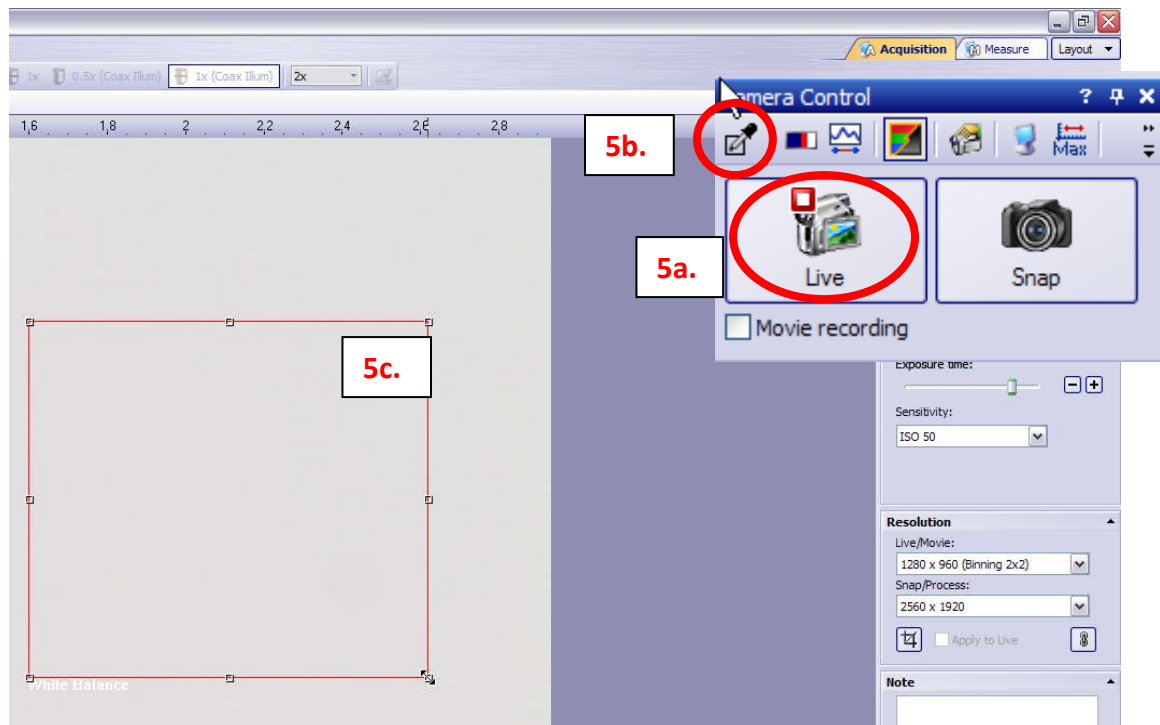


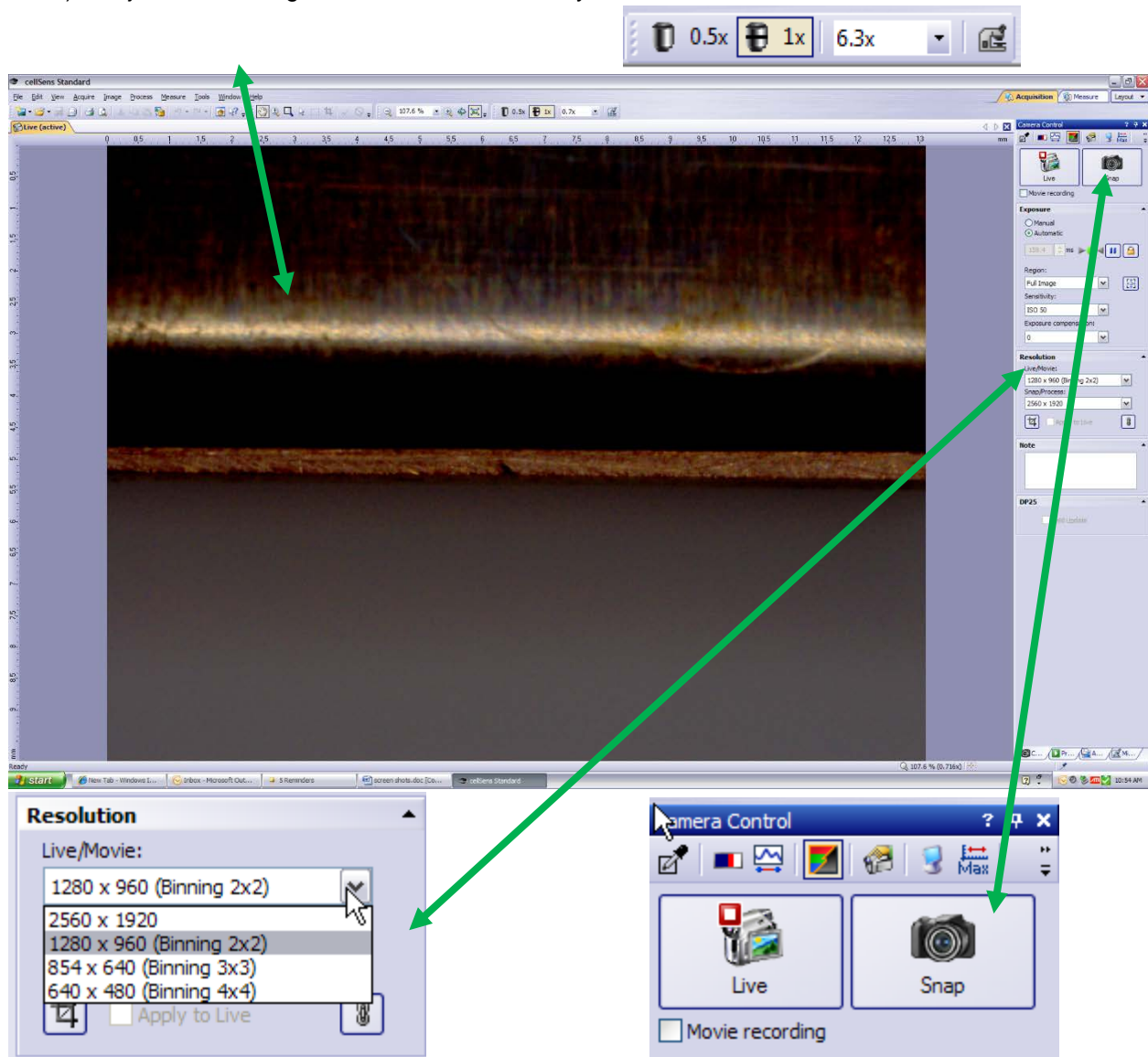
## Olympus SZX16 Microscope Standard Operating Procedures

- 1) Login to the computer with Login: .\AMSEC Password: AMSEC  
Unlock the screen with your FOM login. If you do not have access to the instrument, it will not let you log in.
- 2) Start the “cellSens Standard” software
- 3) Turn on the appropriate light source.
- 4) Put in the white stage disk
- 5) Use the dropper tool to set the white balance:
  - a. Click the “Live” button.
  - b. Click the dropper tool button.
  - c. Draw a box on the image with the left mouse button.
  - d. The software will set the white balance.



- 6) Place the sample on stage and focus at low magnification to find field of view
- 7) Increase magnification, refocusing as necessary, until desired image is achieved

8) Objective and magnification must be correctly set in the software



9) Set the camera resolution to desired value.

