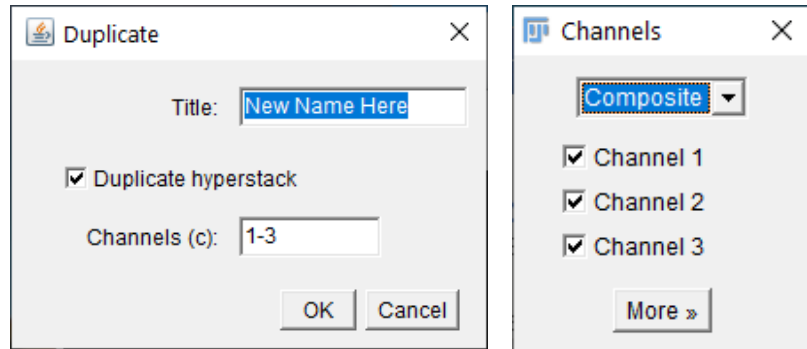


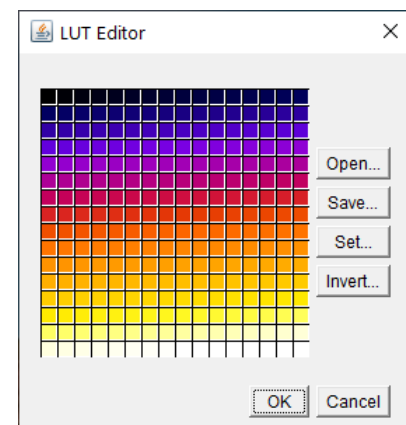
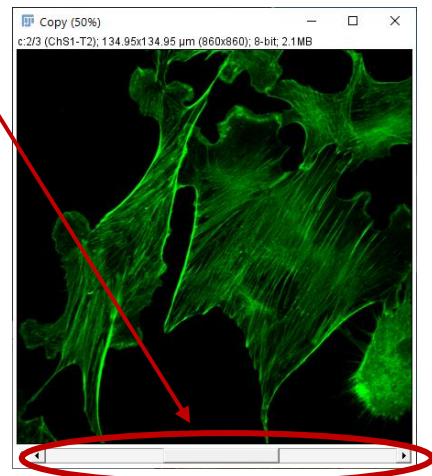
Exercises Session 2 – Viewing & manipulating images in Fiji

Exercise 4) Using the histogram and LUT to check image acquisition. (15 mins)

- Open image fluorescent cells.lsm (Exercise Images 04)
- Press Ctrl+Shift+D.
(Duplicate) Call it anything you want.
(Change the Title:)



- Open Channels tool: **Image / Color / Channels tool** (try Composite, Color, Grayscale, More>)
- Change the Channels window to 'Colour' (not 'Composite' or 'Grayscale').
- To make changes or measurements in each channel move the bar below the image. Try Channel 2.
- **Image / Lookup Tables** > HiLo. Try some others, like 'Fire'
- Make a Histogram of the image(Ctrl 'H') (Do not 'Include all 3 images'). Press Log. Press Live.
- Press Ctrl+Shift+C (Brightness & Contrast). Adjust the image... (Min Max etc sliders)
- Make sure you are changing the Image and not the histogram. (Click the image to activate that window).
- **Image / Color > Edit LUT...** You can assign any colour to any pixel value... (click a box or drag across some, or all, of the boxes)
- Can you make it Orange? (Drag across all boxes from top left to bottom right to select them all. Set Initial entry (0) to 0, 0, 0. Final Entry (255) to 255, 200, 0).
- Try and split the channels and re-assemble them:
Image / Color / Split channels &
Image / Color / Merge Channels...
- When you are done, you can close all windows at once:
File / Close All (Shift W)

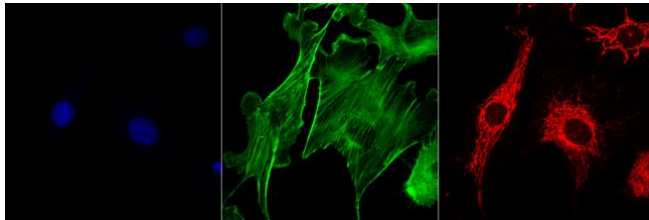


Exercise 5) Make Image Montages for figures. (15 minutes)

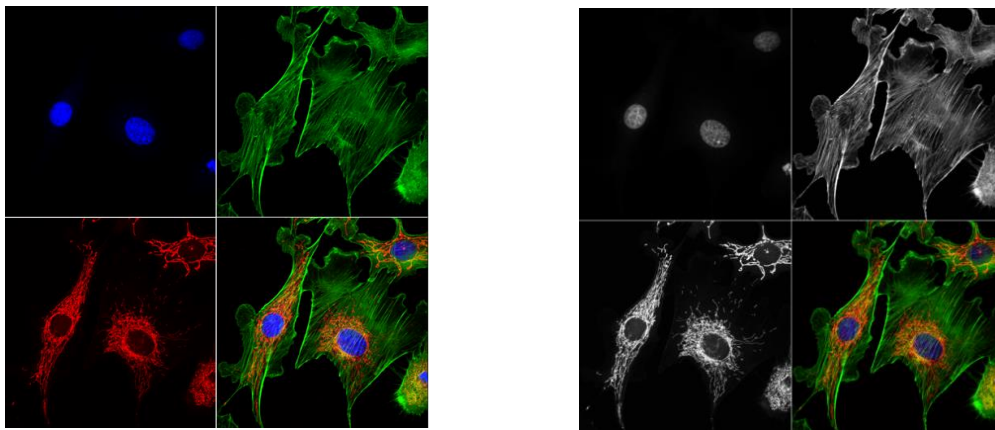
Open image fluorescent cells.lsm (Exercise Images 04)

Make two (or three) montages:

1)



2 & 3)



Hints:

Make Montage. Use a border. Make image grayscale using the channels tool. Make a composite of this with an empty quadrant, (2x2 montage). You'll need to make an RGB colour image of the overlay picture. Also a Grayscale of the original stack before making the second montage.

I have written a macro to do this:

<https://www.ucl.ac.uk/child-health/core-scientific-facilities-centres/confocal-microscopy/advice-protocols/imagej-macros>

Also in your macros folder that came with the course:

Montage3ChGrey&Colour.ijm & Montage3ChGrey&ColourRGBstacksv003.ijm

It can also be done in ICY.