

Terms of use for the Core Facility Cellular Imaging (CFCI)

Light Microscopy Unit

Preamble

The Core Facility Cellular Imaging (CFCI) is the central microscopy facility of the Carl Gustav Carus Faculty of Medicine at TU Dresden (TUD). Further information about the CFCI and the available microscopes are available on our homepage:

<https://tu-dresden.de/med/mf/cfi>

All users who want to use equipment or call on the services of the CFCI are obliged to read and accept the following rules and instructions.

§ 1 Access to CFCI equipment and services

- (1) The equipment of the CFCI may be used by internal users, collaborators and external users. Each new user must contact CFCI staff for consultation:
 - a. in person during office hours (CFCI office: MTZ/House 91, room A 20.044),
 - b. via email: lichtmikroskopie.mtz@tu-dresden.de,
 - c. by phone: +49 (0)351 458-16426,
 - d. or via the online booking program: <https://cfci.med.tu-dresden.de> (note: users need a **personal TUD ZIH account** to register).

The staff should be contacted at least one week before the start of a new imaging project, as both the staff and the instrumentation are often not available at short notice.

- (2) In order to apply for instrument access, each new user is required to create a personal account in the booking program, which includes the completion of an experiment checklist. The CFCI will contact the user to make an appointment to find a suitable instrument. The CFCI staff will either recommend a system that best suits the experiments or will arrange a meeting for testing a specific instrument.
- (3) All users must receive initial training from the CFCI staff before conducting any work with the instruments. **Users are only allowed to work with systems they have been trained on.**
- (4) **Users are not permitted to train other users or colleagues!**
- (5) The training usually consists of two sessions:

- a. The first session provides an overview of a specific instrument and the associated software. The CFCI can provide sample specimens for this part.
 - b. The second session is dedicated to setting up the instrument for the individual user and the specific imaging experiment. This part requires the user to provide her/his own samples. There will be time for the user to work on the instrument alone. In addition, all administrative matters will be resolved in this training session.
- (6) After completing the training, the user will receive permission to reserve the instrument on which she/he has been trained.
- (7) **Sharing accounts in the booking software is strictly forbidden.** In general, personal ZIH account sharing is forbidden by ZIH user policies (<https://tu-dresden.de/zih/dienste/service-katalog/zugangsvoraussetzung/merkblatt>) and can lead to account suspension!

§ 2 Booking of CFCI equipment

- (1) Registered and trained users can reserve timeslots for the instruments and services using the “Infinity” online booking system: <https://cfci.med.tu-dresden.de>
- (2) Users must always reserve a microscope via our online booking system before use.
- (3) Reservations can be made, extended (in 30-minute intervals) or canceled at any time prior to the start of the booked timeslot. From this point on, the reservation is considered a binding booking, which will be used for charging (see § 6 for further information).
- (4) If a user is unable to use a reserved instrument, she/he is obliged to cancel the reservation in advance. The reservation should be canceled as early as possible to give other users the chance to use the system.
- (5) If the last user of the day cancels her/his slot, she/he is still responsible for ensuring that the microscope is turned off.
- (6) It is strictly **prohibited to use instruments that have been reserved by someone else (including CFCI staff)** in the booking system!
- (7) Unplanned use of the instrumentation without prior reservation is generally possible during free timeslots. This will lead to an immediate booking and the user will consequently be charged for this time.

§ 3 Use of CFCI equipment

- (1) Only registered and trained users are permitted to use the CFCI equipment.
- (2) Actual microscope usage time will be recorded to calculate the usage fee.

