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Post Processing after Vessel Segmentation:

If there is too much black space in the dataset, artifacts may appear. These artifacts will only be present in the surrounding black regions and should not interfere with the segmented blood vessels.
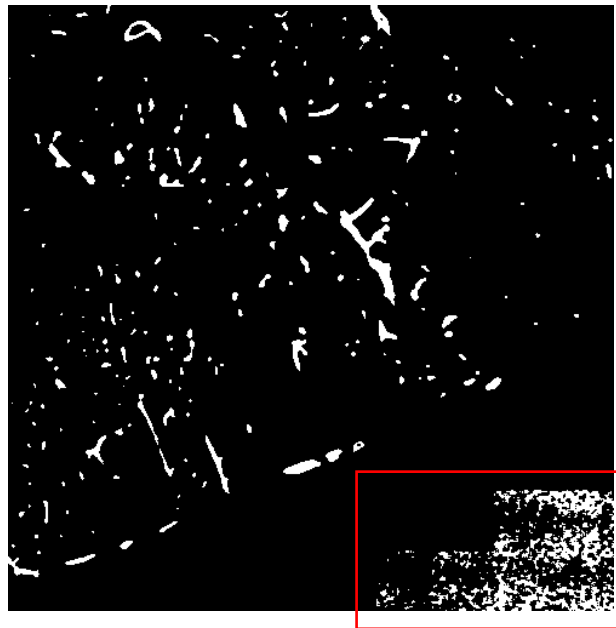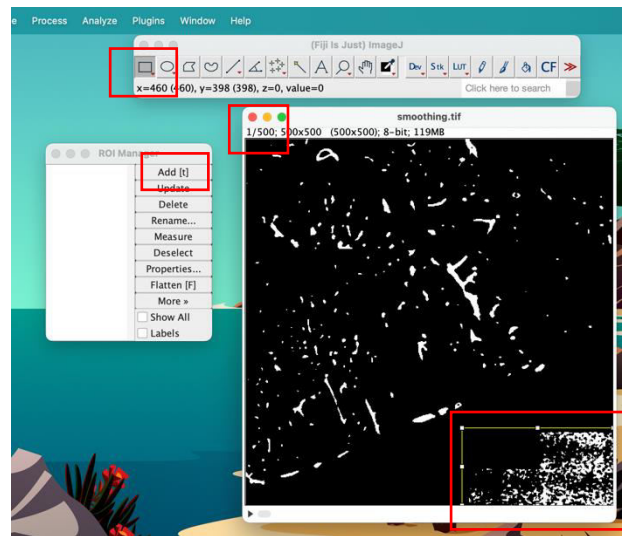

However, for aesthetic and quantification purposes, we recommend following these steps:
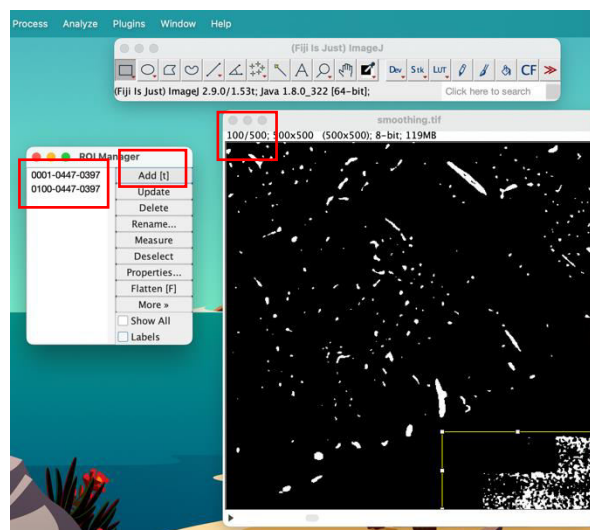
1. Open "ImageJ" and load the "smoothing.tif"

