

Facility Use Guidelines
Advanced Light Microscopy Core
Biodesign Imaging Facility — Regenerative Medicine Imaging Facility

These guidelines apply to all users and all instruments and equipment in the facilities comprising the Advanced Light Microscopy Core at Arizona State University.

Using the microscopes

- Only users who have been trained and authorized by a facility manager may use or touch any microscope or associated equipment. You must receive training and authorization **for each technique used**.
- Users must reserve instruments using the [iLab](#) on-line reservation system. Your session must be reserved at least one hour before it begins.
- The lenses are delicate and expensive. The following minimum requirements for lens preservation must be met at all times:
 - a. Lower the lenses (inverted microscopes) before you begin, after you finish, and when lenses are changed. When focusing, start with lens close to the sample (high on inverted microscopes) and focus moving away from the sample, to avoid collisions.
 - b. There are air lenses, oil immersion lenses, and water immersion lenses. Do not allow oil or water to go onto the wrong lens. Check twice and ask if necessary.
 - c. Never touch the actual (glass) lens with your fingers, a Kim wipe, or **anything** except lens paper and appropriate immersion fluid.
 - d. Clean the bottom (the lens side), of the slide or vessel before imaging.
 - e. Never use a slide that is not completely sealed and dry or a live cell vessel that is not completely contained and dry on the outside.
 - f. If anything spills on the microscope, quickly wipe the metal parts of the microscope with a Kim wipe. Immediately report the spill to the facility manager for complete clean up and decontamination if necessary.
 - g. Gently remove immersion fluid with lens paper; do not press hard or scrub the lens.
- Do not change hardware or software settings that you are not familiar with.
- If hardware or software configuration is changed, return the system to the standard configuration at the end of the session.
- No gloves are allowed on the microscopes, accessories, or computer keyboards, clean, bare hands only.
- Always request training for new imaging techniques.
- If you haven't imaged recently or you feel "rusty", request refresher training (free!).
- If you find a microscope dirty, damaged, or non-functional in any way, report it immediately to the facility manager.
- If your images don't look right, ask for help.

- If something breaks or is damaged while you are using the microscope, report it immediately. Honest mistakes promptly reported are not considered a violation of the rules for facility use.

Post-Processing and Data Handling

- Do not tie up the microscopes with image processing. Convert your data to formats that you can process on another computer or use an analysis workstation in the facility.
- Contact facility managers for assistance in image analysis and processing if needed.
- Do not store your data on the imaging computer. Save it to a network drive, Dropbox, or request temporary storage space.

Live Samples

- Prepare your sample in an appropriate BSL1 or BSL2 facility according to applicable safety guidelines.
- All users must have appropriate ASU-approved training before handling live samples in the facilities.
- Wipe the outside of the container with 70% EtOH.
- Transport samples in secondary containment with sufficient absorbent material.
- Check for spills, drips, leaks and treat with 70% EtOH before placing sample onto stage.
- Handle samples with gloves but remove gloves before touching the microscope or its accessories.
- There are limited cell culture facilities available in the core. Live samples may be treated in the biosafety cabinet and temporarily stored in the incubator prior to imaging. The user accepts all risks inherent in using a shared incubator. Keep it clean!
- After imaging, wipe microscope stage and inside of stage-top incubator with Kim wipe dampened with 70% EtOH.
- Remove all live samples from the facility promptly after the last imaging session or dispose of in in the provided biowaste receptacles.
- Absolutely no BSL3/4 samples are allowed into the imaging facility.

Radioactive Samples

- No radioactive samples are allowed in the Advanced Light Microscopy Core without prior consultation and approval from the facility manager.
- All users must have appropriate ASU-approved training before handling radioactive samples in the facilities.

Failure to abide by these guidelines may result in loss of imaging privileges.