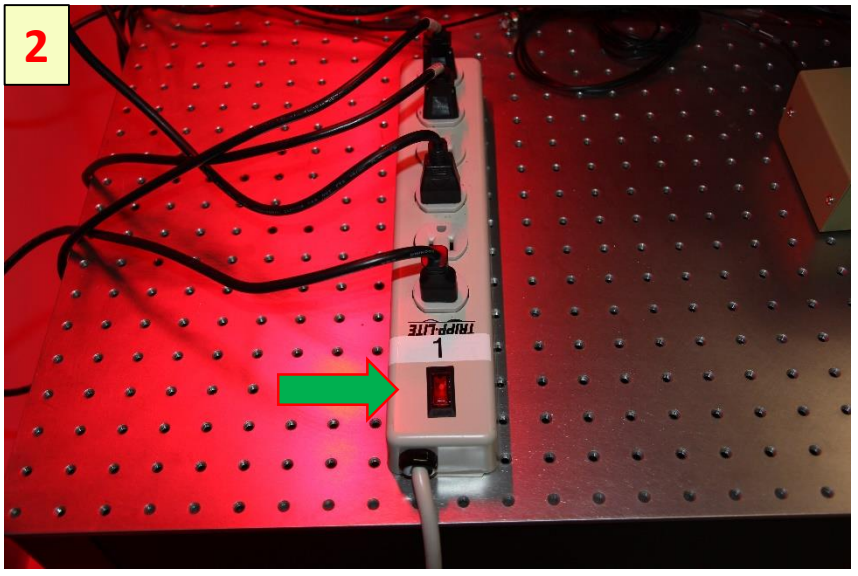
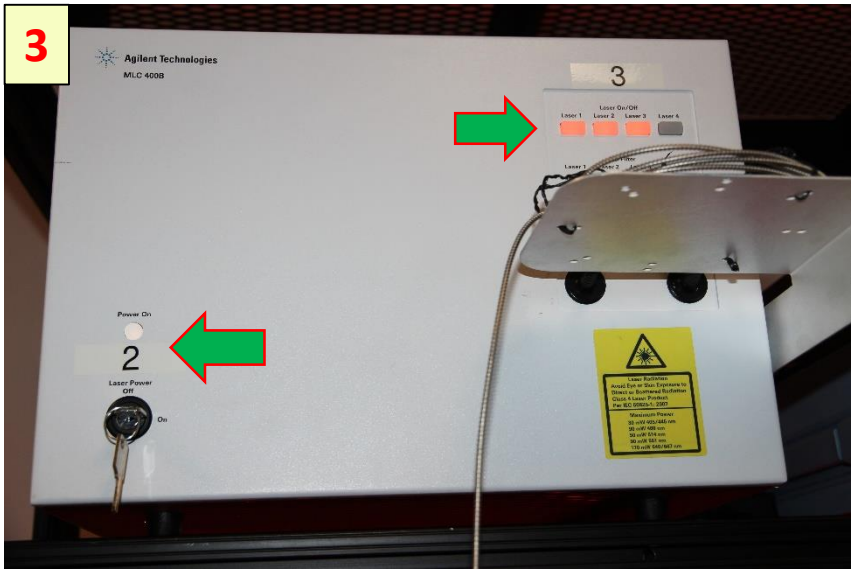
Quick Start – Spinning Disk Confocal
West Campus Imaging Core

Remove the microscope cover



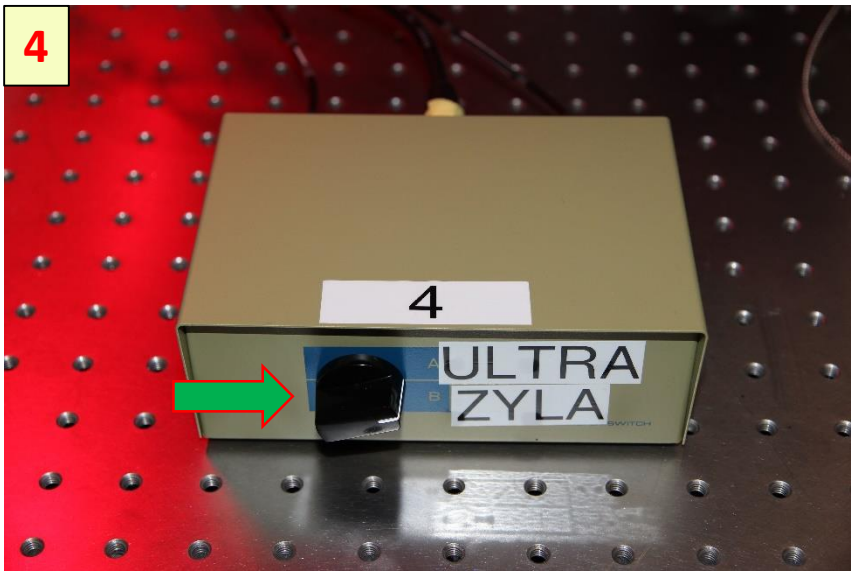
Turn On the power stripe marked with number #1



Turn On the laser unit power # 2
Turn On the lasers #3 needed for your experiment. The available lasers from left to right:

- 405nm
- 488nm
- 561nm
- 647nm

4



Select camera on the box #4:

- Ultra888 (94%QE)
- Zyla (50%QE)

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Turn on Nikon microscope using the power strip #5

