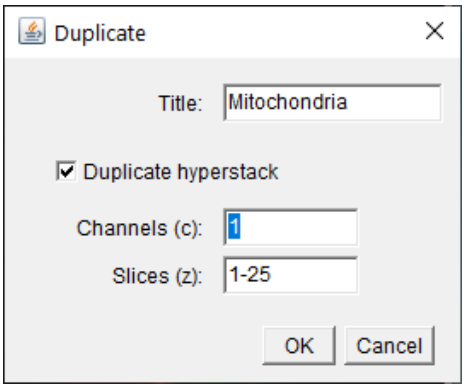
Exercises sessions 6 – 3D analysis

Exercise 18) Segment and measure a 3D image



- You need the 3D ImageJ Suite plugins installed.
- Update Fiji:

Help / Update…

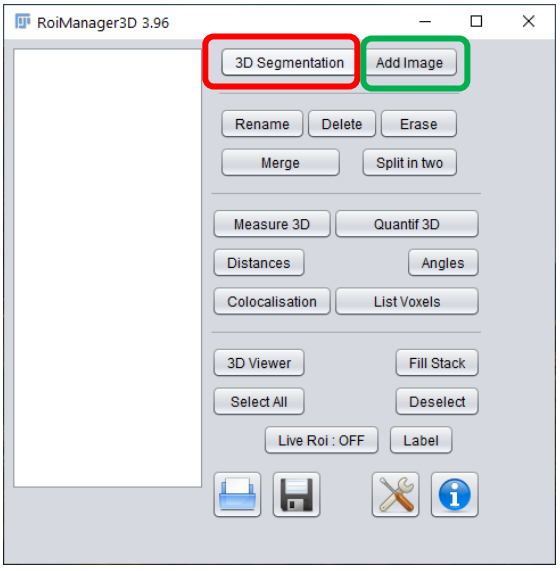
Manage Update Sites & select 3D ImageJ Suite.

- Open the sample image 'Confocal Series'
- Duplicate Channel 1 – called it 'Mitochondria'
- Filter in 3D, try median 1.0 ,1.0 ,1.0 ***Process / filters / Median 3D…***
- Threshold (stack histogram) try Default?

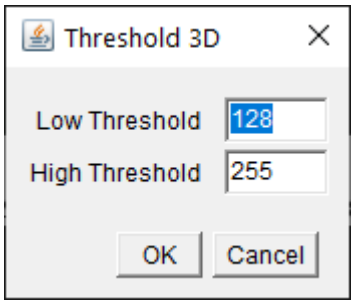
You can scroll through the stack before you press 'Apply'

- Convert Stack to Binary Window: Make sure 'Calculate threshold for each image' is NOT TICKED
- Segment the image in 3D and add to the 3D ROI manager:

Plugins / 3D > 3D Manager



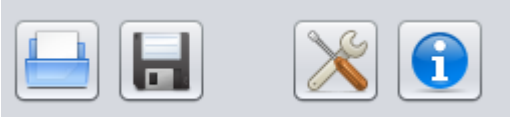
Press '3D Segmentation'



You can set any value threshold as you've already made the image Binary (i.e back ground is 0, foreground is 255 (depending on bit depth). You could also have skipped the previous threshold step and done the threshold here with a suitable value).

- You get a new window "*Imagename*-3Dseg"
- Press Add Image in the 3D RoiManager window

- Set the measurements you want to make (press the tools image)



- Press Measure 3D

How can you see the ROIs on your image??

How can you visualise your segmented image?

(Try changing the LUT, try adjust in the Image Color Balance)

Can you view the image in 3D?