

# ImageJ Cheat Sheet

1. Open image; use File > Revert if you screw up; always keep an original in a safe place
2. Image processing like those in Photoshop:
  - a. Process > Filters > Gaussian Blur
  - b. “ “ > Median
  - c. “ “ > Unsharp Mask
  - d. Image > Adjust > Brightness/Contrast [with histogram stretch]
    - i. ‘Auto’ – stretches histogram
    - ii. ‘Reset’ – restores settings
    - iii. ‘Set’ – manually enter values
    - iv. ‘Apply’ – applies changes
  - e. Image > Adjust > Window/Level [B&C only]
  - f. Process > Enhance contrast [auto histogram stretch]
  - g. Process > Math > Gamma
3. Histogram
  - a. Analyze > Histogram
    - i. ‘List’ – displays histogram data that can be saved as a spreadsheet
    - ii. ‘Copy’ – sends histogram data to clipboard that can be pasted into a spreadsheet
    - iii. ‘Log’ – log scaled version of data
    - iv. ‘Live’ – for use with stacks and ROIs
    - v. ‘RGB’ – cycles between global and individual channels for RGB images
  - b. To save histograms: File > Save as > Tiff
4. Perform set of linear measurements; save spreadsheet; save image with overlaid measurements
  - a. Analyze > Tools > ROI Manager [measurement lines will overlay the image]
  - b. Analyze > Set Scale [how big is a pixel??]
    - i. ‘Click to remove scale’ – to clear previous scales
    - ii. Enter distance in pixels (e.g. 11.18 for 60x lens on Nikon E600 and 1x1 bin)
    - iii. Enter known distance (e.g. 1)
    - iv. Enter unit of length (e.g. um)
    - v. Check ‘Global’ if this is for all open images
    - vi. ‘OK’
  - c. Analyze > Set Measurements [data to be displayed]
    - i. Select ‘Display label’
    - ii. De-select all others except what you want
  - d. Select ‘Straight Line Tool’ [between free-hand and angle tools]
  - e. Draw line from point A to B
  - f. In ROI manager click ‘Add’ and select ‘Show all’

- g. Do several measurements clicking *'Add'* after each
- h. When done click on *'Measure'* in ROI manager. Results can be saved as a spreadsheet.
- i. Save image
  - i. Click *'Flatten'* in ROI manager
  - ii. Save file as \*.tiff