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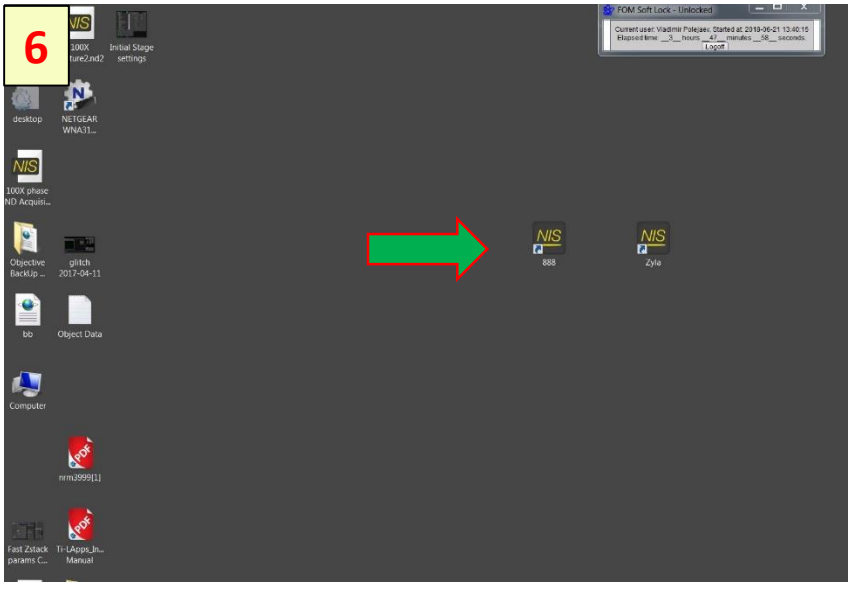

Double Click on the Elements software icon. One software is configured for the Ultra camera and other for Zyla camera

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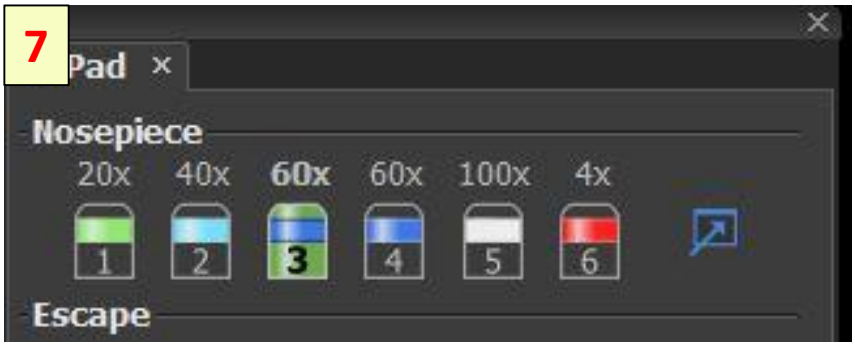

Select the objective lens on the Nosepiece panel. The tree types of objective lenses available:

- Air
- Water
- Oil

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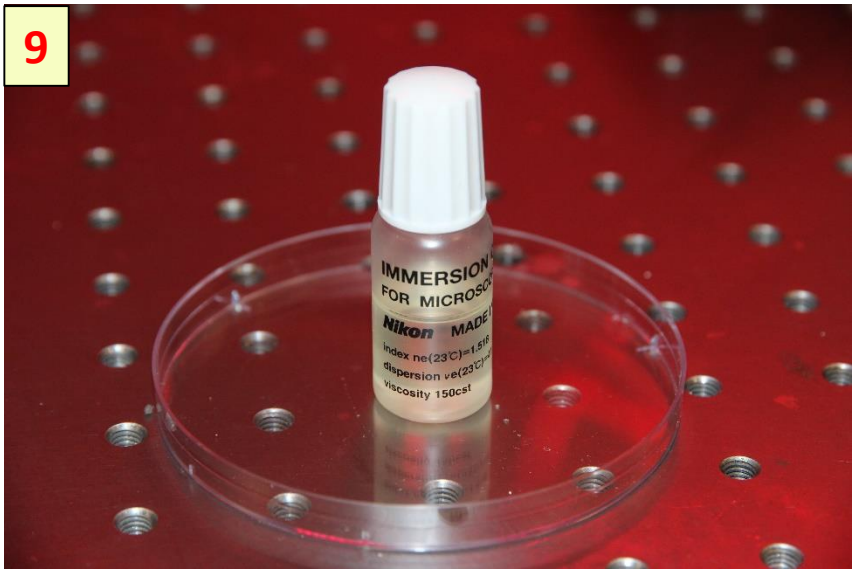
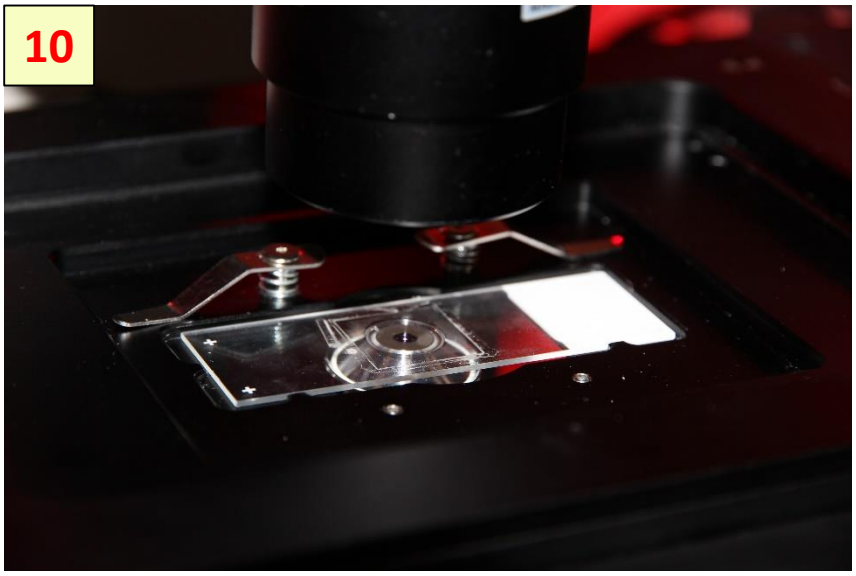
Use the Lens Tissue to clean the objective lens

