

# Nikon Microscope Measurement System

## Standard Operating Procedure

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### Overview

This document will provide a detailed operation procedure of the Nikon Microscope and measurement software. Formal Training is required for all users prior to using the system.

### Revision History

#	Revised by:	Date	Modification
1	Nathanael Sieb	03/9/10	Initial release
2			
3			
4			
5			

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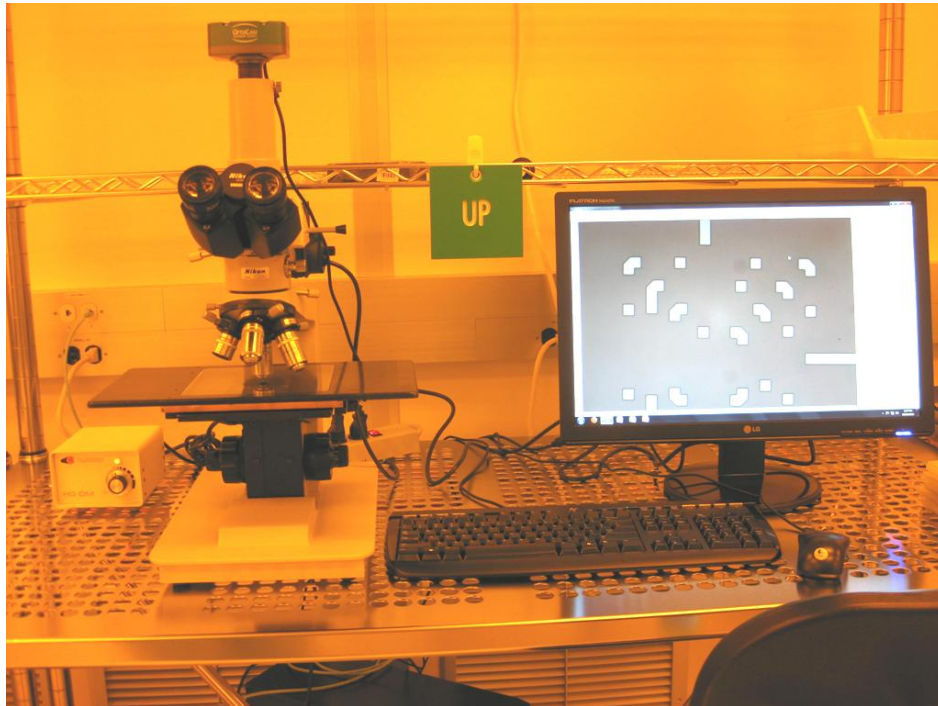


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## General Information

The Nikon Microscope Measurement System contains a reflected light microscope and a digital measurement system. The microscope has a 5x, 20x, 40x, and 100x objective. The glass stage allows for the use of both reflected and transmitted light. The 5.0 MP CMOS camera sends images to the computer that can be analyzed and annotated.



