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→ For more information about the facility visit the website at <http://imperial.ac.uk/imagingfacility>

Facility usage regulations

The facility is very popular, with well over 300 active users every year. To guarantee the smooth running and safety of all users, it is very important that all users read and respect the following guidelines:

Training

- Usage of any microscope in the facility is only allowed after personal training (needed for each microscope)
- Registration has to be done online using the PPMS booking system <https://ppms.eu/imperial/login/?pf=2> before the training session. Create an **account** and then add a **project** for re-charging on the request page.
- Only facility staff can give training for use of FILM microscopes and we can give training for FILM microscopes only!
- people already trained on a microscope still need a short introduction for any other microscope they want to use; this is needed to set up their account and to make sure they are aware of any special requirements, and also for special health & safety requirements on some instruments

Booking

To maximize access and to keep usage charges affordable, it is essential that users are cooperative and disciplined with bookings. In detail, the following rules apply:

- Whenever a change to the booking is needed, please do so as soon as possible to allow other people to use the equipment.
- Any instrument can only be **booked maximally 2 weeks in advance** (day on day); longer advance bookings are only possible through facility staff if justified by specific experimental requirements.
- **Widefield microscopes:** Booking during peak hours (07-19h) is restricted to a **maximum of 12h/day**; there is a **weekly booking limit of 16h during peak** time per user, so as to allow others to gain access to the instrument. The booking restriction is lifted if the microscope is not booked 24h beforehand.
- **Confocal microscopes:** Booking during peak hours (07-19h) is restricted to a **maximum of 6h/day**; there is a **weekly booking limit of 12h during peak time** per user, so as to allow others to gain access to the instrument. The booking restriction is lifted if the microscope is not booked 24h beforehand.

- There are **no limits to booking outside peak hours**, but users must have **lone working permission** and autonomous user rights (not available for Master and BSc students). Booking restrictions can temporarily be imposed by FILM staff to allow other users access to the microscope.
- Please note, **rules may change at short notice** during busy periods.

Charging

- The current charging rates for Imperial College internal users are published on the FILM website.
- To keep usage and charging up to date, **the PPMS software automatically logs real-time usage of each equipment** and internally updates the data. **Real-time usage data are only used by facility staff for recharging purposes**, they are not accessible to other people outside the facility. Only summarised data are handed over to finance administration and other members of the lab. However, each user can check her / his logged time within the PPMS software.
- **Unbooked used time**, e.g. when the session started earlier or runs longer than expected as well as **unused booked time**, e.g. the user does not show up, **are charged**. To avoid these charges, sessions can be cancelled before the start of the session or the remaining session can be cancelled while the session is active. An alert can be set when other users cancel a session and the session can be exported to a calendar app to set a reminder.
- **A maximum of 8 hours per 24 hours of continuous usage are charged per user**. Each 24-hour period starts at 13:00 each day, to encourage unattended long-term experiments to be performed overnight (not applicable for intravital imaging experiments)
- If a microscope is **not functional, please report this to facility staff** - you won't be charged if the equipment is not functional.

I have read and accept the FILM rules on facility usage:

Equipment Care

- The equipment in the microscopy facility is high-tech and very sensitive and expensive, so please take special care to keep it intact, tidy and clean.
- please report any problems with the equipment, accidents or damage immediately to make sure they are fixed

- Please do not move lenses between microscopes without permission, if you need to do it please ask
- clean oil and water objectives between samples and after usage (see below)
- **DO NOT switch between an oil and dry lens, but clean the oil of both objective and sample first.**
- For any questions, don't hesitate to ask FILM staff – it's a lot of things to learn, nobody can remember everything at once, so better ask again what you have already asked twice rather than risking a several thousand pounds
- The same is true for any unexpected event or accident
- Live imaging can be demanding for the computer hardware, to make the most of the computers please do not install any software without permission
- The facility is only licensed for work with organisms with low safety risk (containment level 1), if you want to work with higher-risk organisms please contact FILM staff

Lens care

- Remember that optical lenses are delicate and expensive (each of the objectives costs several thousand pounds!), treat them accordingly:
- clean oil lenses with lens paper only (!!!), between samples and after use; use a fresh lens paper each time, to avoid scratches by dust accumulated on the paper (*remember: a lens costs a few thousand pounds, the paper max. a few pence*)
- When focussing, be careful not to crash the slide into the objective lens!
- using a low magnification lens, adjust the **Köhler Illumination** before anything else – this helps focussing on your sample without crashing the lens
- if you can't see anything through the eyepiece, try focussing on the edge of the coverslip
- when inserting your sample, observe it from the side while slowly moving up the stage until it is close to the objective, only then look down the eyepiece
- with oil lenses, turn on the white light before moving the stage, then stop when you see the lens touching the oil
→ don't switch from OIL to AIR objective lenses: if in doubt, start with air / low magnification and then change to oil (*if you can't avoid it, make sure the coverslip is well cleaned – use soft tissue + EtOH*)

I have read and accept the FILM guidelines on equipment care:

Health & Safety

Lone working

FILM is part of the National Heart and Lung Institute, Faculty of Medicine. **Normal access hours are between 07.00 and 19.00.** For access at different times i.e. between 19.00 and 24.00 Mon - Fri, at weekends, and on Bank Holidays, the **Faculty of Medicine Lone Working Policy requires authorisation** for staff/ students using the FILM facility, applications have to be submitted using the electronic system. **Masters and BSc students and visitors without College status are not permitted to work at those times.** Where workers from different faculties are working in FILM, responsibility for the safety of those workers is shared between the worker's own faculty and the Faculty of Medicine, see the diagram below.