9



Use Nikon liquid for oil immersion lenses

10



Put drop of oil on the lens of immersion objective and set the sample slide/dish

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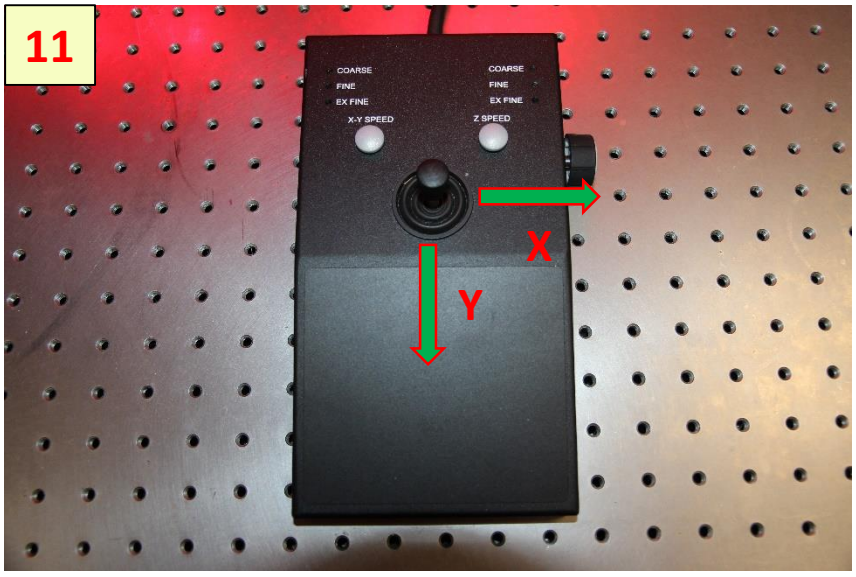

Use the joystick controls X,Y to set the sample area above the objective lens

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To control intensity of transmitted light use unit shown on the image

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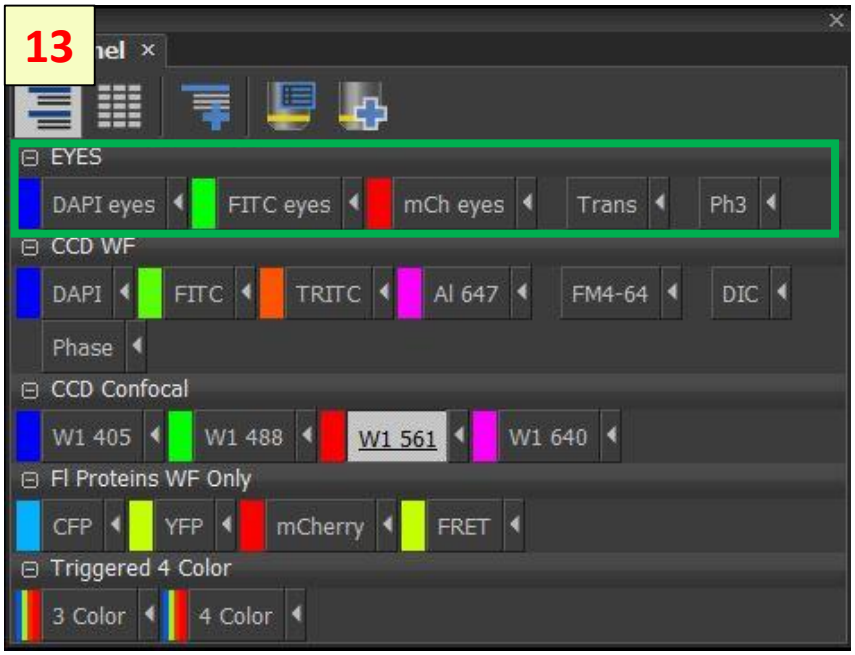

Use the microscope eyepieces to set objective focal plane on the sample:
- Click on fluorophore type button or on Trans (transmitted light) button

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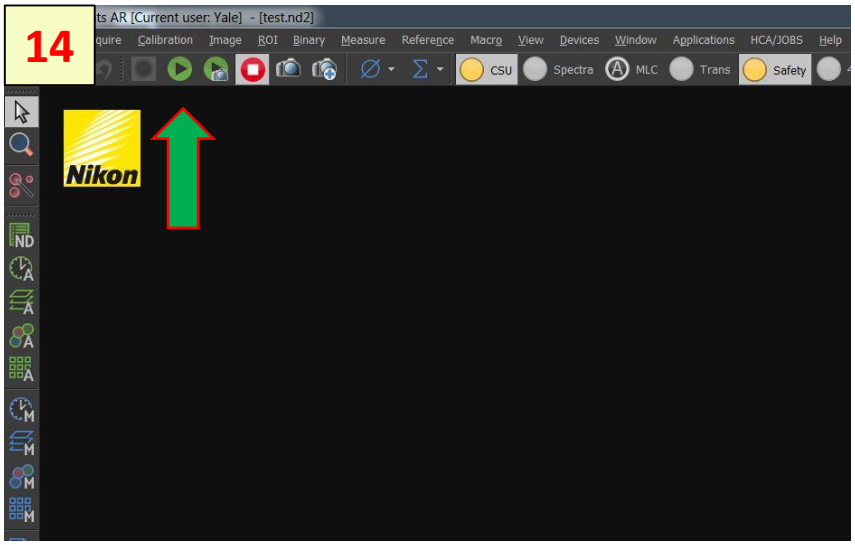
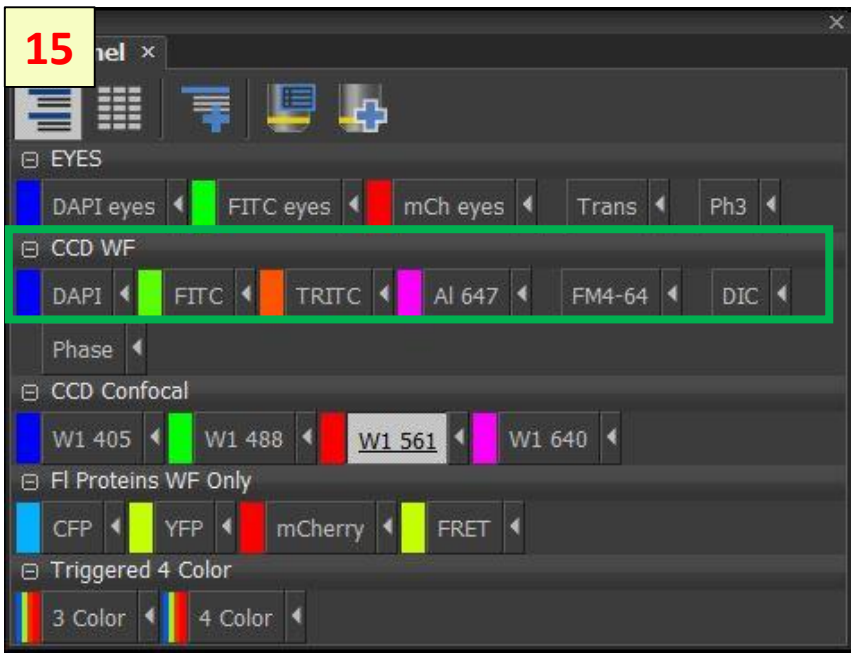


