

2017-12-26

Instruction SHORT LSM700 2016-10-25 Eng.docx

Zeiss LSM700 Operation Instructions

Do not operate this system before receiving proper training by BCF Staff

Power up (in this order)

1. Put microscope cover away from microscope and any electric component
2. Switch on power strip no. (1)
3. Switch on power strip no. (2)
4. Switch on motorized stage power supply (3)
5. Turn laser module key $\frac{1}{4}$ revolution clockwise (4) to switch on
6. Turn on computer (5) if off
7. Switch on metal halide lamp (6).

Lamp brightness can be changed manually by a dial on the lamp holder.

Do not move the metal halide lamp!

Log into the computer:

username: **Multilabs**

password: **123456**

Software and aquisition

Log into **BookItLab** and activate your reservation to start **Zen 2011**

1. To acquire images click **Start System**
2. **Sample mounting**
 - Lower stage
 - Move stage away from nosepiece
 - Mount slide
 - Move stage under nosepiece
 - Raise stage
3. **Viewing by eyepiece**
 - Push beam path rod (eyepiece shutter) in
 - In Zen, **Locate** → **Ocular** tab:

Transmitted light

- Click the **transmitted light** lamp icon, click ON and set desired brightness
- Set the filter turret position to DIC and the condenser below the stage to I, II or III according to the objective lens (see objective lens info on touchpad)
- If you intend to acquire transmitted image set up Kohler illumination

Reflected light (fluorescence)

- Open fluorescence shutter
- Set the filter turret to the desired position

4. Image Acquisition

- Pull beam path rod out
- In Zen, **Acquisition** tab:
- Load a saved configuration from the **Experiment Manager** or open an image and below the image click **Reuse**
- Select **Show all tools** and open:
 - Light Path
 - Channels
 - Acquisition Mode

With one track checked, in fast settings (512x512, speed 8, no averaging) click **Continuous** to focus. Optimize each channel separately by checking **Range Indicator** and setting pinhole, detector gain, laser power, offset (not digital gain).

- Check all channels and set acquisition parameters: pixel number, scanning speed, averaging
- Press **Snap** to acquire image
- For multidimensional images check the desired dimension (Z, time, tile) and after setting the relevant parameters click **Start Experiment**

See instructions booklet for more details

5. Saving images

Save image as LSM type file in **D:\LSM 700 USERS DATA\PI name\user name\mm-yyyy**

6. Data backup

Data are copied automatically every night, if computer is on and connected to the internet.

Do not use any type of USB flash drive to retrieve your data.

There are computers with active anti-virus software at the Computerized Analysis Room, connected to the servers.

Ending session

Before you finish please enquire whether the next user is coming.

If yes:

1. Close the ZEN software
2. **Log off your reservation at BookItLab**
3. Lower the stage, clean oil immersion objectives with lens tissue wetted with petroleum ether, twice
4. Leave nosepiece at 10x objective lens
5. Center and raise the stage
6. Leave surfaces clean

If no user is coming in the next two hours, also, **in this order**:

7. Switch off metal halide lamp (6)
8. Turn laser module key $\frac{1}{4}$ revolution counterclockwise (4) to switch off
9. Switch off motorized stage power supply (3)
10. Switch off power strip (2)
11. Switch off power strip (1)
12. Cover microscope

Do not turn off computer unless you are the last user before the weekend.

Do not use any type of USB drive to copy your data.