Bioimaging Center
Biomedical Core Facility
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BCF
Biomedical Core Facility

מרכז דימות ומיקרוסקופיה
מרכז תשתיות ביורפואי
הפקולטה לרפואה ע״ש רות וברוך רפפורט
הטכניון - מכון טכנולוגי לישראל

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Instruction SHORT LSM700 2018-05-30 Eng.docx

Inverted 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 the microscope(on\off button on the left)(3)
5. Turn laser module key ¼ 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**
   Put your slide upside down in the stage insert\ put your dish in the dedicated insert

3. **Viewing by eyepiece**
   - In Zen, **Locate → Ocular** tab
   - In the Touch Pad **Light Path→ocular icon**:

   Transmitted light
   - Click the **transmitted light** lamp icon, click ON and set desired brightness
   - Set the filter turret position to DIC and the condenser 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**
   - In the Touch Pad **Light Path→Left port icon**
     In Zen, **Acquisition** tab:
   - Load a saved configuration from the **Experiment Manager** or open an image and below the image click **Reuse**

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- 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. Clean oil immersion objectives with lens tissue wetted with petroleum ether, twice
4. Leave nosepiece at 10x objective lens
5. Center 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 ¼ revolution counterclockwise (4) to switch off
9. Switch off the microsope (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.