

Procedure for Operating the Slimer Experiment

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1. Start up computer and login.
2. Turn on the box with just a power switch and a Nikon label on front. This is the power for the microscope stage.
3. Open the box, turn on the camera, then turn on the microscope. The microscope has a power supply right to the left of it that has a switch on the back.
4. If the camera hasn't been pre-calibrated for a week, close the camera shutter and a red light will start to blink
5. Turn on the NIS Elements software. It should open without any errors. Look at the devices to make sure that the microscope and EMCCD are both connected. Then set parameters such as: temperature (lowest possible setting), gain, and exposure time. Wait until pre-cal is over and the temperature has stabilized, then open the shutter.
6. Set Filters to an empty one.
7. Set the microscope magnification. I've usually used 20x magnification.
8. If you changed the magnification, then you will have to focus the microscope by:
 - Fixing the scintillator in place, if it isn't already.
 - Turning on live capture (A button that looks like a start button).
 - Turning the focus knob on the microscope and judging by eye how well focused the captures are.
9. Before you start a run lower the lighting to its minimum setting or just turn off the lamp and close the box.
10. The run menu can be opened by pressing the icon on the side of the screen that looks like a piece of paper and has the letters ND on it.
11. Set how long you want to run, where to write the nd2 file, and press the run button. Generally 1 hour is as long as you can run. You can make a macro that runs multiple 1 hour runs to substitute for one long run.