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MicroscopeWorld

QUICK START GUIDE:

2. Installation
5. Basic Software Operation
8. Basic Measurements
11. Manual Extended Focus Module

INSTALLATION

- First connect your power cable and USB connection cable to your camera and your USB port on your computer/laptop.

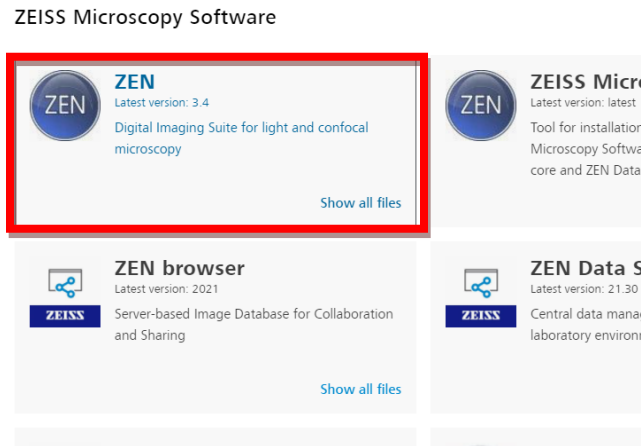
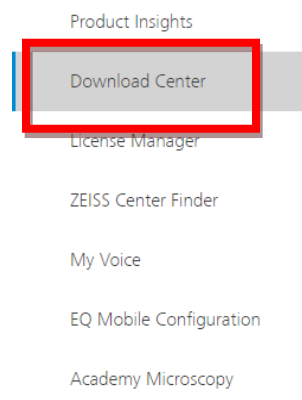


- Next you'll need to download the software and drivers for your camera, please go to:

<https://portal.zeiss.com/download-center/>

***You will need to register with Zeiss to be able to download the software.*

- After you've registered, on the left hand side of the home page, there is a **"Download Center"** option you'll click on.
- Once in the download center, you'll need to click on the **"ZEN"** option which is the first option on the left hand side.

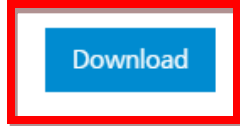


- Next, click on the blue **DOWNLOAD** button on the right hand side of the page to begin the download process. You will be instructed to restart your computer once the download process is completed. Make sure any files are saved before starting the process.



ZEN blue 3.4 - Full Version (ZIP)

License needed



Machine Compatibility: Widefield Systems / LM, LSM 800, LSM 800 for materials, LSM 900, LSM 900 for materials, LSM 980, ZEN Correlative Array Tomography (CAT), Celldiscoverer 7, Lightsheet 7, Lightsheet.Z1, Axioscan 7

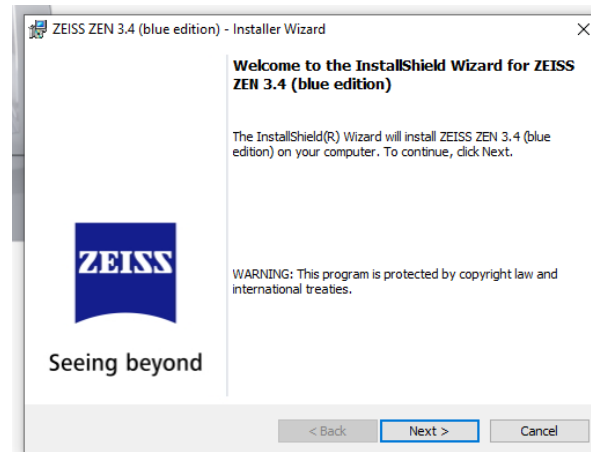
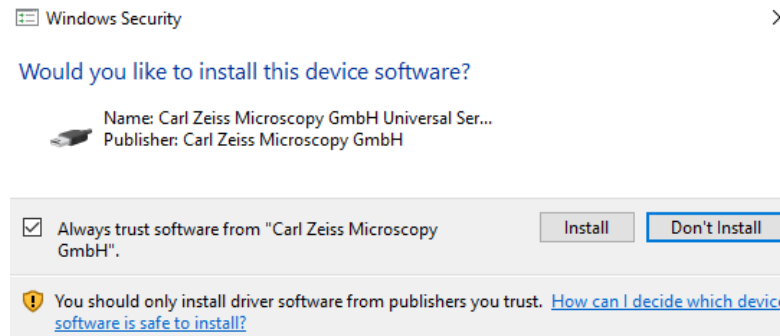
OS Compatibility: Microsoft Windows 10 x64 Professional or Enterprise

