Zeiss LSM 510 with LSM 4.2

1. Turn on **Epi-fluorescence power supply** located to the left of microscope.
2. Turn on **Remote Control box** (right side of microscope), and then **Computer**
3. Login using your HawkID, password and domain (allows you to save data to your shared drive if available to you)
4. Double click on Start **LSM 4.2** icon
5. Select **Scan New Images** and Start **Expert Mode in Switchboard** window.
6. Click on **Acquire** icon, and then start with **Laser**.
7. In **Laser control window**, turn on the required lasers for your experiment (**Ar laser**: **458nm**, **488nm** and **514nm**; **HeNe1**: **543nm**; **HeNe2**: **633nm**). For **Ar laser**, you should click standby icon FIRST (warming up), and then turn it on when **READY** showed up in Status window, change output to **50%.**
8. Proceed to the **Micro** icon, select objective lens and then load sample on the stage, finding a visual image in transmitted/fluorescent mode (Select VIS or Visible on Docking Station).
9. Click on **Config** icon of Expert mode window after found your sample and the select a track/recording configuration appropriate for your experiment.
10. Click on **Scan** icon of Expert mode window. This will pop up a Scan control window, click **MODE** icon to select frame size, scan speed and average number (, **Publication quality images should be acquired using 1024x1024 with speed 7 and average 4 and 12 Bit data depth)**. And then click **Channels** icon. A base line image can be obtained by clicking on the Find icon along the right side of the Scan control panel.
11. For Z-series acquisition, click on **Z stack** icon of scan control window, and then click on mark **first/last tab**. Adjust focal planes for desired z series, clicking in first and last values when obtained. Click on Z-slice box, clicking on optimal z step. To initiate z-series acquisition, click on 1/1 icon on right side of scan control panel.
12. To save an image in the Zeiss .mdb format (STRONGLY recommended), click on the Save/Save as icon to the right of the image window (image will be saved into your created new database. To export different format file, click on the File icon, then export.
13. **When you finish your experiment, carefully clean oil lens with lens paper if the oil lens was used. THANKS A LOT!**
14. **Copy your files to Network Share Drive, Flash Drive or Burn CD/DVD.**
15. For shut down, you should check when the next reservation is scheduled to begin by going to http://www.uiowa.edu/~cemrf. If the next appointment is scheduled to arrive within the next 60 minutes, place the **Argon laser on Standby**, then exit the Zeiss 510 software, and log off of the computer. If NO ONE scheduled after you, turn off the lasers so they will cool as you finish closing all windows. Then shut down the computer, waiting to turn off the Remote Control box until AFTER the cooling fan on the laser stops (5 min).
16. Turn off the **Epi-fluorescence power supply**.
17. **Log your usage in the TIME ROCORD BOOK**. **THANKS.**

Please call Jian at 4-4749 or Tom/Randy at 5-8142 with any questions
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