- (3) Systems may only be used as instructed. Removal or exchange of system components or installation/uninstallation of software without prior consultation of CFCI staff is strictly prohibited.
- (4) Removal of any CFCI equipment from the facility rooms is prohibited.
- (5) All users must **check the booking database at the end of their sessions**. If there is a break of more than 4 hours (2 hours for wide-field systems) until the next user slot, the system must be switched off!
- (6) **The last user of the day must always switch off the system.**
- (7) If the final user fails to switch off the system, he/she will be charged for an extended booking time until the time when a CFCI staff member or another user discovers the running system.
- (8) Users are required to end their imaging session on time for the next user. This includes saving data, removing samples, cleaning objectives, closing software.
- (9) CFCI staff members can only be held responsible for CFCI equipment. If help is required for microscopes that do not belong to the facility, CFCI staff must be booked and the user will be charged accordingly.
- (10) Should any problems arise, users are required to contact the CFCI staff immediately either personally (CFCI office: MTZ, room A 20.044), by phone (458-16426/16511), via email (lichtmikroskopie.mtz@tu-dresden.de) or via the booking system (<https://cfci.med.tu-dresden.de>).
- (11) In the event that CFCI equipment is damaged on account of willful negligence, the responsible user must compensate the damage.

§ 4 Working at night or over the weekend

- (1) Please be aware that CFCI staff members do not provide any services outside office hours (Mon–Fri, 8am to 5pm). Pursuant to the general instructions regarding work safety, anybody working in the institute outside office hours must inform either a member of her/his research group or a person at the MTZ about her/his presence in the building. For emergency reasons, an informed person at the MTZ needs to know the working hours and the exact room number where experiments are being conducted (this safety requirement is also included in the general safety instructions of each research group and should be previously acknowledged and signed in the user's home lab).

§ 5 IT infrastructure, data storage, handling and automated erasure procedures

- (1) During data acquisition, data should be saved on the local hard drive to prevent data loss. Saving directly to a remote path such as the file server or a USB device is not recommended.
- (2) Data may only be stored in the dedicated user data folder. Any data saved in another folder on the computer (e.g. on the desktop) will be deleted without further notice by the CFCI staff.
- (3) Imaging data may be stored on the data acquisition computers for up to 30 days in the dedicated user data folder. All data which is older than **30 days** will be **automatically erased** to avoid a shortage of local disk space on the systems.
- (4) Users must transfer their data to a safe storage medium. Users are free to choose this medium, e.g. their own file server space or a personal USB device. The use of USB media is prohibited on following systems:
 - a. Leica SP8 Multiphoton
- (5) Users can use the CFCI's dedicated ZIH file server (\\vs-grp02.zih.tu-dresden.de\Microscope_Data) for data transfer. However, data copied to this server will be **automatically erased** after **30 days**.
- (6) The CFCI staff advises users to copy and save data as soon as possible to prevent sudden data loss.
- (7) The CFCI may not be held responsible for data loss.
- (8) All users are responsible for their own data. **CFCI does not back up any user data!**
- (9) Users are not allowed to install or uninstall any software on or from the CFCI computers and workstations. If users need any additional software or macros for their applications, they must contact the CFCI staff.
- (10) **CFCI staff can remotely access the microscope computers and workstations at any time for the purpose of assistance and maintenance.**
- (11) The CFCI privacy policy can be found here: <https://tu-dresden.de/med/mf/cfc/ressourcen/dateien/service/datenschutz-1/datenschutzerklaerung?lang=en>

§ 6 Usage fees

- (1) The user will be charged for the bookings.
- (2) The charges are calculated using a matrix model based on actual operating costs. This model has been approved by the Dean of the TU Dresden's Faculty of Medicine "Carl Gustav Carus".

- (3) The prices will be adapted annually to account for changes in instrument operating costs. This change usually takes effect on April 1. Users will be informed in due time about the new prices.
- (4) The current price list is accessible at any time and the instrument pricing will be displayed before reservation confirmation. The CFCI staff will give detailed pricing information on request.
- (5) Special group-specific arrangements or collaborations between research groups and/or CFCI free of charge are not permissible. Any authorship of CFCI staff members is strictly independent of charging rules or discounts.
- (6) All users of research groups that were actively involved in the purchase of new instruments (i.e. in writing grant applications) will receive a 100% discount on all fees for the use of those instruments during the warranty period. The period of free use is determined and agreed on by the group leader and the head of CFCI.
- (7) Users will be assigned to the following categories and charged accordingly:
 - a. internal users – all members of TU Dresden and the Uniclincs Dresden (UKD)
 - b. collaborators – research groups associated with TU Dresden, the BioDIP (Biopolis Dresden Imaging Platform) network or DRESDEN-concept
 - c. external users – companies; all users who do not fit into category a. or b.
- (8) Bookings will not be charged under the following conditions:
 - a. if the equipment is not functional,
 - b. if the staining of samples is not sufficient to acquire useful data,
 - c. if preparatory steps for the specific instrument usage have failed.