Released: 05/17/2021

Size: 6.6 GB

Release Highlights

- Follow the prompts to complete the install

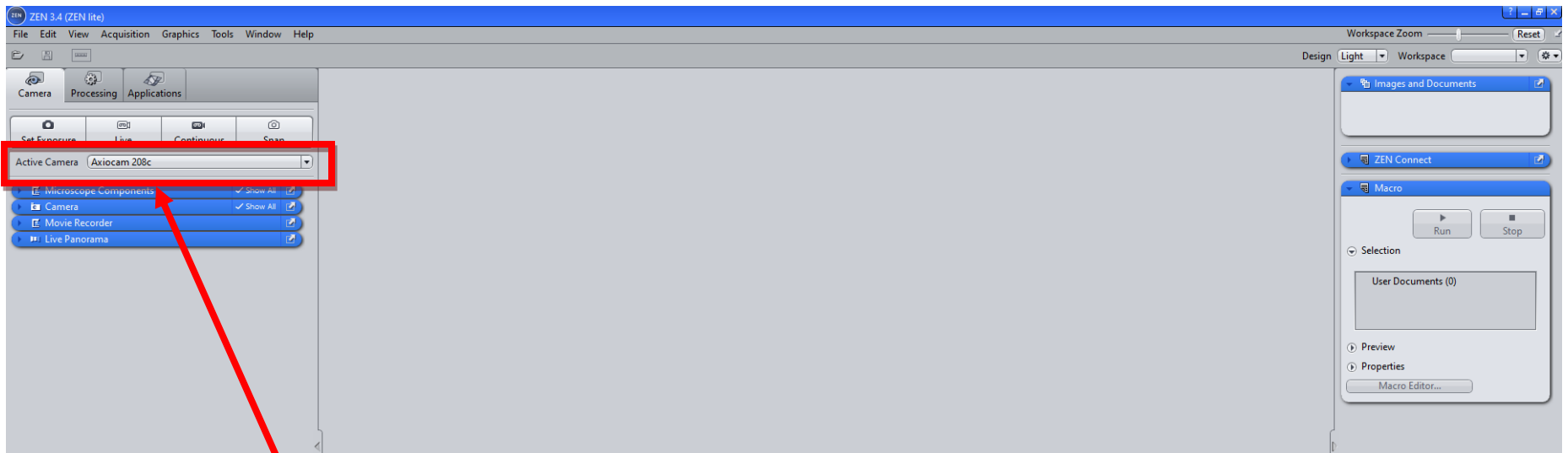


- Once the download process is complete, the Zen Blue software icon will appear. Click on the icon to open the software.



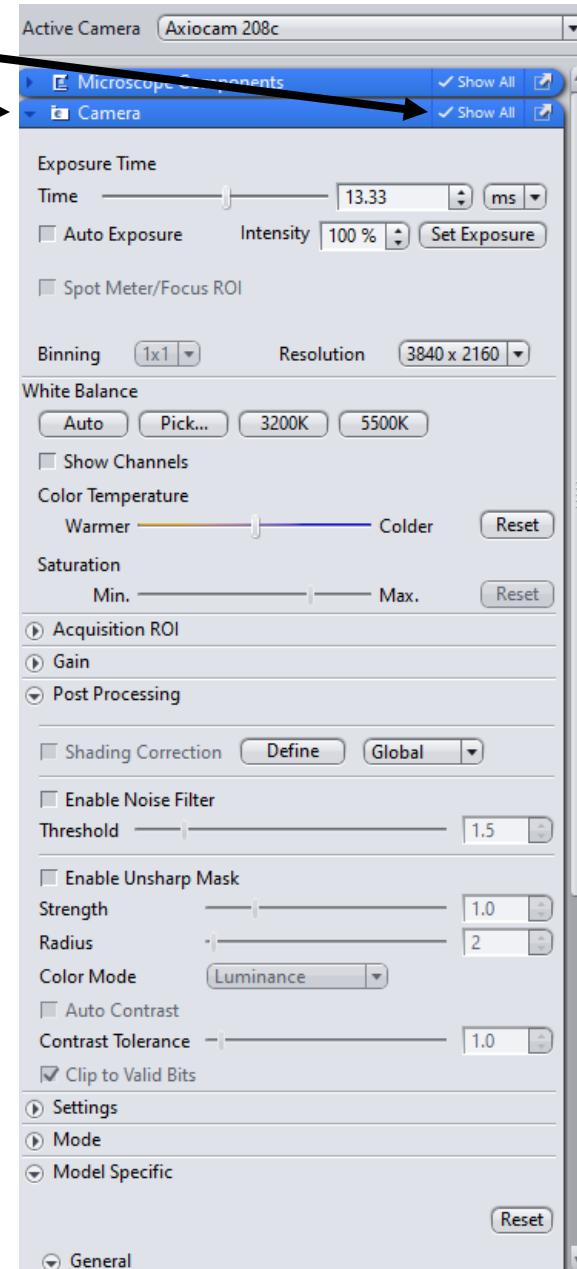
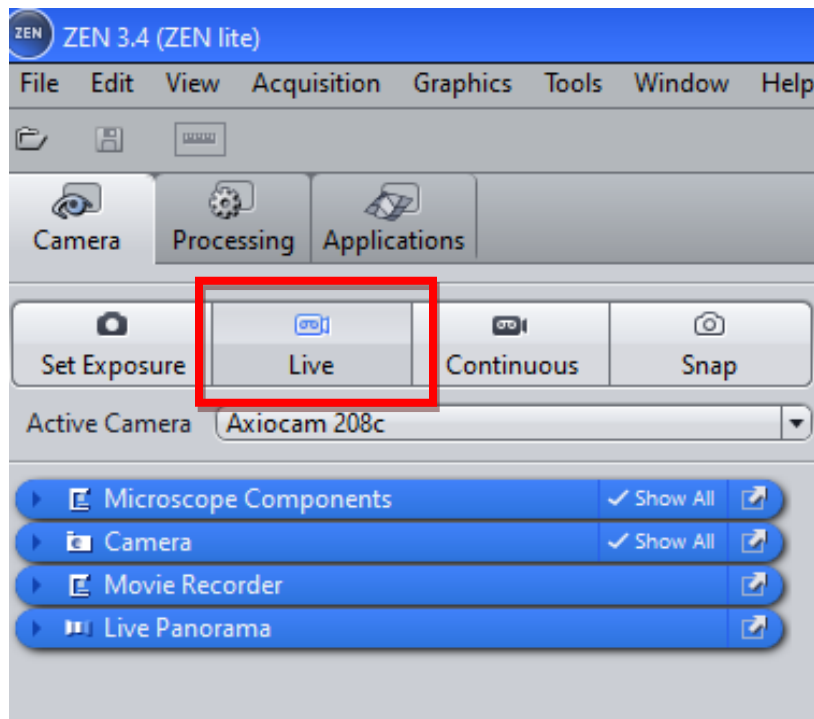
BASIC SOFTWARE OPERATION

- When the software opens, the screen will look like this:

