



NICHD MICROSCOPY & IMAGING CORE: Rules of Use

Instructions: 1) Read thoroughly. 2) If you are a summer student / visitor, PI must complete section **1**. 3) If you are not within NICHD, PI must complete section **2**. 4) Always complete section **3**, sign and return to Vincent Schram, building 49, room 5A10, Ph: 301-496-6419.

General

- 1) The NICHD Microscopy & Imaging Core (M.I.C.) is open to NICHD investigators and projects approved by the Users Committee.
 - 2) Training by Vincent Schram, Chip Dye or James Russell is required before using any M.I.C. equipment.
 - 3) Time on the equipment must be reserved in advance on the M.I.C. web site: <http://mic.nichd.nih.gov/>. Contact the staff as soon as possible if you need to modify your appointment.
 - 5) Food and beverages are absolutely prohibited in the facility.
 - 6) No modifications to the instruments are permitted without prior approval from the managing staff. Only stage inserts and perfusion systems provided by the M.I.C. may be used. Storage and use of other equipment is also restricted and subject to pre-approval.
 - 7) Users shall provide their own basic equipment and reagents (dyes, coverslips, media, etc...).
 - 8) Users are not to adjust acquisition / imaging software parameters that would impact other users. Contact us if software adjustments need to be made.
 - 9) Users are responsible for thoroughly cleaning the equipment after each session, including perfusion chambers, manifold / valves / pump tubing, vacuum trap, workbench and computer workstations. Oil immersion objectives must be wiped clean with optical lens paper only. Water objectives must be rinsed with water and wiped clean with optical lens paper only. Objective cleanliness will be strictly enforced!
 - 10) Usage time for each instrument must be recorded in each instrument's logbook.
 - 12) Users agree to immediately report instrument damages to the managing staff.
 - 13) When in doubt about proper operation and cleaning of the equipment, the user is responsible for contacting M.I.C. staff. Failure to do so may result in the user being held accountable for consequential damages, up to the full value of the equipment.
 - 14) Users will acknowledge the NICHD Microscopy & Imaging Core in published work.
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Chemicals & Biohazards

- 1) Only chemicals required by the experiment are allowed in the facility. When the use of a toxic / dangerous chemical cannot be avoided, users must notify the managing staff in advance of planned use.
- 2) Radioactive materials are strictly prohibited in the facility.
- 3) Use of live viruses, potential biohazard (blood, bodily fluids) or any unconventional live organisms must be cleared with the staff for each instance and in advance of planned experiments. Equipment in contact with such material must be rinsed with a dilute Clorox solution, available from room 5B03. Further disinfection may be required.
- 4) Live cells, media, Petri dishes and gloves must be discarded in the MPW box in the tissue culture room (5B03).
- 5) Users are responsible for immediately removing tissue slices and animal remains from the facility at the end of the experiment. Do not discard these materials in MPW boxes!
- 6) Vacuum traps must be cleaned after each perfusion experiment. Mix with a dilute Chlorox solution (available in 5B03) for 5 minutes before pouring in sink.

--- Failure to notify the staff of chemical or biological hazards will result in immediate exclusion from the facility ---

Time Use Policy

Reservation and use of M.I.C. equipment must be done in accordance to the following principles:

- 1) Absolutely no reservation more than 2 weeks in advance.
- 2) Maximum of 8 hours / week per laboratory per microscope during regular business hours (8am-6pm Mon-Fri). Excess time may be reserved no earlier than 24 hours in advance. Usage outside business hours is not limited, but is subject to further restrictions

(see After-Hour Access below).

- 3) Day-long reservations are allowed exclusively on experimental grounds, to accommodate live cell or live animal imaging.
- 4) Reservations overlapping 1 pm will be counted as a full day (8 hours) of use. To prevent this, you must either finish no later than 1:00 pm or start no earlier than 1:00 pm.
- 5) Users with live specimen are always given higher priority than fixed specimen.
- 6) All NICHD requests are treated equally. There is no guarantee an instrument will be routinely available on specific days or times of the week. If several users request the same slot, weekly rotations will be implemented so that users alternate their days in the week.

This policy will be implemented by monitoring the reservation calendar. Reservations made in violation of this policy and without first consulting with M.I.C. staff may be cancelled without notice.

Data Storage and Computer Use

- 1) Storage space on computers running each microscope is limited. Remove data from our computers as soon as possible. We reserve the right to erase data left on individual computers without notice.
- 2) The facility owns a dedicated file server for long-term storage: "nichdmic.nichd.nih.gov". Each user will be allocated an initial quota of 20 GB storage space. This quota may be increased if needed.
- 3) Storage on the server is to be used exclusively for data acquired or analyzed within the M.I.C. Files unrelated to activities conducted in the facility may not be stored on the server.
- 4) ***We strongly recommend not to rely exclusively on the server for data safekeeping!*** Users should store a second copy of their data on whatever media they feel most appropriate.
- 5) Internet browsing or email is not allowed on our computers.