To turn On a source of light click on the Live button (located on the left display). Adjust the sample Z position using microscope focus control till acceptable image quality

15



Click on the fluorophore button at CCD WF to switch the microscope to widefield mode and display the image on the monitor

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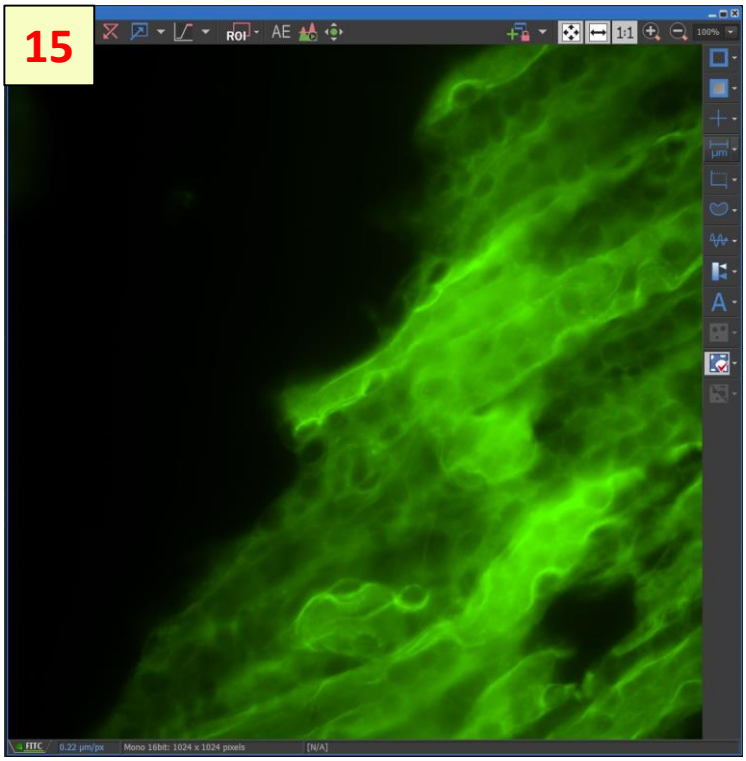
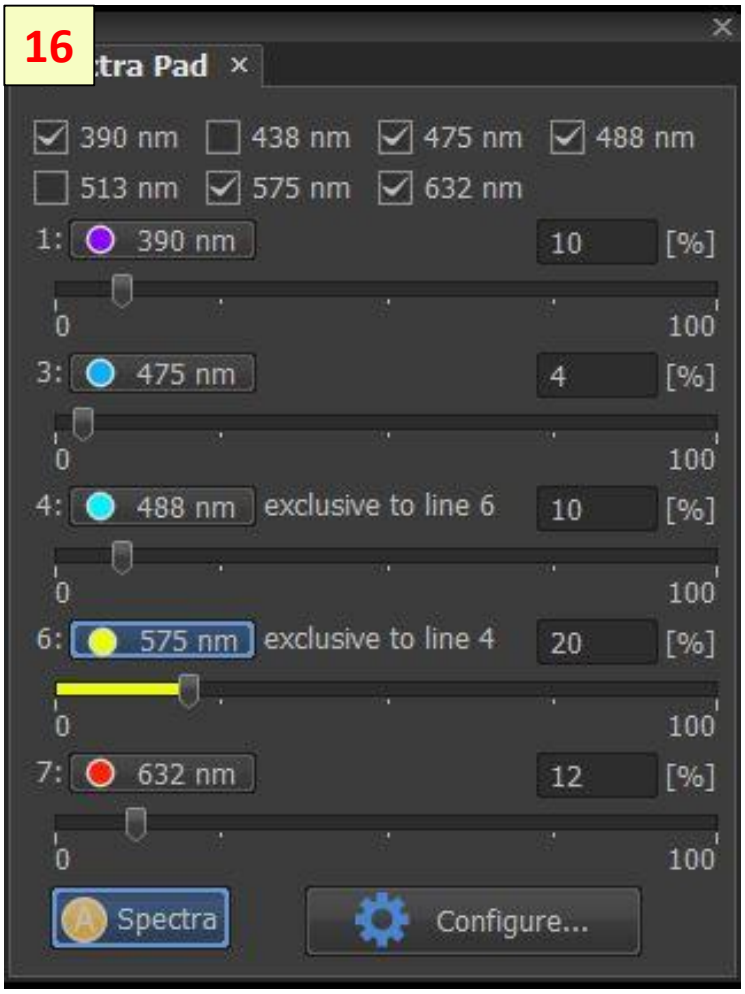


Adjust the sample Z position using microscope focus control till acceptable image quality

16



To control image brightness use the LED Spectra power panel

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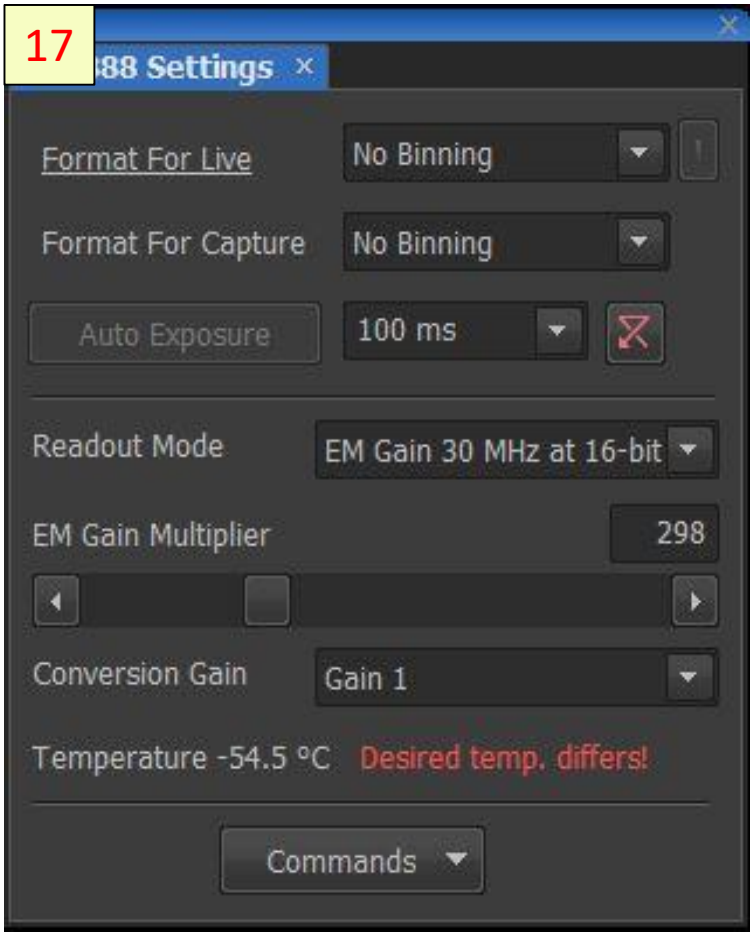

For best image quality, adjust the camera controls:

- Exposure time
- EM gain
- Binning (typically 1x1)

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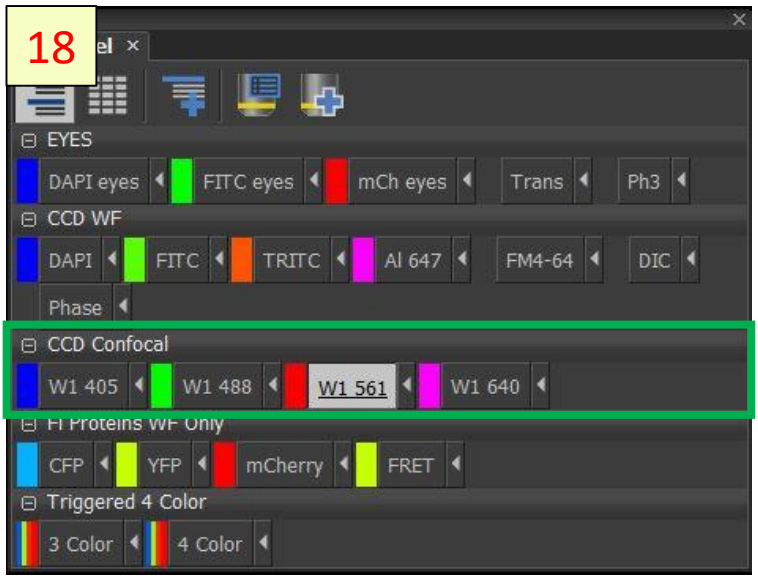

Click on the fluorophore button at CCD Confocal to switch the microscope to confocal mode with laser source of light

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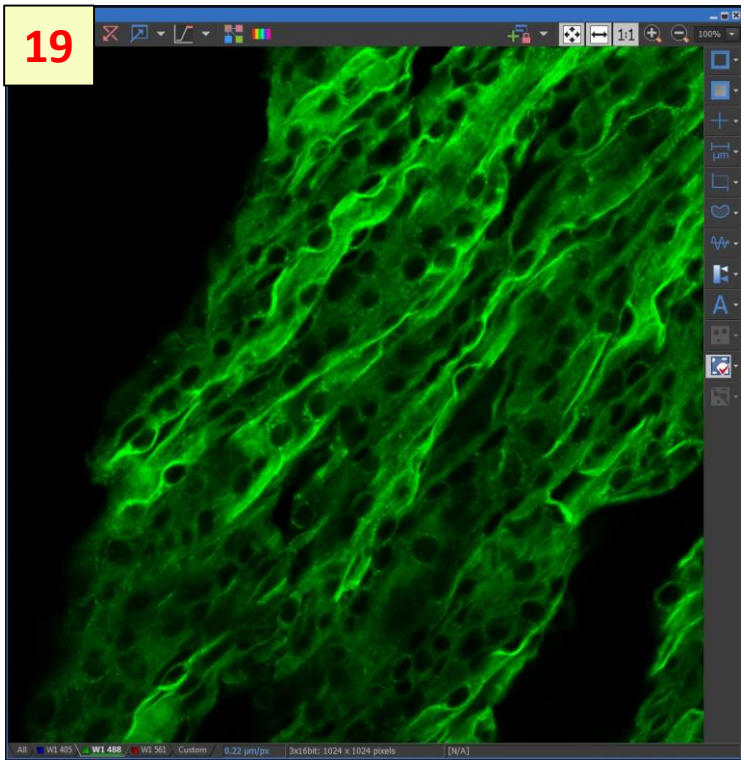