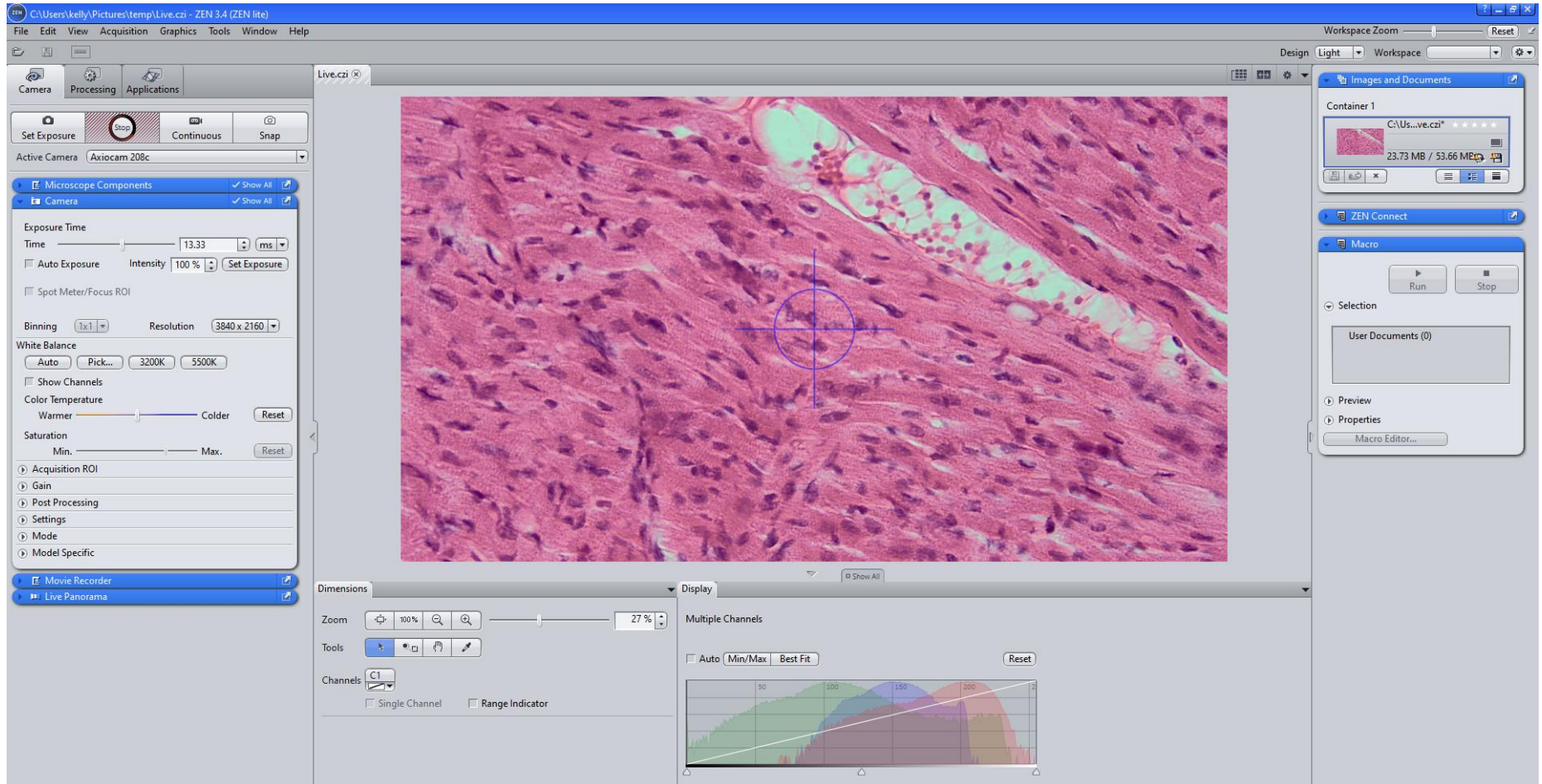


IF YOUR CAMERA IS
CONNECTED
PROPERLY, YOU'LL
SEE IT RECOGNIZED
AS THE
“ACTIVE CAMERA”

- To show all your camera adjustment options, make sure the **“Show All”** box is checked.
- Then click the **down arrow** to display all the options.
- To display a live image, click the **“LIVE”** button.