## Operation

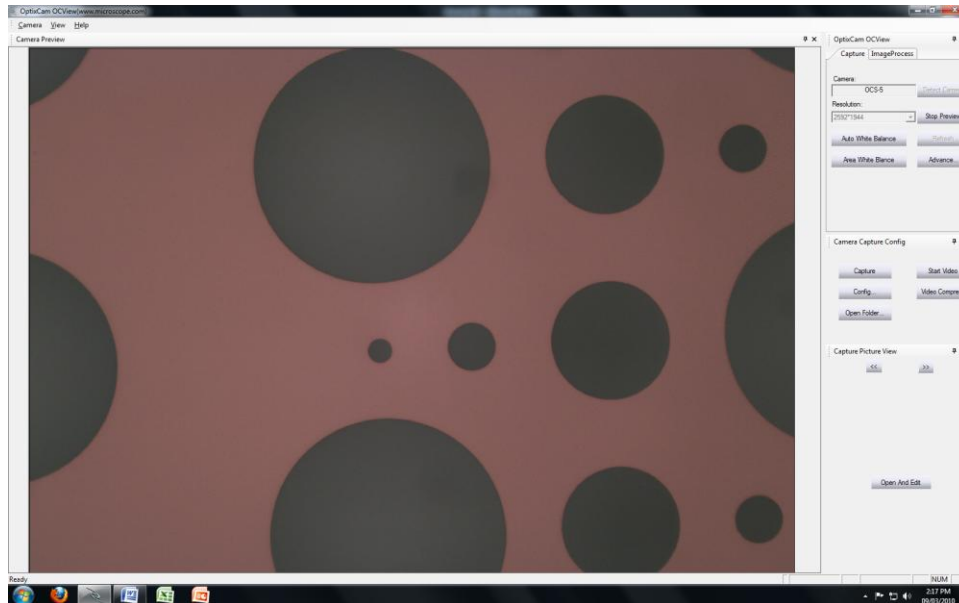
### 1. Image Capture

- Place the sample on the stage.
- Turn on and adjust the lamp intensity as needed.
- Focus the sample and find the region of interest.
- If necessary, open the camera shutter by pulling the knob to the right.

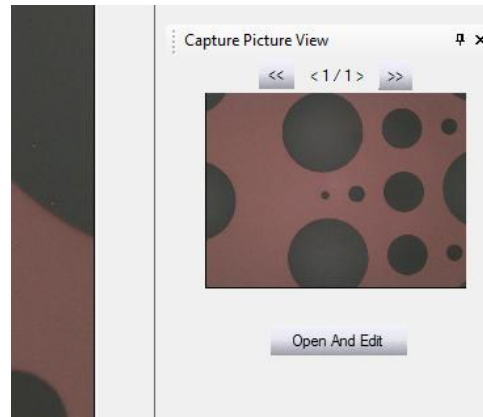


Camera Shutter

- Start the OptixCam OCView software.



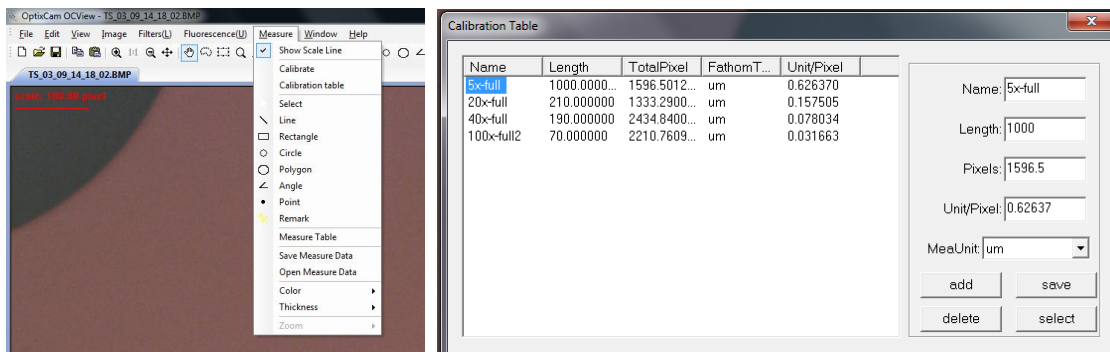
- In Capture tab, press **Detect Camera**. The OCS-5 camera will be detected.
- Press **Start Preview**.
- Allow a few seconds for the software to automatically adjust the exposure levels.
- Focus the sample in the preview window.
- Press **Capture** to take a picture.
- The image will be saved in the default directory that was set in **Config...** and the image will appear in the Capture Picture View.



- A series of pictures can be taken and the images will all be available in the Capture Picture View.

## 2. Image Analysis

- In the Capture Picture View, find the image of interest and select **Open And Edit**. Multiple images can be open for measurements at the same time.
- Go to Measure → Calibration Table and select the objective used. Press **Select** to activate the scale for that objective.



- Several measurements tools are available, including line, circle, area, and polygon.
- For example, to measure a line click on one endpoint, move the mouse to the other endpoint, and click again. The line and associated measurement will be displayed on the image.



- To delete a measurement, press undo.
- Measurements can be performed at any zoom level, but *cannot* be done in stretch mode. It is recommended that measurements are done at the 1:1 zoom level.
- Finally, you must save the file. The image must be at the 1:1 zoom level when it is saved, or else resolution will be lost. Saving the image will permanently burn the annotations into the image.

### ***3. Shutdown***

- Close the software.
- Close the camera shutter.
- Return the objective to 5x.
- Turn off the light source.
- Unload the sample.

## **References and Files**

OCView manual.



## Contact Information

Questions or comments in regard to this document should be directed towards Nathanael Sieb ([sieb@4dlabs.ca](mailto:sieb@4dlabs.ca)) in 4D LABS at Simon Fraser University, Burnaby, BC, Canada.