Zeiss LSM 710 User Guide

Startup
- Turn on **Exfo** lamp to the left of the microscope
- Turn on **[Main]**, **[System]** and **[Component]** switches
- If the **Argon** laser is needed (458, 488 or 514nm):
  - Check that the **toggle switch** is set to **[idle]**
  - Turn the **key** on the front of the power supply clockwise
  - After 5 minutes switch laser to **[run]**. After another few minutes adjust the **potentiometer** knob to the point just below where the red LED becomes illuminated.
(While waiting, continue the startup sequence)
- Turn on **computer** and log on using your Hawk ID and Hawk password and wait until MacAfee loads.
- Start **[ZEN 2010]** software and **do not use the microscope while the software loads.**

Visual Operation
- Load slide
  - Select a X10 objective lens. Make sure the stage is sufficiently lowered **[Loading position]** using the key pad by the microscope or the lower button at the base of the instrument
  - Load sample onto stage and return using the top left icon on the pad or the upper button.

**Note:** **Do not depend on the preset load and work settings. Samples and slides of different thicknesses may have been used by the previous investigator.**

- In Zen in the **[Occular]** tab, select **[Online]**
- Select the desired fluorophore or DIC filter
- Select the proper objective lens
- Locate region of interest
- Close the reflected or transmitted light shutter used

Confocal Operation
- Select **[Acquisition]**
- Select **[preset configuration]** or use **[Smart Setup]**
- If you have selected at dye that requires the 561nm line (i.e. AF 568, mCherry etc.) then turn the laser on via the **[Laser]** menu

**ATTENTION**

If you are using a method from the “Smart setup” requiring **more than ONE track** (as seen in the **[Imaging setup]** window, you must follow these guidelines:
- In the **[Imaging setup]** window select **Switch track every [line] instead of [frame]** using the pulldown window.
- Check that each track display the proper highlighted emission curve. If not, adjust using the cursor under the emission spectra.

**All the tracks selected must have the same setup in their MBS** (seen in the **[Light Path]** window).

- Select **[Select all]** under the **[Channel]** window. For each track loaded you will see the laser line necessary for each dye excitation.
- Under the **[Light Path]** window, **select the MBS matching the excitation lines required for your imaging by clicking on the MBS icons** (1st one and 2nd one under the window).
- In the Acquisition Mode menu select the desired parameters for final image
- Select [Auto Exposure] to get initial gain and offset settings
- Select [Live] to find your plan of focus using the focus knobs
- In the [Channels] menu adjust the [laser power], [pinhole], [gain] and [offset] as needed
- Select [Snap] to collect the final image
- Save image to desired location (Do not store on drive C:\ instead use the D:\ drive)

ATTENTION
All images left on the D-drive are periodically purged without warning

Shutdown

Check the online scheduler to determine if someone is scheduled after you (within 1 hour).

IF YES:
- Turn the Argon laser switch toggle to [idle] and log out of software

IF NO:
- Turn the Argon laser switch toggle to [idle] and turn off key
- Wait for Argon laser fan to switch off (about 5 min from turning the key off)
- Move stage to load position
- Remove slide
- Gently remove oil from oil lens using lens paper or cotton swabs. Use a cotton swab with a little isopropyl alcohol to remove final traces of oil
- Exit the Zen 2010 software and shut down the computer
- Turn off the [System], [Components] and [Main] switches in this order
- Turn off the Exfo lamp
- Log your usage in the log book by the microscope.