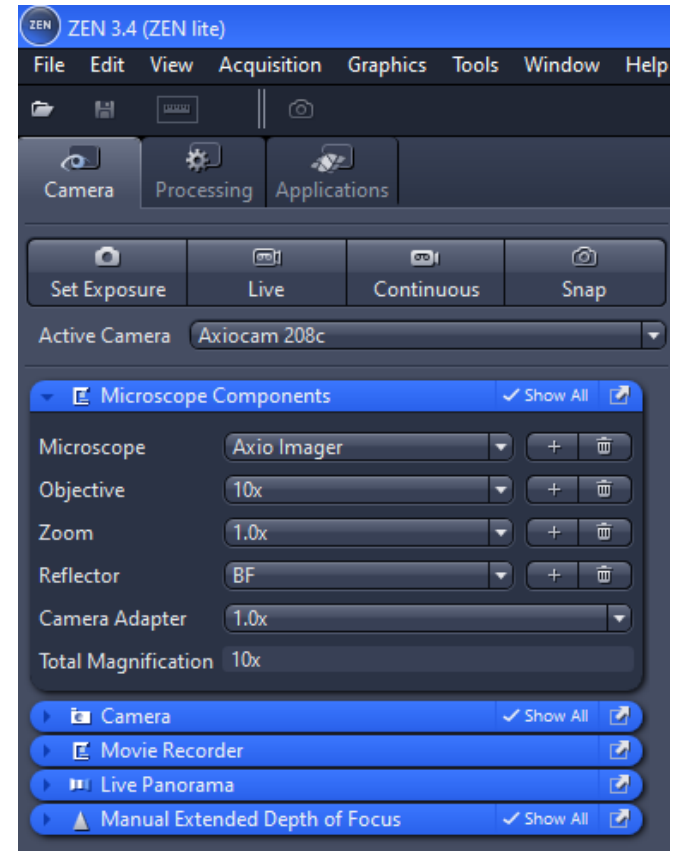
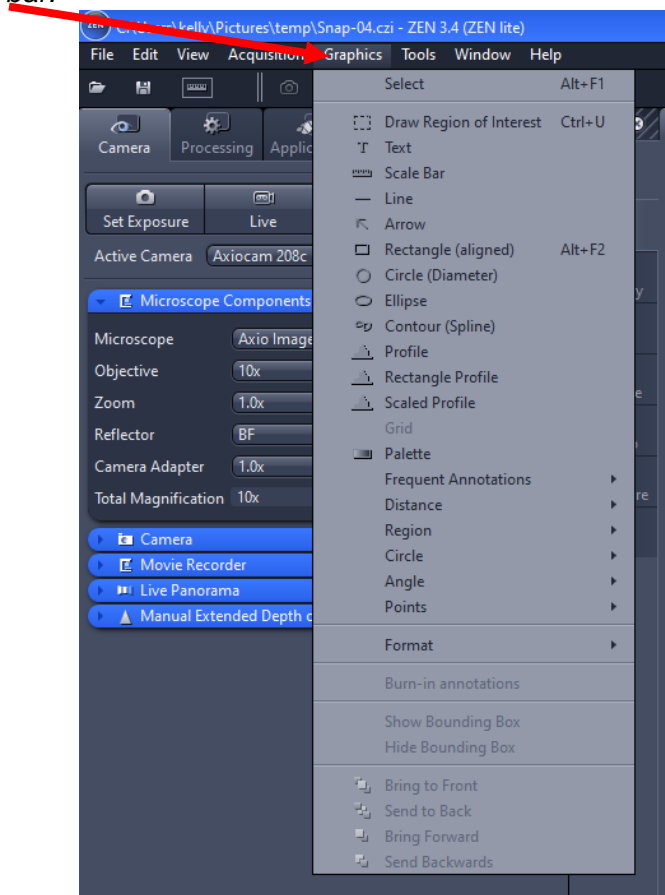


- Your screen should then look like the following:

