Instructions for Use of the Leica MZ16 FA Stereomicroscope

1. Select the appropriate light source. Choices include fluorescence, transmitted light from the base, or reflected transmitted light from bifurcated pipes.
2. Power 'On' the microscope.
3. Select the appropriate lens. If the desired one is not installed, see the facility director regarding changing objectives.
4. Begin with a low zoom setting to focus on the sample. Zoom and focus are done using the hand controller to the left of the microscope. A small guide labels the controls for zoom and focus.
5. Make small changes to the position of the sample by repositioning the gliding stage.
6. Optimize the illumination of the sample. For base illumination, change the positions of the mirror and the slits in order to get the desired level of contrast and illumination. For reflected illumination, change the position of the pipes and their position in the focusing lens to get the desired level of illumination. An analyzer and polarizer can be added to the objective and pipes to reduce glare if needed. The lamp intensity and aperture can be adjusted on the control box. Do NOT exceed an intensity level of 4.
7. When doing epi-fluorescence with the high magnification combi objective, be sure to install the appropriate dichroic mirror into the light path.
8. To capture the image, Power 'On' the digital camera. The switch is on the top of the camera.
9. Pull the slider to "Photo" to align the light path with the camera.
10. Open Image Pro Plus >> Acquire >> Video/Digital >> More

<u>Black and White Image Capture</u>

11. Select the "Mono" position on the F-mount.
12. There are 3 presets for monochromatic image capture already programmed into the software (settings 1, 2, and 5). These presets offer various combinations of image size, bit depth, and binning. Select the one more appropriate for your application.
13. Click "preview" to begin viewing the image.
14. Adjust the exposure time, gain, and offset as needed.
15. Click "Snap" to capture an image.
16. If vignetting is bad, shift the position of the objective "off-axis" to align the objective more directly with the light path to the camera.

<u>Color Image Capture</u>

17. Select the "RGB" position on the F-mount.
18. There are 3 presets for color image capture already programmed into the software (settings 3, 4, and 6). These presets offer various combinations of image size, bit depth, and binning. Select the one most appropriate for your application.
19. Click "Preview" to begin viewing the image.
20. Perform an auto white balance. Adjust individual R, G, and B channels if necessary to accurate color representation.
21. Adjust exposure time, gain, and offset as needed.
22. Click "Snap" to capture an image.
23. If vignetting is bad, shift the position of the objective "off-axis" to align the objective more directly with the light path to the camera.

24. Image sequences can be acquired in both color of monochromatic imaging modes and can be converted into movie files. If this is desired, please contact the facility director for assistance.