Live Cells / Tissue Imaging

Live cell imaging involves circulation of saline solutions in close proximity to optical and electronic equipment. To minimize the occurrence of leaks and their disastrous consequences, all users must comply with the following rules:

- 1) Any perfusion system must be checked for leaks by running it for at least 5 minutes before insertion on a microscope stage.
- 2) Open perfusion chambers must not be left unattended with the pump running. Extended and overnight perfusion experiments are extremely hazardous and require pre-approval by the managing staff.
- 3) During a live experiment, microscope objectives, objective carousel and microscope stand must be checked for leak every 15 minutes, and then extensively inspected at the end of the experiment. Immediately report any trace of liquid to the M.I.C. personnel.
- 4) All perfusion lines, valves and manifold are to be thoroughly rinsed after use with distilled water, ethanol, then air-dried. Unclamp all tubing from the peristaltic pump heads. Clean vacuum traps with diluted Chlorox.
- 5) Users must indicate in the logbook a "live experiment" was performed on the microscope.

After-Hours Access

In the absence of managing staff, use of M.I.C. equipment outside regular business hours and during weekends and holidays has special implications for the equipment integrity and the quality of data collected.

- 1) First time after-hours users of M.I.C. equipment must contact the managing staff at least 48 hours in advance of planned use.
- 2) Further training may be required to obtain after-hours access. The complexity of the experiment, potential risks to the equipment and the user's background will be considered.
- 3) After the first time, each occurrence of after-hours use must be cleared in advanced with M.I.C. personnel.
- 4) After-hours privileges will be revoked at the first sign of abuse or neglect. Among others: failure to properly shut down the instrument, failure to clean objectives, failure to clean perfusion equipment, use of a microscope different than discussed with the staff, improperly filling logbooks, introducing food, beverages, or unauthorized persons in the facility.
- 5) Unauthorized after-hours use of M.I.C. equipment will result in exclusion from the facility.

Summer Students / Visitors

Given the large disparity in the level of proficiency of visitors and students, decisions are made on a case-by-case basis:

- 1) The staff does not provide training to students staying less than 6 months at NIH.
- 2) All students / visitors must sign and return the MIC Rules of Use (this form, http://mic.nichd.nih.gov/pdf/mic_rules.pdf)
- 3) Students / visitors may use our computers / imaging software unsupervised.
- 4) Students / visitors may not use our microscopes unless when supervised and under the full responsibility of an authorized user.
- 5) Due to higher risks to the equipment, only fixed specimen are authorized.
- 6) We may, depending on the individual's proficiency and at our sole discretion, allow unsupervised use of our equipment by students / visitors. Should unsupervised use be granted, the principal investigator must sign below to agree to compensate the NICHD Microscopy & Imaging Core for repair costs consequential to gross negligence or abuse:

1 PI name: _____ Phone number: _____ Signature: _____

Access by Scientists outside of NICHD

The M.I.C. is funded and hosted exclusively by NICHD. Its priority is to serve NICHD investigators. As a professional courtesy, we may allow guests from other NIH institutes on our equipment under the following conditions:

- 1) To ensure priority is given to NICHD scientists, reservations may be done by contacting the managing staff, no earlier than 24 hours in advance.
- 2) Training and assistance by the M.I.C. staff may be limited. A high level of proficiency is expected for users outside NICHD.
- 3) To ensure equipment integrity, guest scientists will work under the supervision of M.I.C staff until it is decided the guest is capable of independent use. After-hours use and card-key access to the facility are not available.
- 4) Due to higher risks to the equipment, live / perfusion experiments are not authorized.
- 5) By signing below, the principal investigator agrees to compensate the NICHD Microscopy & Imaging Core for repair costs consequential to gross negligence or abuse:

2 PI name: _____ Institute: _____
 Phone number: _____ Signature: _____

Reminders

Reservations:

If you need training or assistance, coordinate with M.I.C. staff in advance.
 Let us know ASAP if you need to cancel your reservation.
 Reservations overlapping 1:00 pm will be considered a full day of use.
 8 hours maximum per week per microscope per laboratory during business hours.
 After-hours use must be cleared in advance with the managing staff.

Instrument use:

Immediately report any problem, even minor ones.
 If running a live / perfusion experiment, check the objective and microscope stand for water leaks every 15 minutes.
 After use, carefully wipe clean all oil objectives with lens paper only.
 Always shut down lasers, mercury lamp and microscope after use.

Miscellaneous:

No biohazards / toxic chemicals without pre-approval by the staff.
 Absolutely no food, drink or radioactivity in the facility.
 No email / Internet browsing on our computers.

Contact:

Vincent Schram: Building 49, Room 5A-10. Phone: 301-496-6419.
 E-mail: schramv@mail.nih.gov Pager: Dial 102, 11327, your phone number
 Chip Dye: Building 49, Room 5W-14. Phone: 301-496-3627
 E-mail: dyel@mail.nih.gov Pager: Dial 102, 11568, your phone number

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To be completed by each user

I, _____, have read and understood these rules, and agree to use M.I.C. equipment

only in accordance to these terms. Signature: _____

Last Name: _____ Middle Name: _____ First Name: _____

Email: _____ Phone: _____ - _____ - _____ ID #: _____ - _____ - _____

Building: _____ Room: _____ Supervisor: _____

M.I.C. Staff use only:

Card Key Access:

5A10

5B03

5B08

6B20

Microscopes:

Zeiss LSM 510 2-photon upright

PE Ultraview

Zeiss LSM 510 inverted

Olympus TIRF

Zeiss LSM 410

Leica Wide Field

Computers:

Dell Precision

Dell PowerEdge

Macintosh G5

X-serve Raid

Other: _____