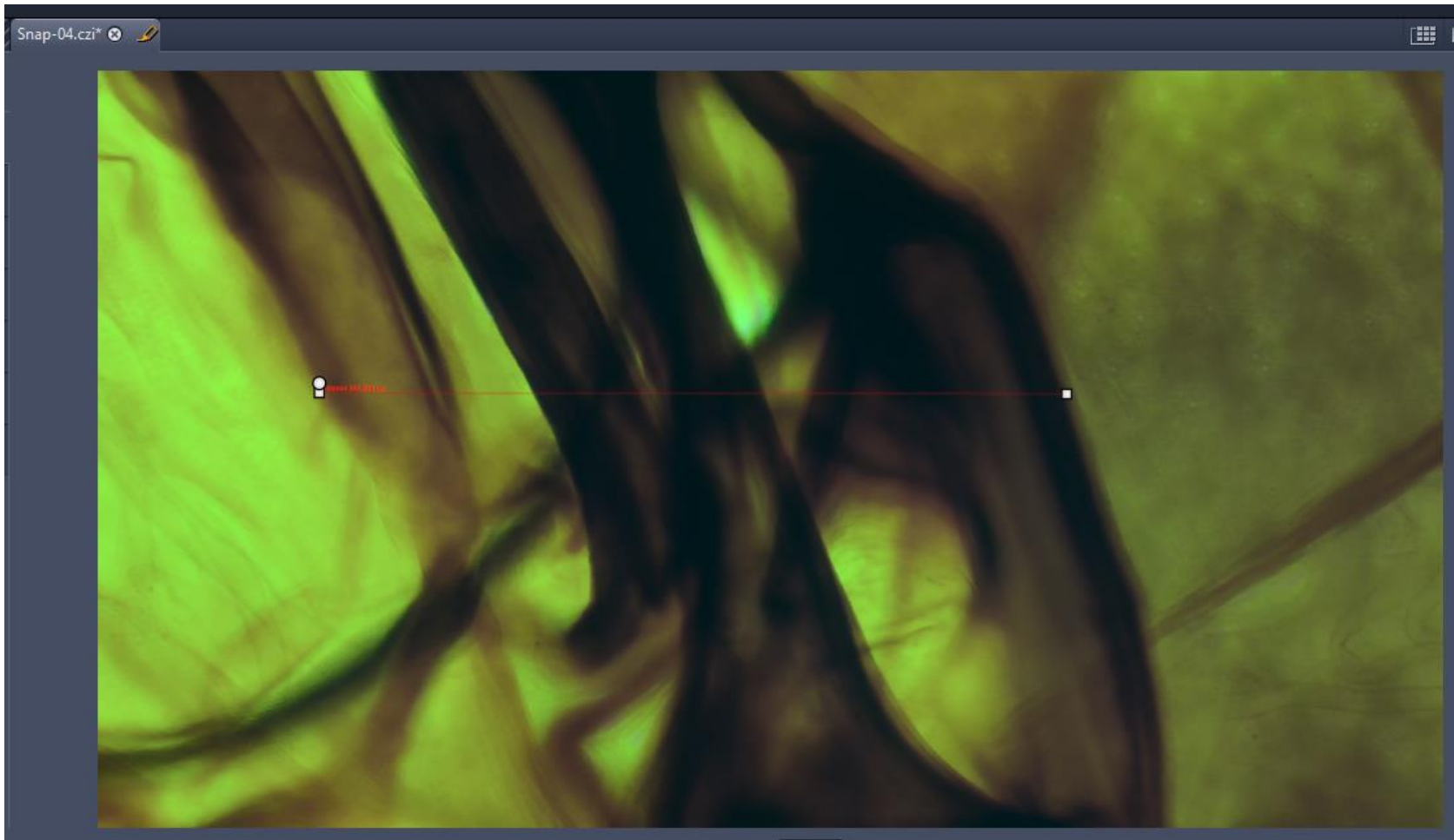


BASIC MEASUREMENTS

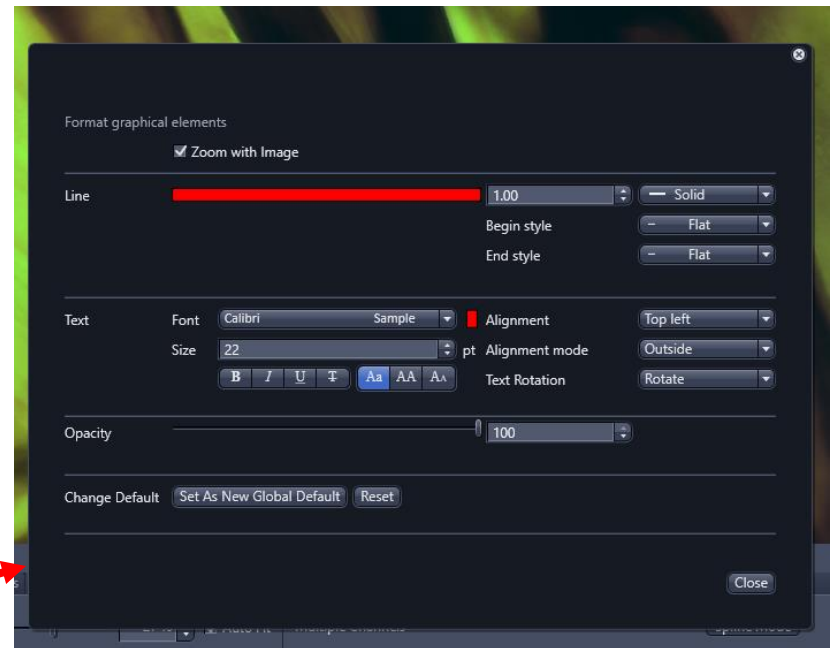
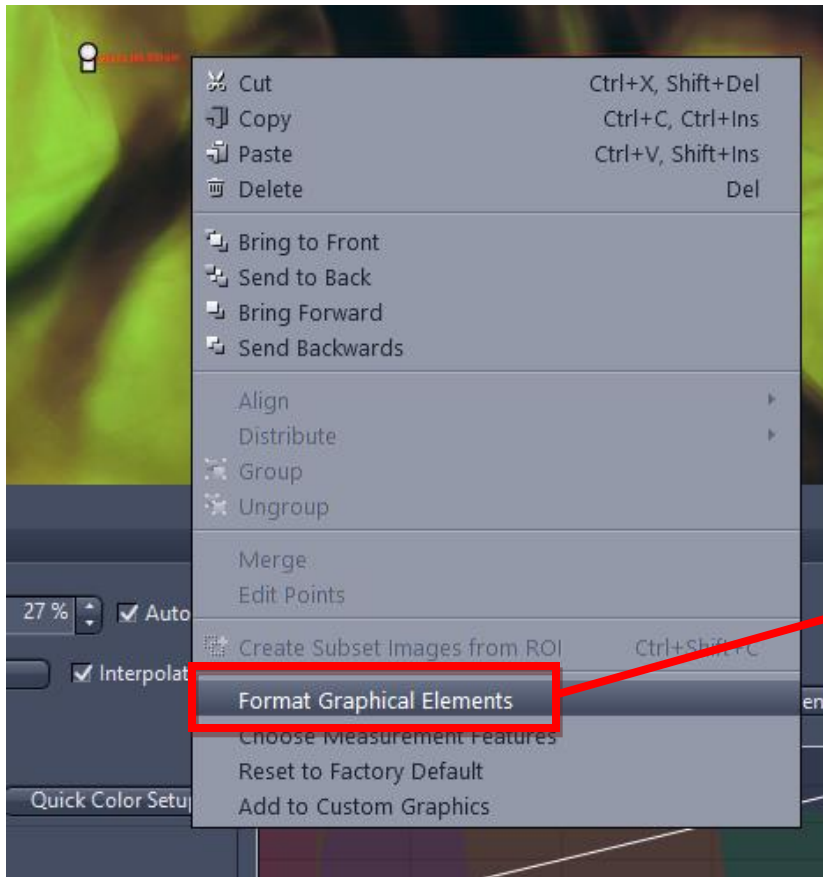
- If you are using a Zeiss Microscope, You can set your microscope components on the left hand side toolbar. This will help the software accurately provide you with measurements. Note: every time you change objective lens magnifications, you will need to change that in the microscope components section if you want to have accurate measurements.
- To perform a measurement, you will find them listed under the graphics section in the tool bar:



- Simply select your measurement you would like to perform. Click and drag your line across the image then click again to finish the measurement.