Please inform the CFCI staff immediately of any of these circumstances so that the booking can be canceled or modified.


§ 7 Reporting of problems and instrument misuse

- (1) If problems with either the instrument or the software arise, users are obliged to contact the CFCI staff immediately:
 - a. in person (CFCI office: A 20.044)
 - b. by phone (458-16426/16511)
 - c. via email: lichtmikroskopie.mtz@tu-dresden.de
 - d. via the booking system's "Report Issue" function (<https://cfci.med.tu-dresden.de>)
- (2) If a user witnesses the misuse of the CFCI equipment by other persons, she/he must report this to the CFCI staff.

§ 8 Safety rules

- (1) The safety rules that apply to the individual research groups also apply for using the CFCI spaces. All users must have personally acknowledged and signed these.

§ 9 Laser safety instructions

- (1) These instructions apply to all microscopes which are equipped with laser illumination categorized as class 3B or 4:
 - a. Laser scanning microscopes
 - i. Leica SP5
 - ii. Leica SP8 Multiphoton
 - iii. Zeiss LSM 880
 - b. Spinning disk
- (2) The laser area is marked with the following sign: . The room is marked with the warning "Beware of Laser Beam," and the microscopes within are equipped with safety signs. Users may not enter these rooms without having received prior laser safety instructions.
- (3) The microscopes have physical safety installations (interlocks, keys) and all light paths are shielded. Before using the microscopes, users must be briefed on the corresponding safety measures. Any manipulation to circumvent these structural safety features is strictly prohibited.
- (4) Never look into the laser beam.
- (5) Do not operate the microscope if your attention is impaired (i.e. if you are tired or if you have taken prescribed medication or other drugs, etc.)!
- (6) Do not enter CFCI microscope rooms when laser service is in progress. Maintenance will be indicated in the booking system ("service" – the whole room will be blocked in the booking system for the duration of maintenance). There will also be an additional temporary warning sign attached to the door handle of the microscope room.
- (7) All CFCI microscopes are intended to be used for biological/medical samples! Any other type of sample (i.e. reflective samples as are used in material sciences) may not be used without prior consultation of the CFCI staff!
- (8) Do not touch the sample during image acquisition! Image acquisition must be stopped before the sample can be touched, removed or exchanged with another sample.
- (9) Avoid looking into the microscope's objective lens, from which the laser is emitted.
- (10) It is strictly prohibited to remove objective lenses or other parts of the microscope system without prior consultation of CFCI staff! Empty objective slots must be covered.

- (11) If you notice any abnormalities or disorders concerning the laser or the safety precautions, inform CFCI staff immediately. You may only continue work after thorough inspection and clearance by qualified personnel.
- (12) The introduction of specular or reflective objects as well as manual manipulation during measurement is prohibited.
- (13) Users are prohibited from working on the open beam.
- (14) Users are not permitted to bring colleagues, students or other guests to the CFCI rooms unless they have also read and signed these rules!

§ 10 Mercury lamp safety instruction (HXP)

- (1) In very rare cases a mercury lamp can burst, potentially releasing contained mercury into the air. In such an event, all persons in the room must leave the area **at once** to prevent inhalation of mercury vapor.
- (2) The burst must be reported to CFCI staff immediately.
- (3) If a lamp bursts outside of office hours (in the evening or on the weekend), hang a sign clearly marked with the warning "Mercury lamp burst – do not enter this room!" on the outside of the door. Put tape around the door and doorframe so that nobody can enter the room and report the incident to lichtmikroskopie.mtz@tu-dresden.de.

