMC also offers access to its equipment for external users not associated with the University of Konstanz. Registered and autonomous EMC users can request a transponder code to access the microscopy equipment around the clock.

4. EMC Equipment

An overview about EMC laboratories, instrumentation and detailed descriptions of the microscopes can be found on the EMC homepage: <https://cms.uni-konstanz.de/em-service/emc/home/>

5. User Support

EMC supports its users by providing personalized training to all laboratory and wet works, to operate the EMC microscopes and the lab devices. Additionally, EMC staff members offer scientific consulting, including advice on instrument choice; specific experimental questions (e.g. in sample preparation, imaging) and provide help in image analysis. If necessary, prospective EMC users may already ask for support before or while planning their research projects.

Also the EMC supports the users via different operation modes ranging from full service (EMC completes an order for the user, including sample preparation, imaging, measurements and data analysis) to user lab (direct access to the main labs for samples preparation and/or access to specific devices and instruments, the user performs the experimental tasks).

6. User Registration

In order to get access to the services of the EMC it is recommended to contact the technical head of EMC and briefly discuss the project, to discuss issues of sample preparation and staining and to identify the correct microscopy technique, respectively instrument. Telephone numbers and e-mail addresses of responsible EMC staff members can be found on the EMC homepage: <https://cms.uni-konstanz.de/em-service/emc/home/>

Upon registration the users are required to read and understand the EMC User rules and confirm their acceptance. Additionally, users have to fill in a short questionnaire (EMC project submission form), which contains a short project description and a declaration about biological and chemical safety hazards, and have it signed by their responsible group leader.

Autonomous booking of instruments requires the users to receive training sessions with an EMC staff member at the respective instrument. These training sessions already comprise the scientific experiment under supervision of EMC personnel.

Autonomous working in the EMC labs and using the corresponding devices requires the users to receive lab training with an EMC staff member to the respective techniques. This lab training already comprises the scientific experiment under supervision of EMC personnel. Furthermore the user has to participate in the instructions on occupational health and safety of the EMC.

7. Equipment and Lab Booking

Autonomous lab-users can book the different EMC-labs and correlated devices corresponding to their planned work on demand by contacting the EMC staff.

Autonomous users can book all EMC microscopes using the following webpage: <https://www.uni-konstanz.de/nanolab/member/index.php>. To access the microscopes these registered EMC users receive a personal account and a pass-

word, which they have to keep private. A circulation of the login data is not allowed. Any user has to inform EMC staff at the end of their contract, if their affiliation with their workgroup changes or their proposed project ends, so as to their webpage account and their EMC access can be revoked.

Booking for colleagues is not allowed. However, a not yet registered user may work at a system under the supervision of a registered EMC user, who has to be present all the time. Booking an EMC instrument prior to a user's experiment is mandatory, as the usage fees are calculated from the registered usage times. In general, booking of instruments is possible at maximum two weeks in advance. However, exceptions may be made upon consultation with EMC staff. Access for external users can only be granted if ample free usage time is available.

If an instrument is not available due to technical issues or maintenance, it is blocked for booking. Affected users will be informed by e-mail or telephone and will be supported by EMC personnel to perform their experiments on an alternative instrument if possible.

For assisted microscopy session without prior training of the user at the instrument our full service mode is available. In full service mode the microscope is operated by EMC staff. The user can accompany the sessions, but is not required to. This mode is for short term research projects requiring only limited time at an instrument (e.g. undergraduate student projects, proof of concept projects, images for a publication).

8. Booking priorities

All users have the same booking priorities. While the access to the microscopy equipment is not limited, booking quotas for the microscopes in the peak hours from 8 a.m. through 8 p.m. may apply to allow for equal access to the infrastructure for all user groups. If such quotas are in place, this will be communicated to all authorized users of the respective system.

In general, booking of instruments is possible at maximum two weeks in advance, however exceptions may be made upon consultation with EMC staff. If an instrument is fully booked, quotas of usage time may be adapted by the technical head of EMC. In general, access for external users can only be granted if ample free usage time is available.

9. Usage fees

Important: Funds to cover usage fees can be requested as part of grant proposals to the DFG (Research Grants, Scientific Networks, Collaborative Research Centers (SFB), Emmy-Noether and Heisenberg Programs), the BMBF and the European Community. Guidelines for requesting usage fees have been published by the DFG (http://www.dfg.de/formulare/55_04/55_04_de.pdf). EMC will be happy to support users in applying for microscopy-related funds.

The usage fees paid by EMC users are used to cover costs for user support, disposals, chemicals and gases, wearing parts and keeping the instrumentation up to date. This is in accordance with the DFG guidelines for Research Infrastructure.

All users are required to pay the following usage fees:

| Instrument | Usage fees University of Konstanz | | Usage fees External users | |
|-------------------------------------|--------------------------------------|-----------|------------------------------|------------------------|
| | Service mode | User mode | Academic | Non-academic |
| Class I | | | | |
| SEM: Zeiss EVO | 20 €/h | 10 €/h | 60 €/h | Steinbeis ¹ |
| Class II | | | | |
| FIB-FESEM: Zeiss Auriga, FIB | 80 €/h | 40 €/h | 120 €/h | Steinbeis ¹ |
| FIB-FESEM: Zeiss Auriga, SEM or EDX | 40 €/h | 20 €/h | 80 €/h | Steinbeis ¹ |
| TEM: Zeiss Omega 912 | 40 €/h | 20 €/h | 80 €/h | Steinbeis ¹ |

¹Non-academic user fees are calculated and invoiced via the Steinbeis Center of the University of Konstanz (<https://www.steinbeis.de/de.html>)

The usage fees are subject to evaluation at regular intervals, and will be adjusted on the basis of regular costs. Invoices for the usage fees are normally prepared on a yearly basis, and have to be paid within 10 weeks.

Billing is addressed to the responsible Principal Investigator, who signed the EMC project submission form of the respective user. As long as in accordance with the German tax law, invoices addressed within the University of Konstanz do not account for value added tax.

10. Cancel policy

Microscopes: If a user is not able to use a booked instrument slot, he/she has to notify EMC staff (messaging function in the booking software). A booked session can be canceled free of charge until 24 hours before the actual starting time. Thereafter, booking can be canceled only if a replacement is found. It is the responsibility of the user to change the entry in the booking system accordingly. Otherwise, the normal usage fees will apply.

If a user does not use the instrument through the entire booked session, usage fees will be calculated according to booked time, unless the user finds a replacement and changes the entry in the booking system.

Lab work: If a user is not able to use a booked lab slot, he/she has to notify EMC staff (via email or phone 2243 or 3697). EMC staff welcomes cancelation of a booked lab slot 24 hours before the actual starting time. If a booked lab slot is started with a delay of more than 60 minutes and without notifying the EMC staff concerning the delay, the needed devices for the user's lab work might not be available anymore to the user.

11. User responsibilities

Users are allowed to use EMC labs and operate EMC equipment only after training by EMC personnel, and strictly following the demonstrated operation procedures. Users should always ask EMC staff when they are in doubt about any of the procedures. To avoid hazards for other users and damage to equipment, EMC personnel is to be informed immediately if solutions or chemicals have been spilled or a contamination with chemical or biological agents has occurred.

All EMC equipment and working space have to be kept clean and tidy during work and for the next user. Especially the fume hoods and the microtomes have to be cleaned, used lab equipment, broken glass and any other waste has to be removed. All EMC microscopes are located in lab rooms.

Principal investigators are responsible for user of their research group, concerning their conduct at the microscopes, a general introduction into basic experimental procedures, as well as general safety instructions and issues regarding biological and chemical safety.

Specific regulations regarding EMC lab space are communicated by EMC personnel. Experiments involving S1 biological safety level samples are only allowed if EMC has been informed beforehand. As a matter of principle, no material classified as biological safety level S2 or higher may be introduced in the labs.

Users have also to comply with the EMC User rules according to the document they sign for registration.

12. Data Storage and Sample Storage

In user mode: It is the responsibility of each user to store his/her experimental data. For image acquisition users must save their data on a specific drive of the computer operating the microscope as indicated for each system. Data may be stored only temporarily (max. 6 weeks). User data on EMC computers will be removed in regular intervals. This will be communicated in advance. The EMC does not take responsibility for data saved in wrong places and for long term data backup.

In user mode storage of samples is in the responsibility of each user. The EMC does not take any responsibility for samples left at the microscopes or in the lab.

In service mode: Data acquired in service mode immediately go to the user at the end of the time slot at the microscope. Data may be stored only temporarily (max. 6 weeks). User data saved in service mode on EMC computers will be removed in regular intervals.

In service mode samples will be stored in the EMC until the end of the project. Of course samples can be given to and stored by the user for prolonged periods of time.

13. Acknowledgement of EMC in Publications

The use of EMC instruments and/or labs for image or data acquisition or sample preparation has to be acknowledged in the appropriate way in every publication, which contains images and/or data recorded at the EMC. An exemplary phrasing would be: *"We acknowledge the use of the imaging equipment and the expert support in microscope usage and sample preparation provided by the Electron Microscopy Center of the University of Konstanz."*

Publications encompass, but are not limited to scientific papers, Bachelor-, Master- or PhD-theses as well as contributions to conferences. If required, EMC staff may read and review the sections describing the microscopy methods in drafts of scientific papers, to ensure a correct description of methods and equipment. After publication EMC users are requested to provide a PDF-file of the paper for the facility's records.

These references are of utmost importance for the EMC, as all publications are a major hallmark for the impact and importance of a facility. They prove the effective use of the equipment and are therefore prerequisite for the success of the EMC in evaluation processes and grant applications. Furthermore, these references enable the EMC to convey its relevance to users, to university executives and research networks.

If the support required by the user to accomplish a project goes well beyond the service described under paragraph 4 (User Support), in particular if EMC is involved in project planning, if it provides samples from own research work, or any other substantial intellectual or experimental contribution, the project should be conducted on a collaborative basis, resulting in co-authorships of the involved academic EMC staff. Usage fees will incur nevertheless to cover the running costs. The details of such an agreement need to be discussed between the respective project leader and the EMC technical head in an initial consultation.

14. Liability & Insurance

There is no general insurance for EMC equipment. Therefore, each user is responsible for the equipment during the booked sessions.

If no EMC personnel is present in the lab, each user has to ensure that in case of an accident he is not on his own and able to call for help. This especially applies when working beyond the usual working times of the EMC personnel.

Konstanz, 01.11.2017

A handwritten signature in black ink, appearing to read 'Laumann', written in a cursive style.

Dr. Michael Laumann
Technical head of EMC