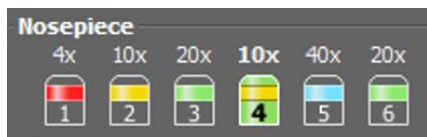


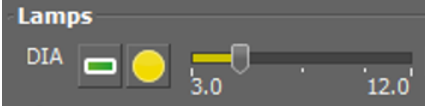
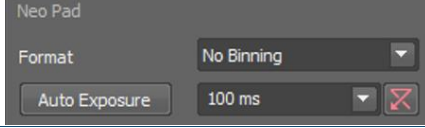
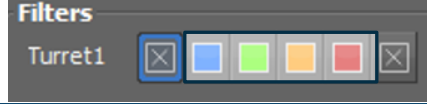
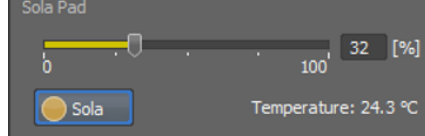
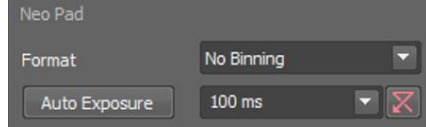


# Nikon Inverted Microscope User Guide

<b>Turn-on procedure</b>	<b>Turn-off procedure</b>
1) Turn on power outlet at back 2) Log in to computer 3) Open NIS Elements Acquisition software and choose the Neo camera	1) Close Nikon Software 2) Turn off power outlet at back 3) Log out of BRC Login

<b>Choose an objective lens</b>	
<b>Choose either camera or eyes here</b>	
<b>For transmitted light, choose the empty filter block</b>	
Choose the lamp intensity here	
and the camera exposure time here	
<b>For fluorescence, choose a colored filter block (see spec sheet for wavelength ranges)</b>	
Choose the light intensity here	
and the camera exposure time here	

## Phase

For acquiring phase images, choose either Ph1 or Ph2 phase plates in the condenser to match whatever phase objective you are using (10x and 20x are Ph1 and 40x is Ph2). Open up the condenser aperture all the way.

## Tiling

In order to tile on this system, you need to **first change to global shutter**. Acquire an image.

Run *Calibration -> Recalibrate Objective . . . -> Auto*

(You have to acquire at least one tiled dataset in global shutter. Then you can change to rolling shutter or just leave it in global.)

To do this you can either:

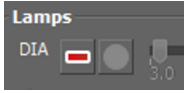

1) Choose mxn tiles under *Acquire -> Scan Large Image*

OR

2) First choose bounding positions using *Acquire -> Capture Multipoint -> Capture Automatically -> Add*

Then *Acquire -> Scan Large Image* and choose the  icon.

## Troubleshooting

<p>Program hangs during attempted acquisition</p>	<p>If your exposure time is too short (usually &lt;50 msec or so), the program neglects to inform you but just hangs.</p> <p>Switching from Rolling to Global Shutter can also help in certain cases.</p>
<p>Horizontal line across your image.</p>	<p>In global shutter, you only have a well-depth of <math>(2^{16})/3=21,845</math>. Make sure your counts are under this value.</p>
<p>Cannot turn down transmitted illumination enough</p>	<p>For some reason, the software does not allow access to low illumination levels. Click the buttons under Lamps until it looks like this:</p>   <p>You have now given the microscope control of the transmitted light illuminator. Use these controls to adjust the light.</p>
<p>PFS</p>	<p>Try the PFS. It's great!</p>