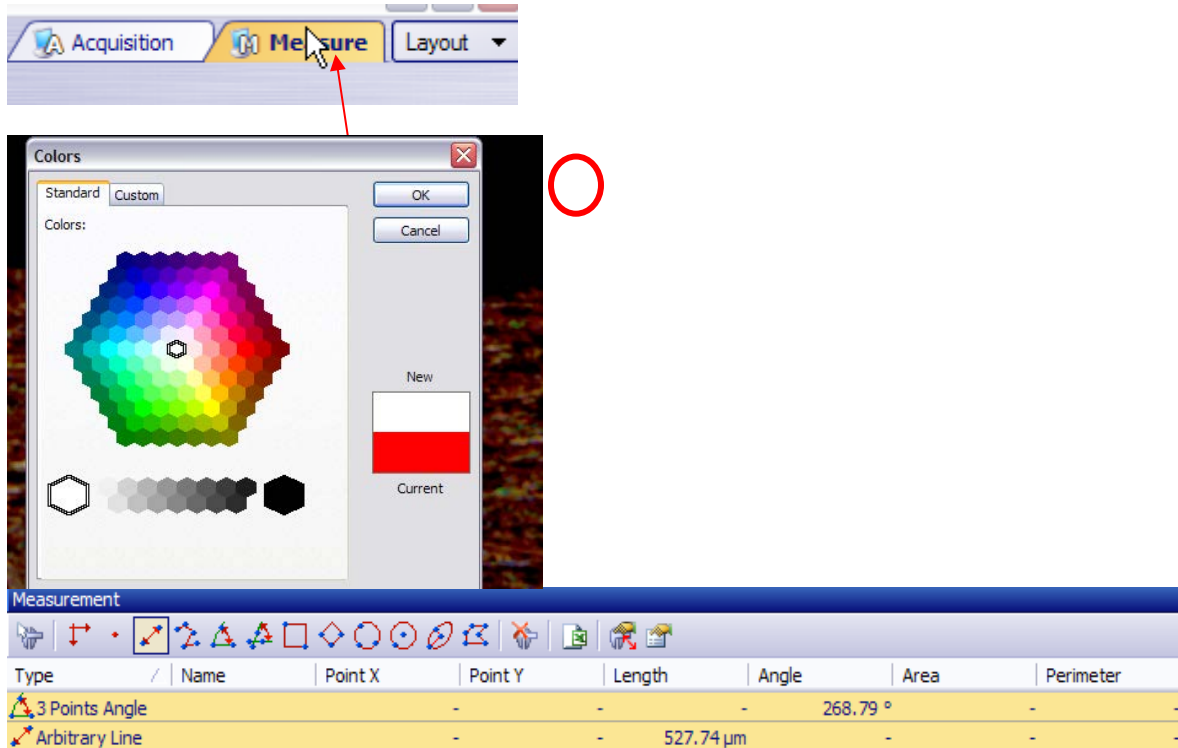
10) Click "snap" to take an image (this does not save image, only captures image).

**TURN OFF THE MICROSCOPE LIGHT(S) WHEN YOU ARE DONE!**

## Measurements

- 1) Set the objective and magnification values (numbers are on the right side dial of the microscope stand) in the **software to match the hardware on the microscope.**
- 2) Click "Snap" button to obtain an image.
- 3) Click "measure" tab on the upper right to get a measurement tool bar below the image.

- 4) Make measurements with **the measurement tools** at the bottom of the screen.
  - a. Colors of annotation text and measurement lines can be changed by right clicking to bring up menu.
  - b. Data in table can be exported by clicking on the “excel” icon.