Access between 24.00 and 07.00 and on College closure days will only be authorised in few exceptional circumstances, please see details of the College requirement on the College website.

For Medicine workers, approval will be authorised in this order: PI/Supervisor (FoM), Facility Managers (Andreas Bruckbauer or Steve Rothery) and Faculty Safety Advisor (Helga Koch). For Natural Sciences or Engineering workers approval will be authorised in this order: PI/Supervisor (FoNS) then Facility Managers (Andreas Bruckbauer or Steve Rothery).

Access between 23.00 and 07.00 and on College closure days will only be authorised in few exceptional circumstances, please see details of the College requirement on the College website.

Biological safety

All microscope rooms are classified as laboratories of the lowest biosafety level, **containment level 1** (low-risk cell lines and organisms). It is each user's responsibility to make sure their samples fall into this category.

Under certain circumstances it is possible to work with organisms requiring higher containment levels, as long as the adequate *Standard Operating Procedures* are put in place and **appropriate Bio-1 forms** filled. Please note that any such experiments must be **approved by the facility manager and safety officer**. Please note that **any such experiments must be approved by the facility manager**

All users be aware that even “level 1” samples are still biological material with a residual risk, and also several of the chemicals used for sample preparation are carcinogenous or otherwise unhealthy (e.g. like formaldehyde, all nuclear stains, sodium azide etc.). Therefore, as in any lab, all equipment should be regarded as potentially contaminated, and eating and drinking is not allowed.

Lab coats

Lab coats must be worn when carrying out any wet lab or *in vivo* work and when working with organisms requiring higher containment levels, the green lab coats are for working with animals.

Biological Waste disposal

Only class 1 waste can be disposed of in the orange bins provided in the microscope rooms. **The appropriate disposal of GM / class 2 and animal waste is the responsibility of the users.** GM / class 2 waste must *not* be disposed in the orange bins unless it has been chemically deactivated or autoclaved.

Laser safety

Lasers are generally enclosed and don't pose a special hazard to users, unless reflected from the sample. Nevertheless, a laser safety training course (see [FILM website / Facility Guidelines / Safety](#)) is always advisable.

The two multiphoton microscopes (CF3 and CF4, both in SAFB 408) are connected to a class 4 infrared laser which is both invisible very powerful and thus potentially hazardous. Therefore, people using these microscopes need special training, for information please get in contact.

More information about laser safety can be found on Imperial's laser safety website.

Allergies

The microscope rooms do contain a number of potential allergens, either inherent to microscopy or the large variety of samples used by the users. Examples are immersion oils, mounting media, fixatives, animals, plants, staining etc. If you know of any allergy, please get in contact with the FILM staff, and we will identify the best way to avoid any such allergy-related risk. **If you have known allergies to laboratory animals / rodents you must contact occupational health for review and advice regarding personal protection equipment as some of the microscope rooms are used for in vivo imaging**

Mercury lamps

It is unlikely but possible that mercury lamp used for fluorescence excitation on the WF2 microscope explode, which means toxic mercury is released into the room in the form of aerosols. If this happens, please leave the room immediately, shut the door and report the incident immediately to facility staff or a health & safety person, so that we can organise the clean-up.

I have read and accept the FILM rules on health & safety:

Network access, data storage and server space

Network policy & virus protection

To avoid data loss and down times of the microscopes, users are asked to do everything to avoid infection of the microscope computers with viruses, malware, trojans etc. and report any such occurrences to FILM staff immediately.

Data storage and server

- users are responsible for storage and backup of their own data
- users have to delete their data from local harddrives (microscopes) as soon as reasonable, or **data will be deleted 3 months after acquisition or less on specific machines**
- Data on the **server** can be **deleted at any time without notice** if space is required; on the **microscope harddrives**
- All facility users can register (free of charge) for access to the facility server space; this space is only to be used for copy their data (CID and network username required)

→ for instructions how to access the server see [FILM website / Facility Guidelines / Data Management](#)

Rules

- Acquisition data must be removed from the local harddrives as soon as possible; all data older than three months will be removed regularly

- The server space is used as a *scratch disk*, i.e. only for copying - not storing data; when disk space is urgently required, data on the server can be deleted without notice
- Please put all your data into a folder with your name (*this allows us to give you a warning if the server is full and files need to be deleted*)
- Make sure you have successfully copied your data onto your own harddisk before deleting them from the server or microscope computer!!! (*on the server all users have access to all data, they might be mistakingly deleted by someone else*)
- When the server is full and space is required, data can be deleted without notice (*though having them in a folder with your name gives me a chance of warning you*)

I have read and accept the FILM rules on network and data:

FILM funding: Acknowledging FILM in publications

FILM is funded from a variety of sources (Research Councils, College etc.) to which we are accountable. They all require acknowledgment of their funding in publications. This means that all internal users paying the subsidised rate (much lower than the full economic costs) are required to acknowledge FILM usage in their publications.

We also ask that you consider how much use you have made of FILM staff time. We don't charge for any staff time, but if this goes beyond basic training and support please consider whether to acknowledge the staff member(s) or even include them as (a) co-author(s) as appropriate.

I have read and accept the FILM rules on publications: