**Nikon Confocal Microscope**

**Quick Start and Shutdown guide**

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***Start-up procedures***

The following sequence should always be used when turning on the microscope:

* 1. Sign up using the online calendar found at www.pugetsound.edu/sciencecorefacility.
  2. Turn on ***2)*** the powerstrip for the lasers. This is located in the corner on the bench to the left of the microscope. This provides power to the lasers and power to the epifluorescent camera.
  3. Turn on ***3)*** each laser individually **only if you are performing confocal laser scanning microscopy.** Skip this step if you only plan on performing epifluorescence microscopy. Ideally, the lasers should be on for 20-30 minutes prior to use. The time that it takes to turn everything on and set up the microscope is generally enough time for the lasers to warm up properly. However, in the case of quantitative analyses of multiple samples, be sure to wait for an appropriate amount of time (ie, 20-30 minutes) from start-up to begin collecting images and data.
     1. 405 nm laser: Silver control box on the back of main lasers box. Turn the key located on the back of the laser. Key in the horizontal (o) position is off. Key in the vertical (l) position is on.
     2. 488 nm laser:
        1. Turn the key located on the black controller box to the left of the main lasers box (key in the vertical position (o) is off, key in the horizontal position (l) is on);
        2. When green light stops flashing, push down the green “laser on” button.
     3. 561 nm laser: Silver control box to the front of the main control lasers box. Switch in the vertical (o) position is off. Switch in the horizontal (l) position is on.
  4. Turn on ***4)*** the powerstrip by the computer. This controls power to the controller and detector.
  5. Turn on ***5)*** the computer and monitor.
  6. Open the appropriate software for imaging. EZ-C1 for confocal laser scanning or NIS Elements for epifluorescence.

***Shutting down the microscope***

The microscope is turned off in the reverse order that it was turned on:

* 1. Close the EZ-C1 and NIS Elements software (if open).
  2. Shut down ***5)*** the computer and **turn off the monitor**.
  3. Turn off **the LED light** used for epifluorescence via the foot pedal. Check the back of the LED box to make sure the indicator light is off.
  4. Turn off ***4)*** the powerstrip behind the computer. This turns off the controller and detector boxes.
  5. Turn off ***3)*** each individual laser (switch keys from the on (l) position to the off (o) position). For the 488 nm laser, first push the red “laser off” button, then turn the key to the off (o) position. **NOTE:** turn off lasers only if you are the last user for the day.
  6. Turn off ***2)*** the powerstrip by the lasers.