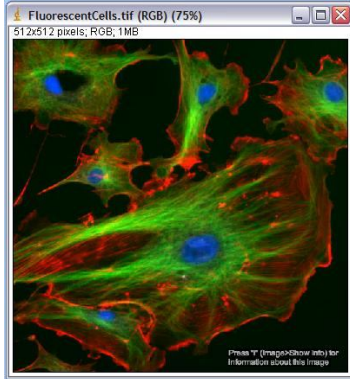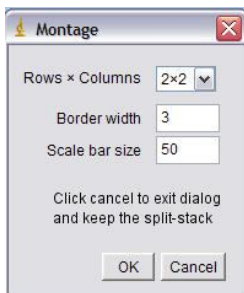# Making Montages with ImageJ

Montages are popular for presentations and papers, because they show a lot of information in a small amount of space. ImageJ does a good job of preparing images to be put into figures and making quick montages.

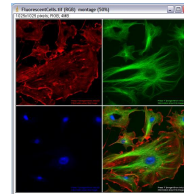## Quick Montage with RGB to Montage Plugin (plugin required)

1) First, you must install the RGB to Montage plugin, which is available on the microscopy server under ~ImageJ → plugins → 0 RGB stuff. To install the plugin, copy the RGB to Montage .jar file into the ImageJ plugins folder on your computer. You can also choose to install the entire RGB stuff folder. Either way, you must re-start ImageJ for the RGB to Montage plugin to appear under the Plugins menu.
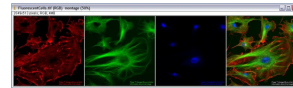
2) Open an RGB image that has multiple colors, such as the FluorescentCells.tif file shown here. This file comes from File → Open Samples. With the RGB image of your choice open, choose Plugins → RGB to Montage (or Plugins → 0 RGB stuff → RGB to Montage if you installed the whole folder).

3) A new menu window will open. From the pulldown, choose the format you want for your montage. A 2x2 selection will give you a square box with 4 panels, like this:

and a 1x4 selection will give you a linear montage, like this:

A 4x1 selection will give you a montage like the 1x4, just in a line going down instead of across. If you don't have an even number of images, in the 2x2 case there will be a blank box, but in the 1x case it will not matter, your line will just be shorter or longer for the number of images you have.

4) Border width changes the thickness of the lines between the images, and scale bar size is the size of the scale bar that will be put in the merged image. NOTE: the original RGB image must be properly calibrated (Image → Properties) for this bar to be an accurate size. If you don't want a scale bar, type "0".
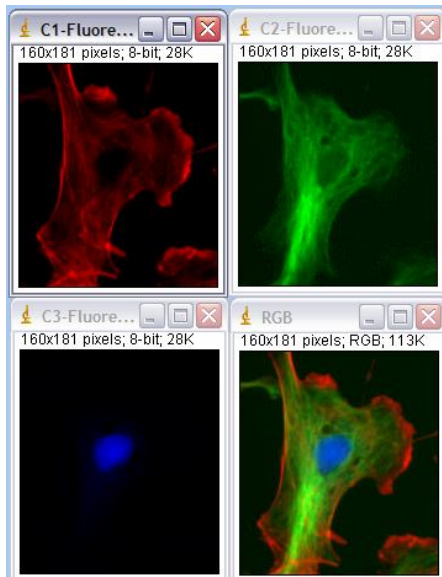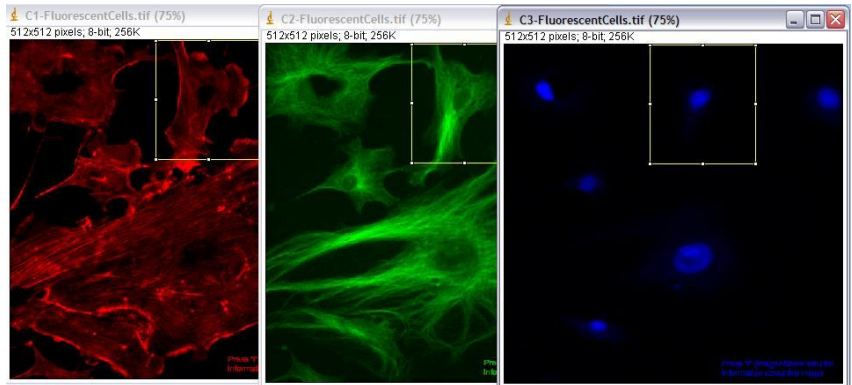
Multi-crop to create a montage in another program (no plugin required)

Figures for manuscripts are often made in other software programs (Photoshop, Illustrator, etc.) because these allow for multi-panel figures, and for text, graphs and other objects to be added to the final image. However, there is a cropping trick in ImageJ that is very useful for making figure montages. It will crop all images in a group to the same size, and in the same place on the image.

1) To use this trick, first open all the images in the set to be cropped. This can be a red, green and blue set, CFP/YFP, fluorescence stack plus DIC image, whatever. It will work on .tif, .jpg, .gif and stacks.

2) Select the area you want to crop on one image using one of the selection tools (rectangle, circle, polygon, freehand). Click on the name bar of another image to select that image. Choose Edit → Selection → Restore Selection (Ctrl + Shift + E). The selection should pop up on the

second window. Continue selecting and restoring until all of your images have the bounding box drawn on them.

3) Crop the images by selecting either Image → Crop (Ctrl + Shift + X) which will crop the original image, or Image → Duplicate (Ctrl + Shift + D) which will create a new window with the cropped image and leave the original intact.