§ 11 Safety instructions for working with genetically modified organisms (GMOs)

All our microscope rooms are classified at the S1 biosafety level. Therefore, the following rules apply:

- (1) **Users are not permitted to eat, drink or smoke in the rooms.** No storage or disposal of food and the like in S1 areas.
- (2) **Users must wear lab coats.**
- (3) If you are working with GMOs:
 - a. **Users are not permitted to discard S1 material in CFCI rooms (no cells in the dustbins!)**
 - b. Users and their groups are responsible for documentation, transport and disposal of the GMOs!
 - c. You must **sign the CFCI S1 documentation list.**
 - d. If you switch to another GMO, CFCI staff must be informed.
 - e. All instructions can be read again at the door of the microscope rooms.

§ 12 Acknowledgment of CFCI in publications

Acknowledgment in publications is of utmost importance for the CFCI as this is the only means of endorsing the facility's impact and verifying the effective use of the equipment. This is therefore crucial for successful evaluation processes of the facility.

Acknowledgement in publications is also necessary for future grant applications, as it also documents the importance and usefulness of CFCI equipment.

- (1) Any publication including data acquired or processed using CFCI equipment and/or service must acknowledge the facility. Publications include but are not limited to scientific papers, posters, bachelor's and master's theses, doctoral dissertations and contributions to conferences.
- (2) After publication, users are required to provide a PDF file of the publication for the facility's records.

See the following text for use in the acknowledgements:

Mandatory:

"The authors acknowledge the support provided by the Core Facility Cellular Imaging (CFCI) at the Carl Gustav Carus Faculty of Medicine at Technische Universität Dresden."

(Optional)

"The authors acknowledge the assistance of Silke Tulok/Anja Nobst/Michael Gerlach/Cynthia Striese from the Core Facility Cellular Imaging (CFCI) during imaging experiments."

In the methods section (example):

"Imaging experiments were performed on an inverted Leica SP5 confocal laser scanning microscope belonging to the Core Facility Cellular Imaging (CFCI) at the Carl Gustav Carus Faculty of Medicine at Technische Universität Dresden."

Final provisions

These rules come into effect on July 1, 2022.

- (1) By signing (on paper or electronically), you agree to these terms of use.
- (2) Any violation of these terms of use may result in your user account being blocked and denial of access to all CFCI systems.
- (3) These terms of use are subject to change, for example, to accommodate new technologies (e.g. new microscope systems or remote support) or in response to changes in general circumstances (e.g. new infrastructure/staff). Any amendments will be communicated to all users in a timely manner.
- (4) Should any of the above provisions become void, all other provisions shall remain unaffected.

These rules were developed and verified by the CFCI in cooperation with the Dean of TU Dresden's Carl Gustav Carus Faculty of Medicine Prof. Dr. med. Dr. Esther Troost and the faculty's Dean of Research Prof. Dr. med. Frank Buchholz.

Contact Core Facility Cellular Imaging (CFCI):

Silke Tulok, Dr. Anja Nobst, Dr. Michael Gerlach

Tel. +49 351 458-16426; +49 351 458-16511; Email: lichtmikroskopie.mtz@tu-dresden.de

Date:

Dresden, June 15, 2022

Signatures:

Prof. Dr. sc. nat. Thomas Müller-Reichert (Head of the Core Facility Cellular Imaging/
Leiter der Core Facility Cellular Imaging)

Prof. Dr. med. Dr. Esther Troost (Dean/ Dekanin der Medizinischen Fakultät der TU
Dresden)

Prof. Dr. med. Frank Buchholz (Dean of Research/Forschungsdekan der Medizinischen
Fakultät der TU Dresden)

Contact:

Silke Tulok, Dr. Anja Nobst, Dr. Michael Gerlach

Core Facility Cellular Imaging (CFCI)

Tel. 458-16426; 458-16511

Email: lichtmikroskopie.mtz@tu-dresden.de