

Safety Instructions - Microscopes

1. Access to the instruments.

Authorized users can only use the instruments if they have been booked using the online booking system

See <http://www.physics.mq.edu.au/~goldys/microscopebooking>.

The booking system serves not only to reserve your time on the system but also as a logbook for the instruments and the way of generating invoice for the microscope use.

If you cannot use your booking you have to cancel it (online), otherwise charge for the entire duration of your booking will be issued.

2. Laboratory safety and safety exits

The microscopes are in a shared laboratory with Professor Brian Orr and his group. It is a laser laboratory where serious health hazards may exist while experiments are in progress. Users of the microscopes have access only to the dedicated area, unless in an emergency. The emergency exit is behind the black screen, to the left. The emergency lights on the floor indicate the main exit. You may want to keep them on while working.

3. Sample preparation and waste disposal

Presently, the laboratory has no facilities for sample preparation. The users can only analyze the samples prepared and properly sealed in their own facilities. Any procedures that may present chemical or biological hazards are not permitted. The user must dispose of any unwanted hazardous waste properly. This includes "sharps" created when the cover slip is broken. External users must take their waste off the Macquarie campus.

There is no rubbish bin in the laboratory, any (safe) rubbish needs to be disposed of appropriately by the user. Plastic bags are supplied to facilitate that.

4. Additional information and requirements.

- No food, drinks or smoking are permitted in the laboratory. Hot drinks or warming up food is permitted in the kitchen near the entrance to the facility only for the outside laboratory consumption.
- The microscopes are available 8 am-6 pm on weekdays.
- The light switch turning lights on and off to the microscopes area are at the corner of the lab, right behind the entrance, behind the black screens. Do not enter the black screen separated part of the lab; just extend your hand when you need to turn lights on/off.
- If the optical table is not working properly call Ewa or Krystyna.
- In an unlikely event of an explosion in the microscope, assume that the mercury lamp that exploded and **EVACUATE THE LAB IMMEDIATELY**. Once outside, seal the lab and inform Ewa or Krystyna so appropriate steps can be taken.
- The microscopes in normal operation are laser-safe and there is no need to wear the laser goggles. Users are not permitted to interfere in any way with the laser beam delivery, as this may render the system unsafe. Additionally, the microscope alignment will be destroyed.

- The light emitted from the sample area in fluorescence microscopy is not laser light, but bright mercury light through optical filters. Looking at this light is not recommended.
- If anything seems to be out of order with the microscopes, **STOP - do not proceed**, record the situation carefully and call or email Ewa. (There are many situations where your improvised actions can only make matters worse).

5. Final Do's and Don'ts:

These are to be scrupulously obeyed otherwise your access to the facility may be canceled.

- Always clean off the objectives after use.
- Do not try to adjust all the objectives by unscrewing them – only selected objectives have the adjustment ring.
- Do not try to adjust the fs Tsunami laser wavelength away from its normal control range. If you suddenly lost the laser signal, set the same setting on the both micrometer screws and see if you are picking up the signal on the photodiode. If this is unsuccessful DO NOT attempt any further regulations. Seek assistance from Krystyna.
- Do not leave any samples, used tissues near the microscopes. Keep the space clean and tidy.
- Turn the microscopes off if you are the last or the only booked user for this day – these prolongs costly mercury lamp and the lasers lifetime.
- After switching off the system always cover up the microscopes.