Adjust the camera settings for best confocal image

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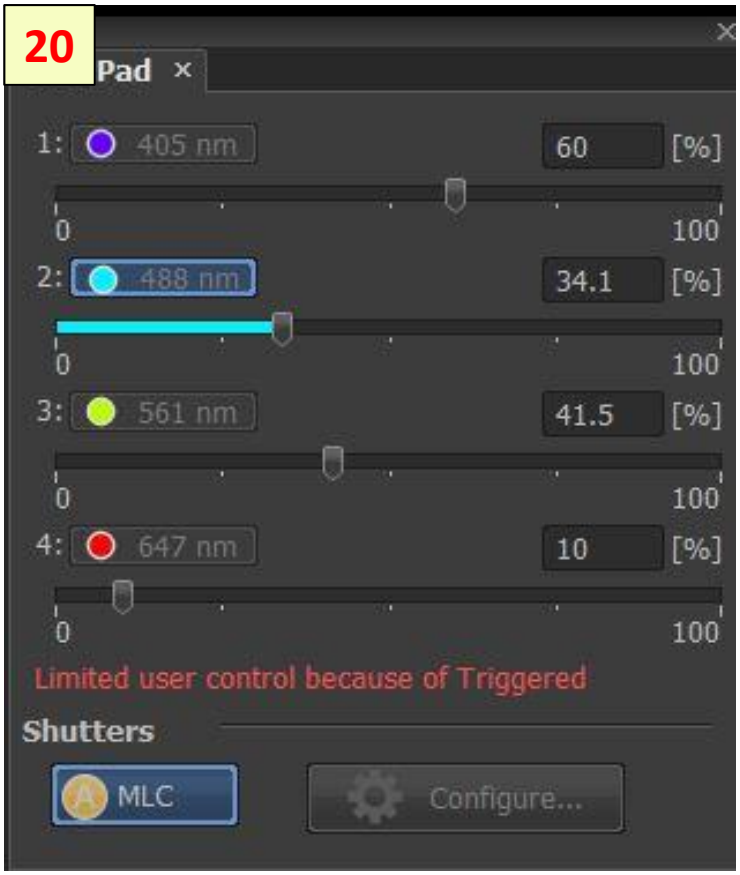

To control image brightness use the laser power controls on MLC panel

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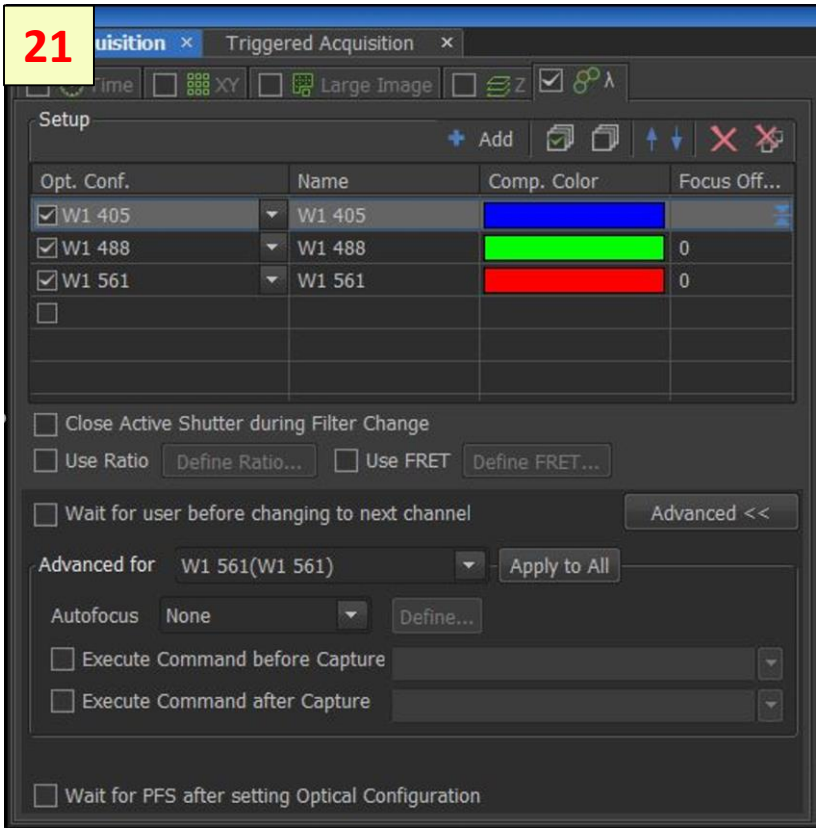