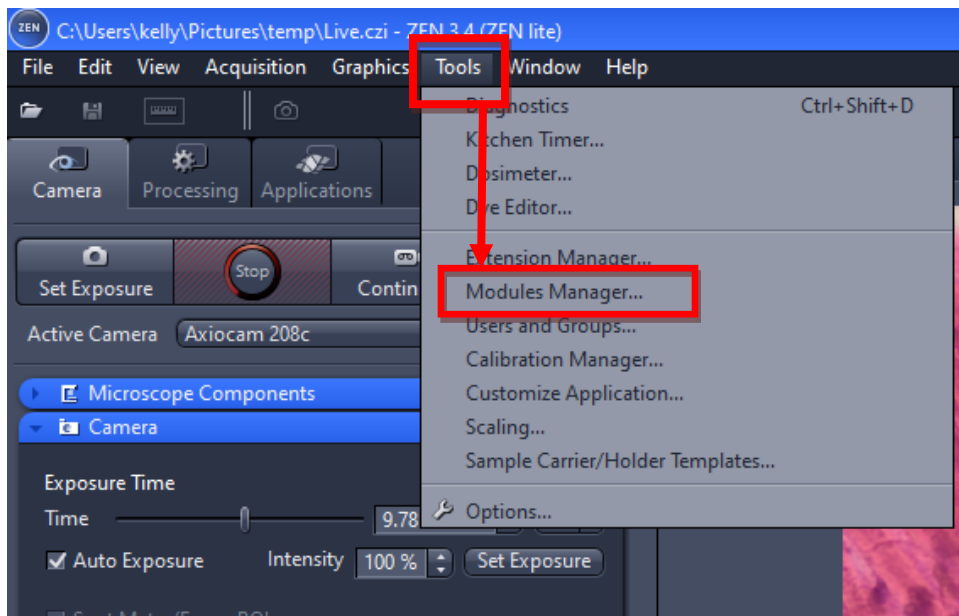
- To change the font size, line color, etc. Select the line then right click with your mouse and select the “format graphical elements” option from the drop down.



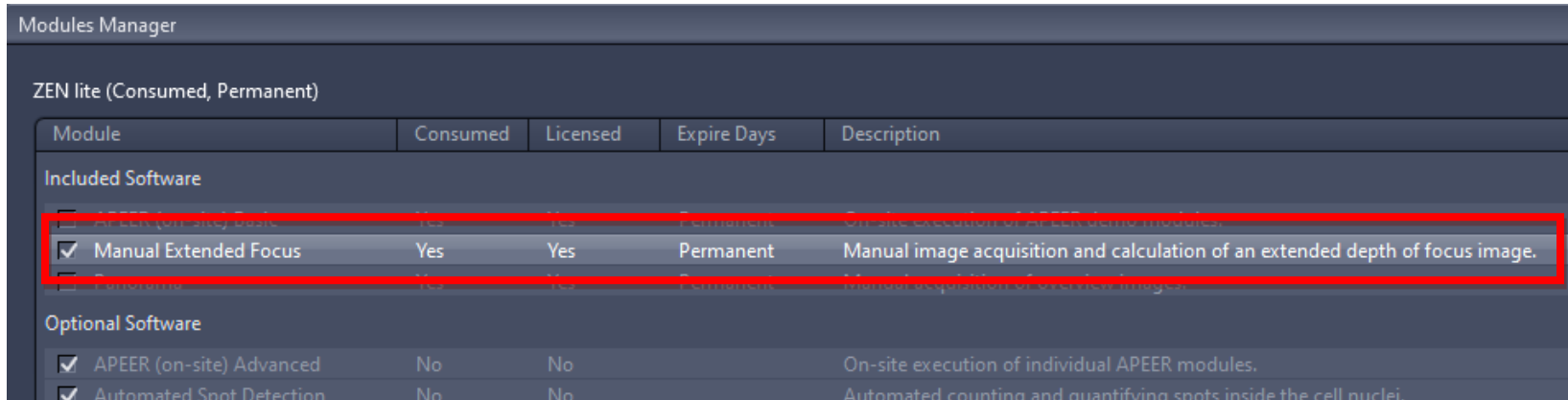
Manual Extended Focus Module:

In order to do Manual Extended Depth of Focus (EDF), you first need to add the module.

You can do so by click on "Tools" in the top toolbar, then "Modules Manager"



Then click the check box next “Manual Extended Focus” to add the module.



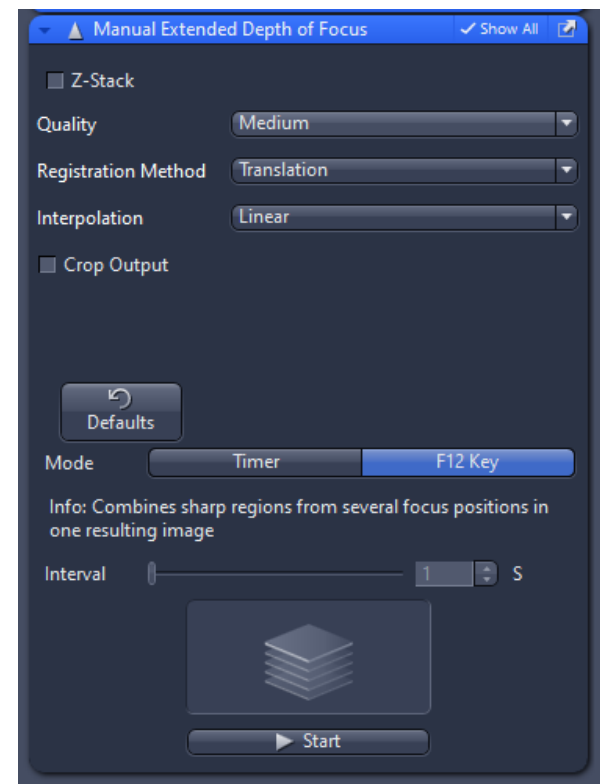
The screenshot shows the 'Modules Manager' window with the 'ZEN lite (Consumed, Permanent)' license type. A table lists software modules, with 'Manual Extended Focus' highlighted and its checkbox checked. The table has columns for Module, Consumed, Licensed, Expire Days, and Description.

Module	Consumed	Licensed	Expire Days	Description
Included Software				
<input type="checkbox"/> APEER (on-site) Basic	Yes	Yes	Permanent	On-site execution of APEER basic modules.
<input checked="" type="checkbox"/> Manual Extended Focus	Yes	Yes	Permanent	Manual image acquisition and calculation of an extended depth of focus image.
<input type="checkbox"/> FocusView	Yes	Yes	Permanent	Distorted acquisition of extended focus.
Optional Software				
<input checked="" type="checkbox"/> APEER (on-site) Advanced	No	No		On-site execution of individual APEER modules.
<input checked="" type="checkbox"/> Automated Spot Detection	No	No		Automated counting and quantifying spots inside the cell nuclei.

