# Operation Procedure for KEY1
# Keyence VK-X3050 3D Optical/Laser Confocal Profiler

Startup & Operation

1. Power on system via the power button located on the right side of the system. The blue light on the front should flash a few times and then stay on
2. Launch "**VK-X3000 Viewer Application**" on Windows desktop
3. Software will ask if you want to set the XY stage origin. Click "**Yes**" and the system will home the stage.
4. Once the software is fully opened, click on the 5x Objective at the top right of the screen to start with the 5x Objective.
5. Make sure stage is lowered (use knob on left side of system)
6. Place sample on the stage
7. The stage can be moved around using the arrow buttons on the screen if needed.
8. Use the knob on the left side of the system to bring the sample into focus.
9. Click "**AF**" to perform a final Auto Focus on your sample.
10. For the 5x and 10x objectives you can change the lighting under Observation Settings between Coaxial, Ring, Coaxial + Ring, and off and change between Laser or Camera
11. The 20x and 50x objectives are Coaxial lighting only. The 10x DI objective is for White Light Interferometry (which will be explained in a different operating procedure)
12. Under the Navigation Window click "**Register Navigation Image**" to get a stitched together navigation view of your sample. Click "**Finish**" if you want to end this early.
13. Double click in the Navigation Window to go to a particular area on your sample for measurement.
14. Click "**Start Measurement**"
15. Click "**Analyze**" to save a the ". vk6" file into a user folder
16. The Analyzer software will then launch. This can be installed offline on any Duke PC for post analysis. Contact SMIF for details.
17. Use the Operation Guide and buttons across the top of the screen to make desired measurements. The software is robust and can undo anything incorrectly done easily. The menu Help/Functional Guide can provide assistance as well.
18. Click "**OK**" at the bottom of the screen as many times as needed to fully process the measurements.
19. Measurements can be made using all the options on the left side of the screen.
    a. There is a manual on the desktop to explain all options.
    b. Just open that folder and click on GB for English or the other options for other languages.
20. Measurements and images will show up in a spreadsheet style display in the analysis software.
21. Data and images can be saved using the top menus as a ".cag" file. This can be opened offline as well but be aware that it is a much larger file size.
22. Click on the Menu File/Report after analysis to generate an overall report that can be saved as an image.
23. Data can also be exported to excel or other options (.csv)

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Shut Down

24. Set the objective back to 5x.
25. Close all the software via the “X” in the upper right corner.
26. Once back to the Windows desktop power off the system by pressing the button on the right side and the blue light should power off.