To set a multi-color protocol use the ND Acquisition panel

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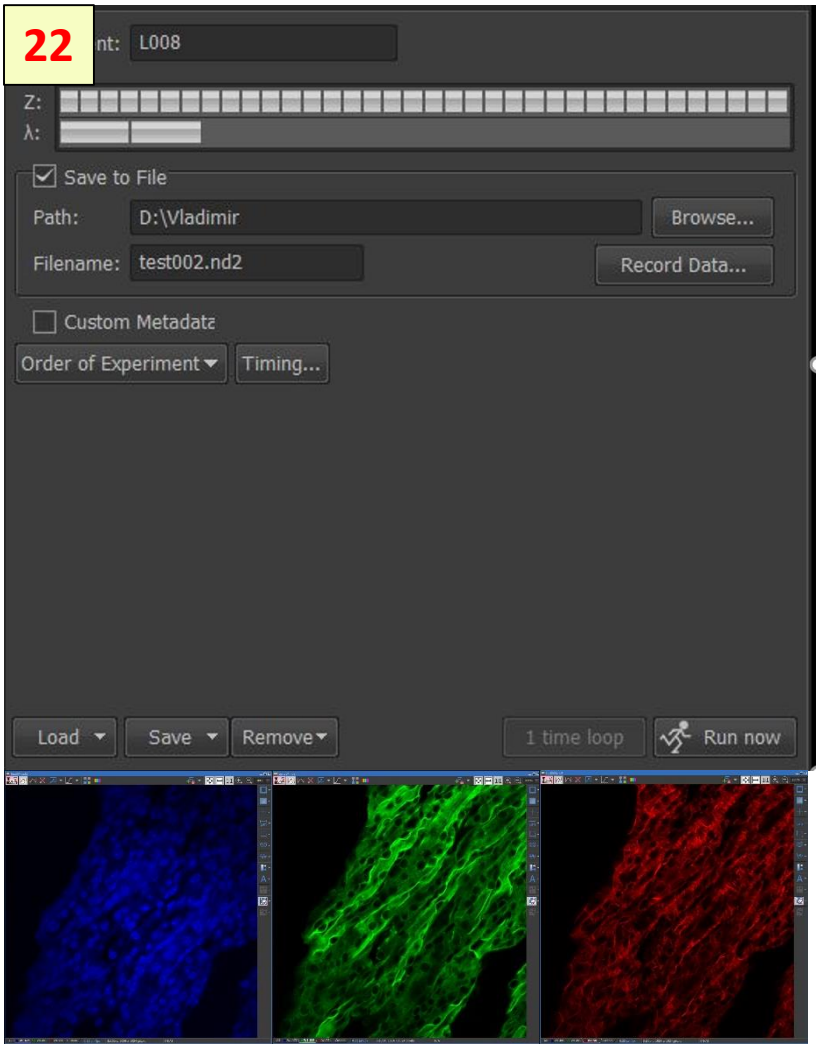
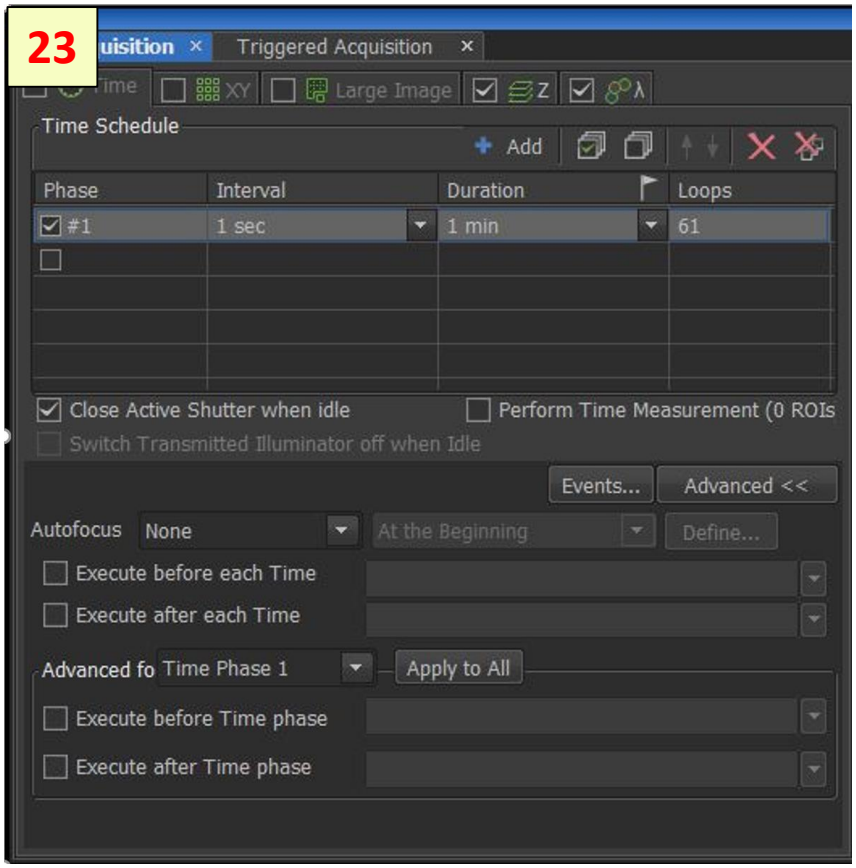
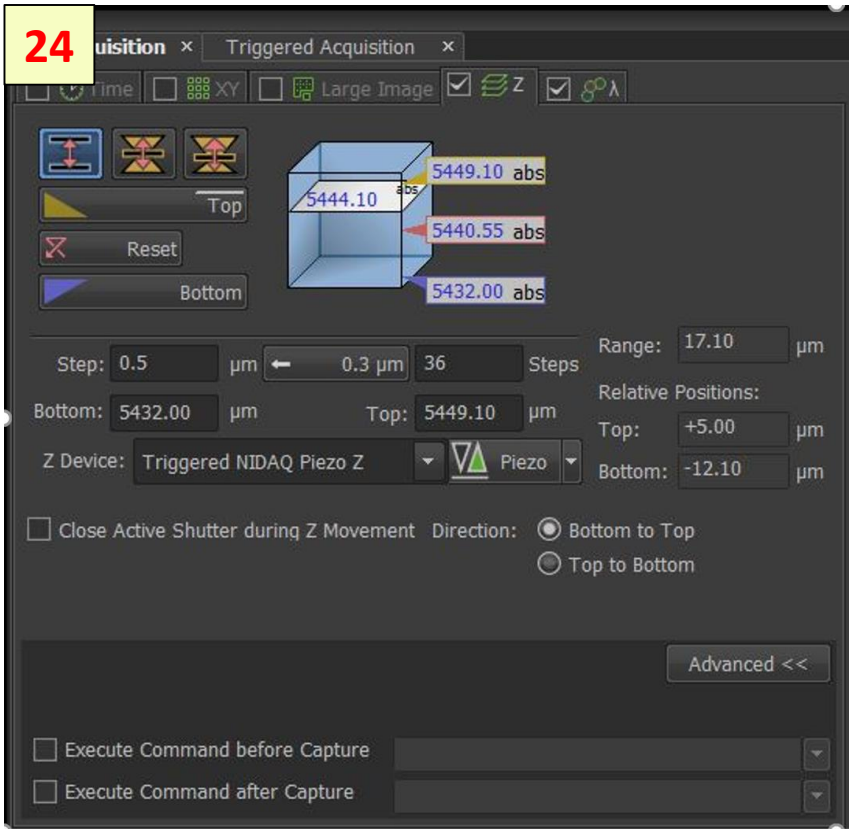