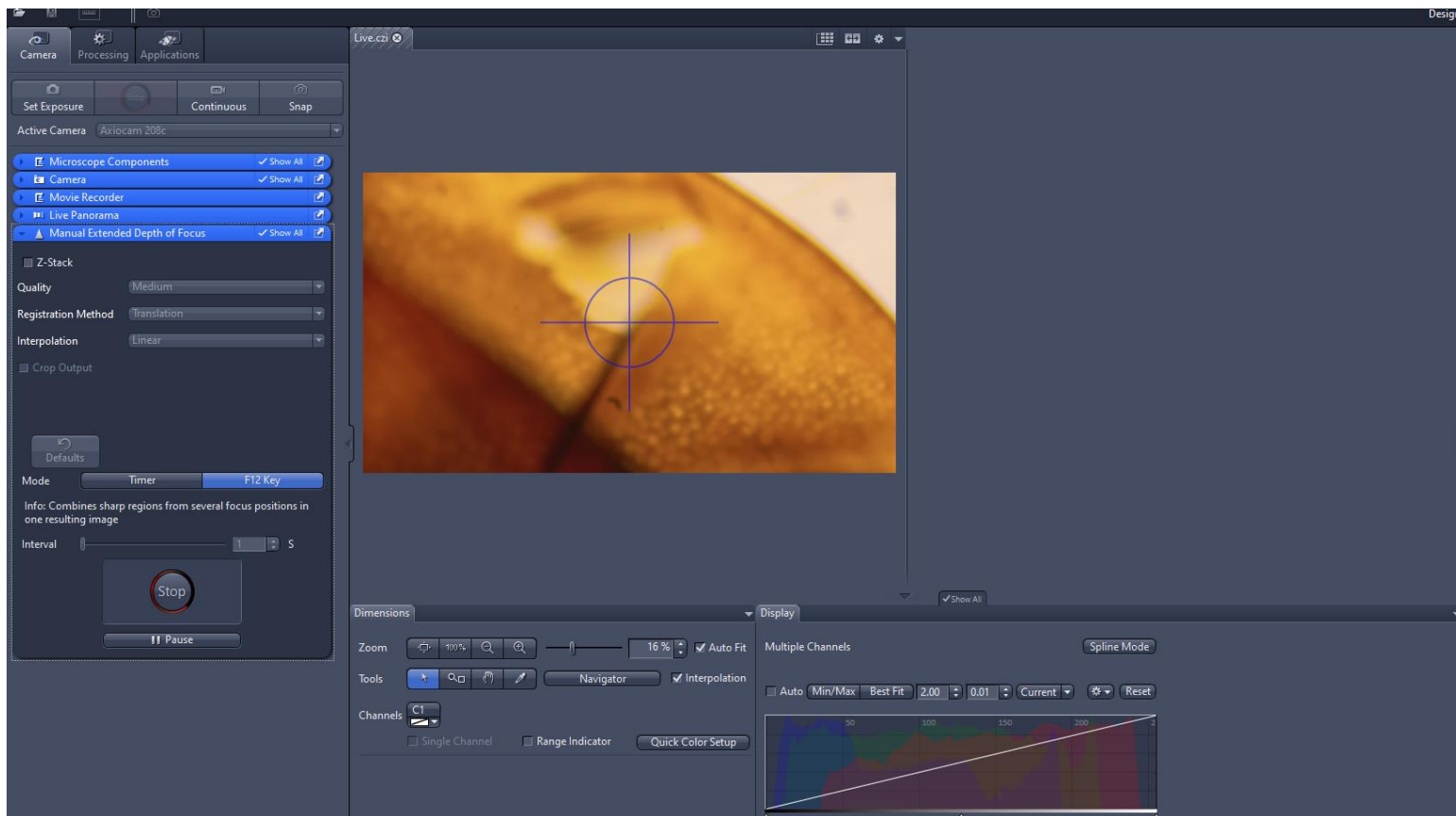
Once you’ve added it, you can close out of the window and that module should appear as a tab on the left side of your workspace. Click the arrow on the left of the tab to open.

After it's opened you can perform the following to achieve a Manual Extended Focus Image:

