

Light Microscopy, CMI
Anatomy, School of Medicine, NUI Galway
STANDARD OPERATING PROCEDURE

SOP No: 3-LM

Rev 1: June 2020 Supersedes:

TITLE: SOP for booking, use and cleaning of FV3000 confocal microscope in the Human Biology Building during the COVID-19 Pandemic

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DATE: June 2020

CHECKED BY:

APPROVED BY:

DATE EFFECTIVE:

Introduction

This SOP describes the procedure users must follow to book, use and clean of the FV3000 Confocal Microscope. During the early stages of the reopening, LM will be performed by the STOs and trained users only. These measures must be taken in order to prevent transmission of COVID-19 within the Human Biology Building and to also allow efficient contact tracing as required if an individual working in the building tests positive.

Booking

1. Use the PPMS system with your login and password to book a microscope session.
2. Bookings will be made at least 48 hrs in advance, so plan ahead your imaging session. There will be no full cancellations nor swapping sessions with other user with less than 24 hrs. Last minute cancellations (less than 24 hrs) will still be charged full.
3. Sessions can only be booked in 1 hr increments until further notice. Priority will be given to longer imaging sessions, than shorter but more numerous sessions.
4. There will be an automatic time lag (1 hr) between sessions. This is for properly cleaning the equipment and letting at least 30 mins for air exchange in the room before the next user.
5. Only trained users will be able to book and use the system at this moment. There will be no new training until further notice. This is to maintain social distancing guidelines. Groups may need to consider nominating a previously trained and experienced user to be responsible for carrying out their imaging until further notice. There will also be limited troubleshooting at the moment.

6. The booking system will be constantly monitored. Any impromptu (unbooked) use of the microscope will be cancelled and this reiterated misconduct will have their autonomous user rights removed.

Before starting

1. Wipe down microscope slides, or other sample holders and containers with 70% ethanol before coming into the facility. For users not carrying out their own imaging, all samples or slide boxes must be sanitized and cleaned down with 70% ethanol prior to entering the microscope room.
2. Wash your hands (scrubbing for at least 40 seconds) or use hand sanitiser, choose appropriate PPE and immediately proceed to your planned work area.
3. Smartphones should be wiped clean before and after entering the facility. They should be put inside a ziploc bag before and thorough the session.
4. You must arrive at the microscope room up to 15 minutes before the pre-arranged time slot.
5. Only one person can use a microscope at any one time.
6. Gloves must be worn. Gloves should be sanitized with 70% Ethanol periodically throughout the imaging session.
7. It is necessary for users to wear a face covering mask during imaging sessions. This is to prevent any potential transmission onto the area of the microscope beneath the eye pieces.
8. Clean down working bench area with paper tissue and 70% ethanol.

Cleaning and sanitising before use of the microscope

1. Cleaning materials are provided in the room (70% ethanol, paper tissue, lens cleaning solution, lens paper, cling film, rubber bands). If spray bottles are used for ethanol dispensing, these are to be sprayed onto cloths or paper towels and not directly on the equipment or surfaces.
2. Start by cleaning with 70% ethanol the switch buttons for the electric equipment: power adaptor, laser key and switches, etc.
3. Remove the eyecups off the eye pieces, if present. Clean microscope components with 70% ethanol: stage door of microscope housing, transmitted light knobs at the top of the housing, stage and stage clip (if present), stage control, focusing knobs, and adjustment buttons and switches component, fluorescence controls, touchpad and finally eye pieces (ocular lenses). Eye piece sanitising should be thorough as this is one of the main concerns of infection. ONLY USE lens paper when cleaning the eye pieces, and objective lenses.

4. Clean area beneath the eye pieces thoroughly (also a main concern of infection) with 70% ethanol.
5. Cover eyepieces with cling film, making sure it covers down to the eyepieces arms. Use rubber bands to secure cling film to eyepieces (Image 1 & 2)
6. Wipe keyboard, mouse, both CPUs and monitors ON buttons, and any component area that you will be in contact with (70% ethanol).
7. Wrap keyboard, mouse, fluorescence control module, touchpad, and any other single component you will be in contact with cling film (Image 3)
8. Start microscope, fluorescence burner and computer as per standard Start SOP for the FV3000 Spinning Disc and log in with your credentials in the PPMS system.
9. Keep gloves and face mask at all times, particularly when viewing through the eye pieces. Sanitise regularly.
10. Reduce use of door knobs and light switches. If they are in contact with, wipe them with 70% ethanol.
11. Maintain good respiratory hygiene, good cough/sneeze etiquette and hand hygiene at all times. Sanitise after touching face and eyes.

Cleaning and sanitising after use of the microscope

1. Take sample off the stage, log off from PPMS, and leave computer on standby (if you're the last user of the day, turn everything off as trained).
2. Remove cling film off keyboard, mouse, fluorescence control module, touchpad, and any component area that you were in contact with, and securely dispose in the proper container.
3. Remove rubber bands and cling film off the eye pieces, and securely dispose of these in the proper container.
4. Wipe keyboard, mouse, both CPUs and monitors ON buttons, and any component area that you were in contact with (70% ethanol).
5. Clean eyepieces and area beneath these thoroughly with 70% ethanol.
6. Clean microscope components with 70% ethanol: touchpad, fluorescence controls, stage control, focusing knobs, and adjustment buttons and switches component, stage and stage clip (if present), transmitted light knobs at the top of the housing, and stage door of microscope housing.
7. Clean with 70% ethanol the switch buttons for the electric equipment power adaptor, laser key and switches, etc.
8. Immersion oil bottles and lens cleaning solution bottle should also be carefully wiped with 70% ethanol if used during imaging.
9. Put back all the cleaning material in its original place.

10. The logbook **MUST** be signed out and users must state they have carried out appropriate sanitisation and cleaning of the equipment after use. Users must provide their own pens.
11. Retrieve personal items and exit the room. PPE equipment can be removed now.

Notes

- Bleach or isopropanol is not recommended for microscope parts, optics, certain plastics, etc. These can be used on hard surfaces.
- Users and PIs should be aware that this facility cannot immediately go back to the previous operational levels and productivity. A change in the working culture for these facilities will need to be recognised and incorporated into ongoing experimental design and planning.

Image 1 & 2: Eye piece and ocular arm cling film wrap example.



Image 3: Keyboard and mouse cling film wrap example.



I have thoroughly read and understood **SOP No: 3-LM** (SOP for booking, use and cleaning of FV3000 confocal microscope in the Human Biology Building during the COVID-19 Pandemic) revised in June 2020 and agree to observe these safety and cleaning guidelines while in the microscopy facility:

Signed:

Date:

Principal Investigator/Academic Supervisor

Signed:

Date:

Researcher to whom access is being granted