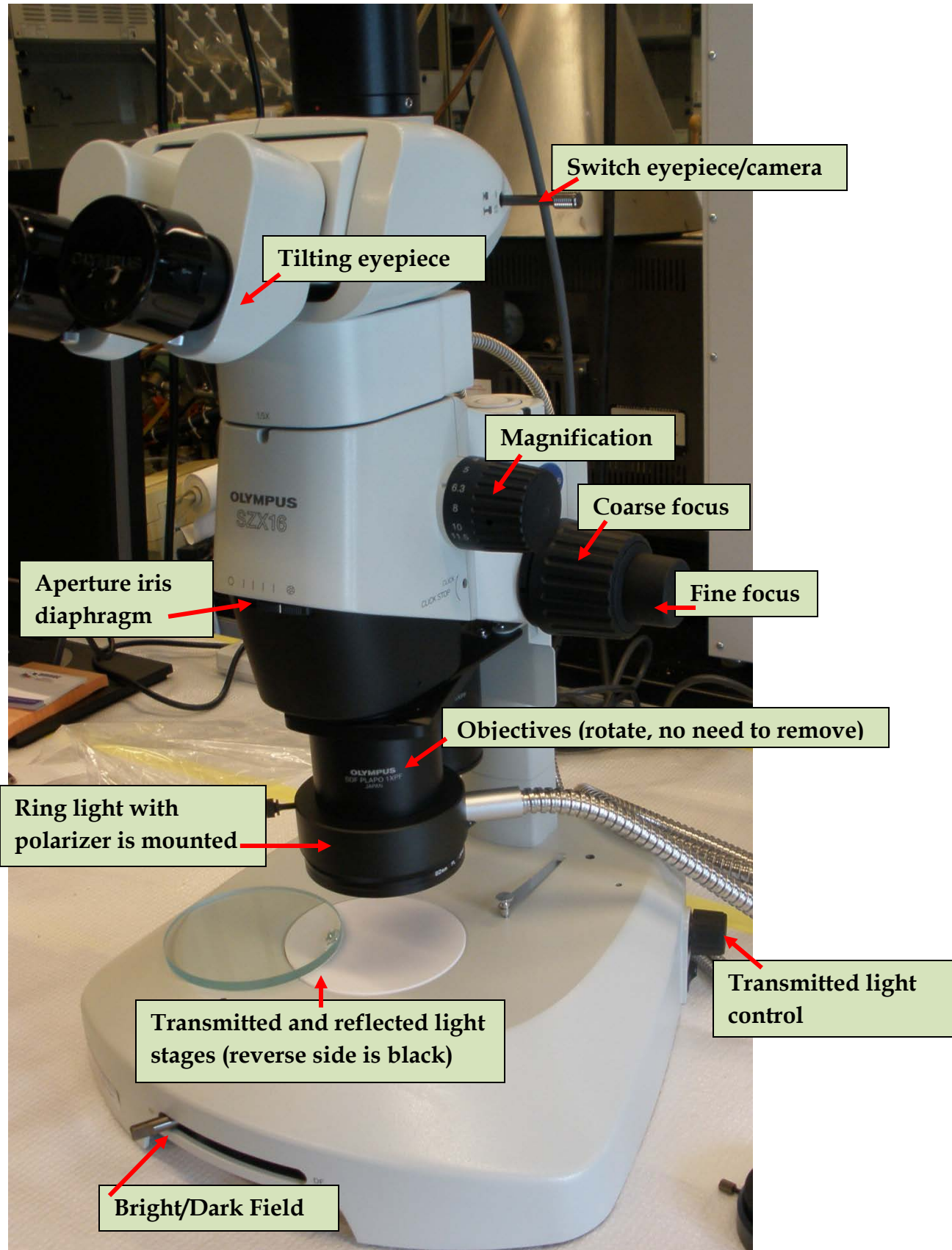


**TURN OFF THE MICROSCOPE LIGHT(S) WHEN YOU ARE DONE!**

### Saving files

It is recommended to save the image without any scale bars or annotations in the TIFF format before adding anything to the image as this has all the original information embedded in the file. After that, you can save the image with annotations and scale bars by going to the image menu and pressing burn in info. **This is irreversible which is why you should save the original first.**

**TURN OFF THE MICROSCOPE LIGHT(S) WHEN YOU ARE DONE!**



## **Instrument Hazards and Best Practices: Optical Microscope**

This document will cover the inherent hazards when utilizing this piece of equipment as well as the best practices and procedures to avoid danger.

**Lab coats are to be provided by the user.**

### **Hazards:**

- Chemical exposure
- High intensity light sources

### **1. Required PPE**

Appropriate laboratory attire is required at all times in the AMSEC laboratories. Whenever chemicals are being used, an additional requirement of a lab coat is required. Lab coats are to be provided by the user.

Whenever a user is in the AMSEC labs, the minimum requirement for eye protection is wrap around impact glasses. Anytime liquid chemicals are present in the same room as the user without a direct barrier, all users in the lab must wear chemical splash goggles. Splash goggles must be approved by State of Washington Administrative Code (WAC 296-155-215).

If chemicals being used are considered toxic, caustic, corrosive, flammable solvents, carcinogenic, mutagenic, or teratogenic, a minimum of disposable nitrile gloves is required. Avoid chemical transfer by taking off gloves when using anything other than the chemical(s).

### **2. High intensity light sources**

During operation of the optical microscope high intensity light sources are required for illumination of samples. These light sources have the possibility of causing damage to a person's eyes if direct or indirect exposure occurs. Always use the lowest intensity light settings possible to achieve acceptable results.

To avoid exposure, make sure to avoid looking directly at the light sources. Also avoid pointing the light sources at anything reflective which may cause indirect exposure. If exposing reflective items is unavoidable, avoid eye contact with the item or block the area with an object. Do not point any of the light sources at yourself or any other person.