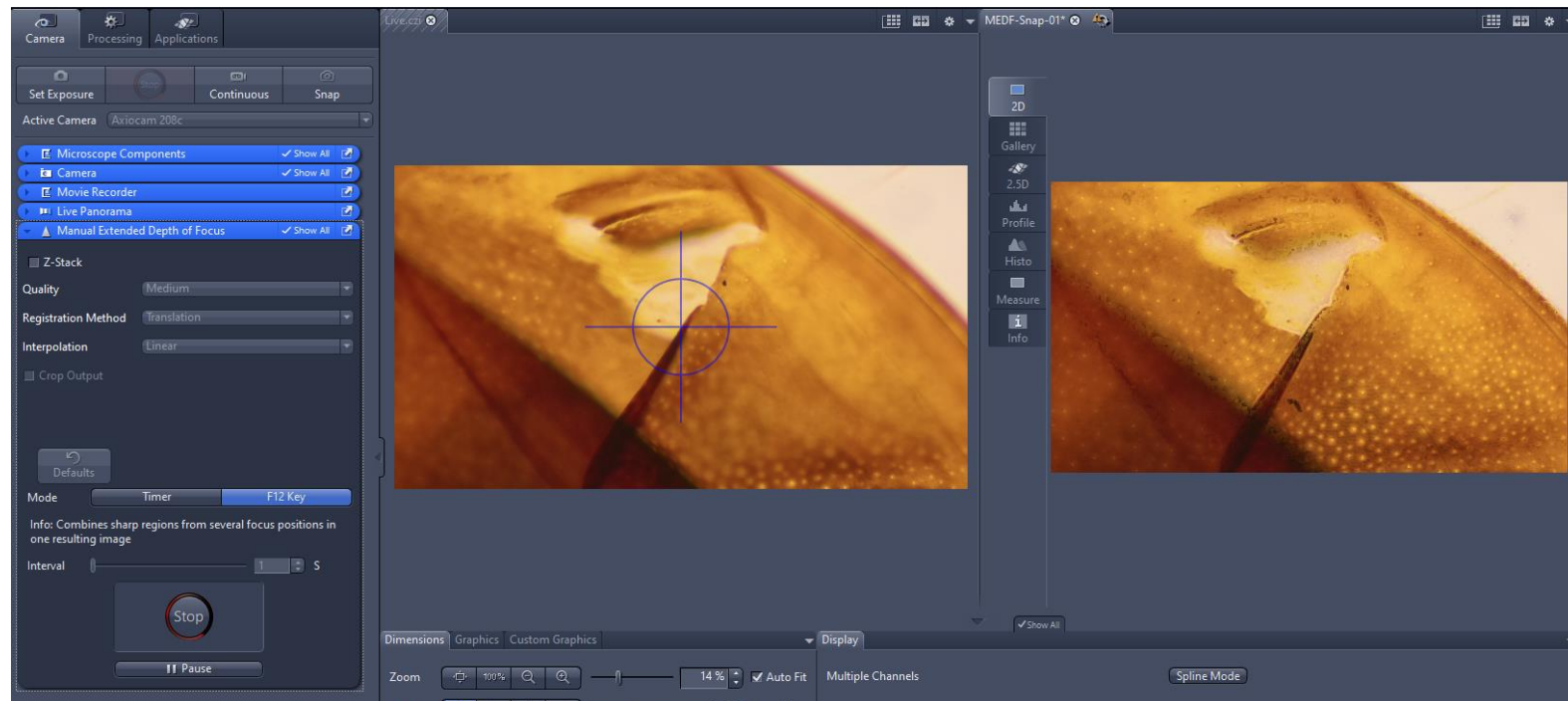
1. Focus the microscope so that it's either at the top or bottom of your focal plane.
2. For your first time using the Manual Extended Depth of Focus Module, we recommend using the defaults for your first run through.
 - Quality: Choose the quality of the image you want to be composited (the higher the quality, the larger the file size)
 - Registration: Use this to select the method (or a combination of) to be used to align your images)
 - Interpolation: Use this to select how you want interpolation to be performed if a pixel is calculated from several individual pixels
3. Select which mode you would prefer to work with:
 - Timer: Acquires an Extended Depth of Focus image automatically after the interval you have set.
 - F12 Key: Acquires an EDF Image when you press the F12 Key.
4. The interval slider will only be active if you click on the timer button in the Mode selection. The slider will allow you to select the intervals (in seconds) at which you would like to composite your images.
5. Once you've made your selections, click the **START BUTTON** to begin your composite image.



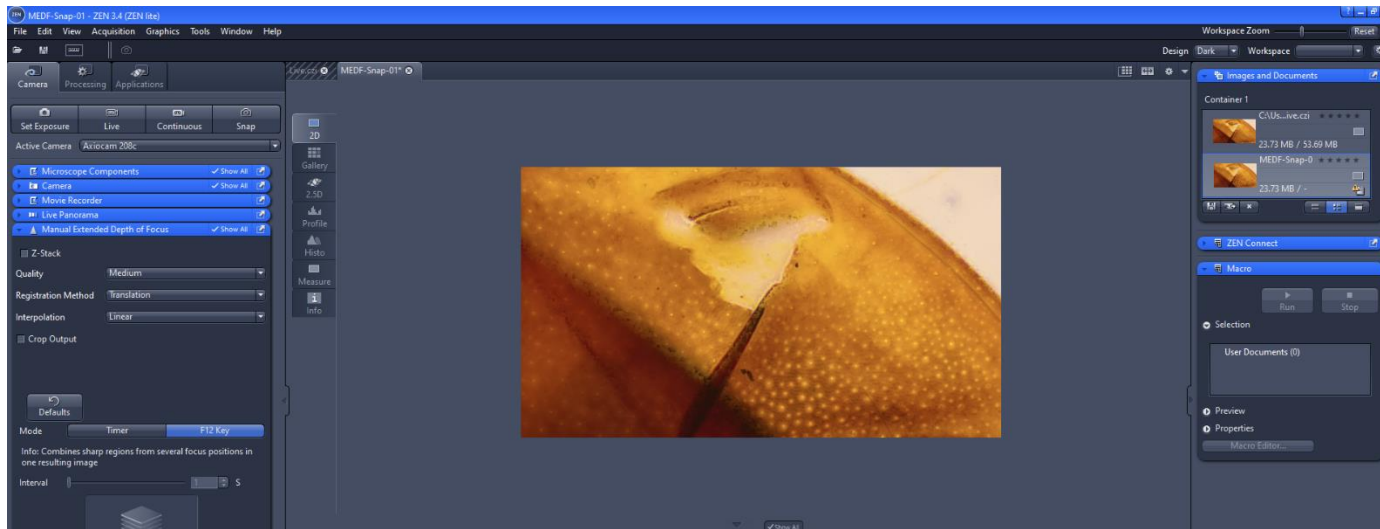
- Once you click the start button, your live image will be displayed on the left-hand side. Rotate your fine focus knob of the microscope to move through the focal plane with one hand and hit the F12 key on your keyboard with your other hand.



7. As you hit the F12, the images will composite into your image on the right side.



8. Once you've completed going through the focal plane, hit the stop button to finish the composite image. The side by side images will then disappear and the only image in the center will be the composited image



9. Make sure to save the image once you're finished.