Use Run Now button to start the multi-color protocol and acquire the multi-color images



To set a time-laps protocol:

- Select the Time panel
- Set the interval of time
- Set total duration of experiment or number of loops



To set a Z-stack protocol:

- Select the Z panel
- Select Z-stacking mode (bottom to top, symmetrical, unsymmetrical)
- Set the displacement range for symmetrical mode and click on the Home button

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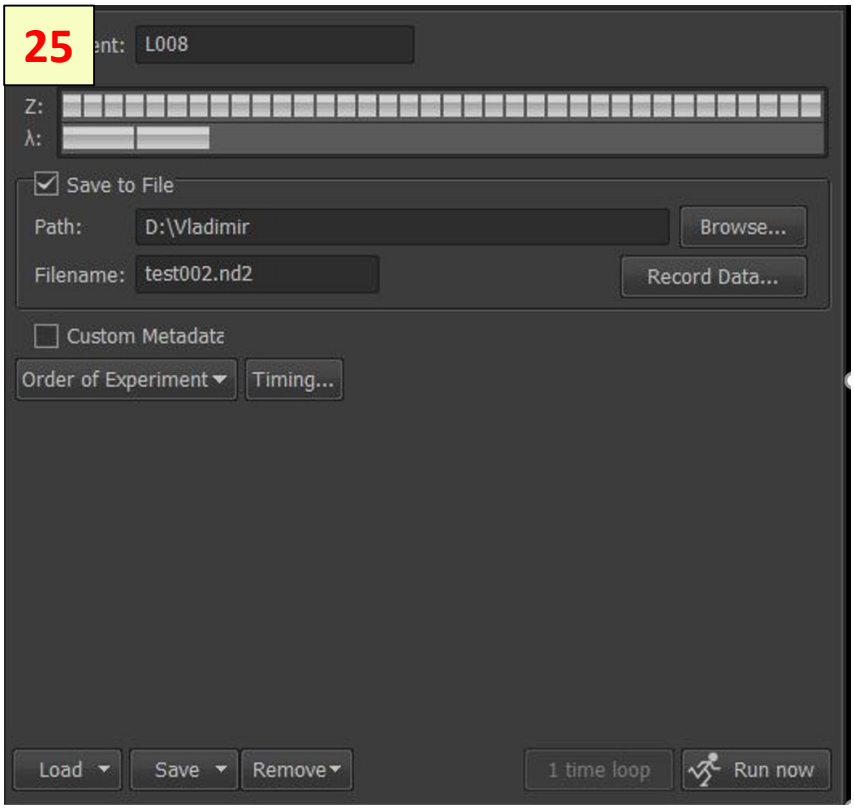

To record the experiment data:

- Select “Save to file”
- Set Path to the file and Filename

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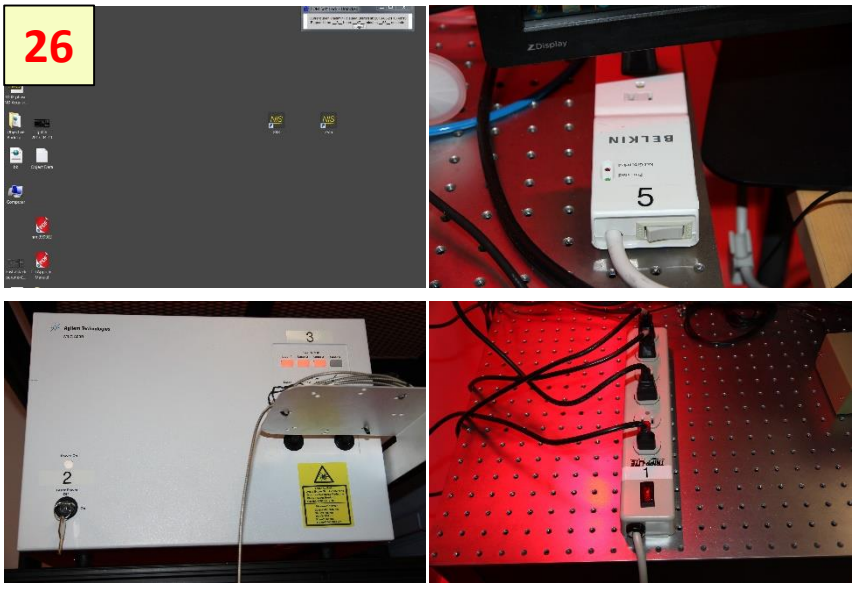

The turn Off order:

- Close Elements software #6
- Power strip #5
- Used lasers #3
- Laser unit power #2
- Power strip #1
- Clean the work area, and objective lens
- Put a cover on the microscope