2. Go to "Analyze" -> "Tools" -> "ROI Manager."
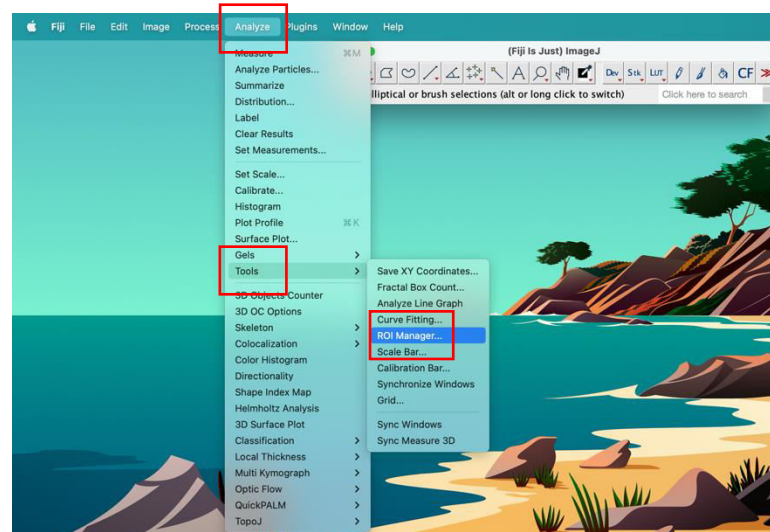
3. Use the "Rectangular" tool to select the region of the artifact on the first image, then click "Add" to add the selected region of interest.
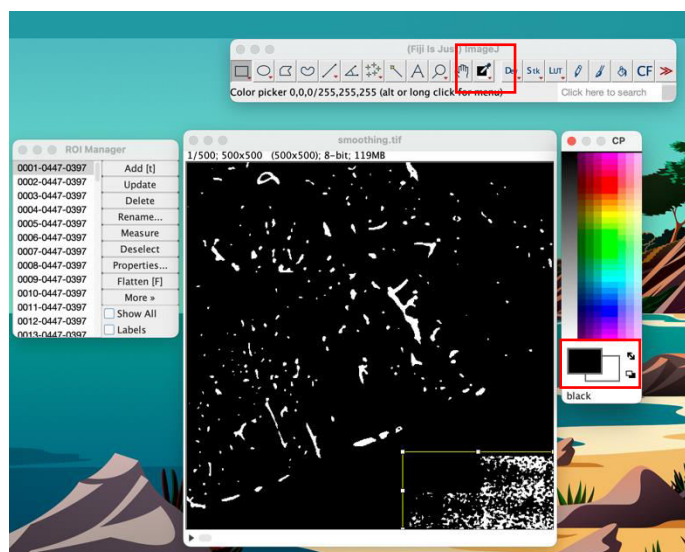

4. Select the region of interest on the other depth, then click "Add" to add the selected region of interest.
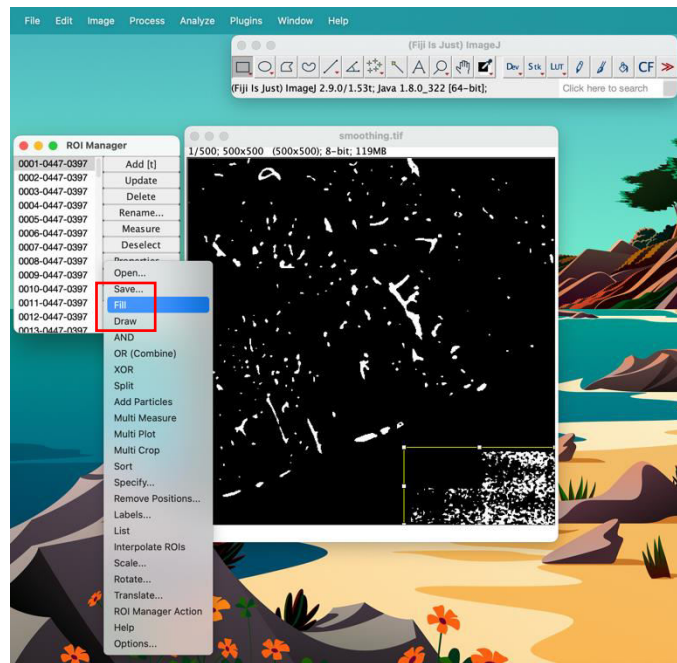

5. Go to "More >>" and click on "Interpolate ROIs." This will add all the regions of interest in the intermediate depths.
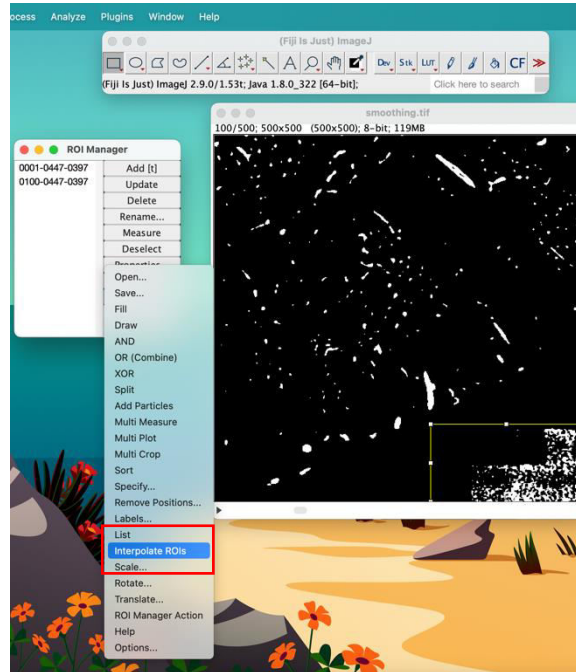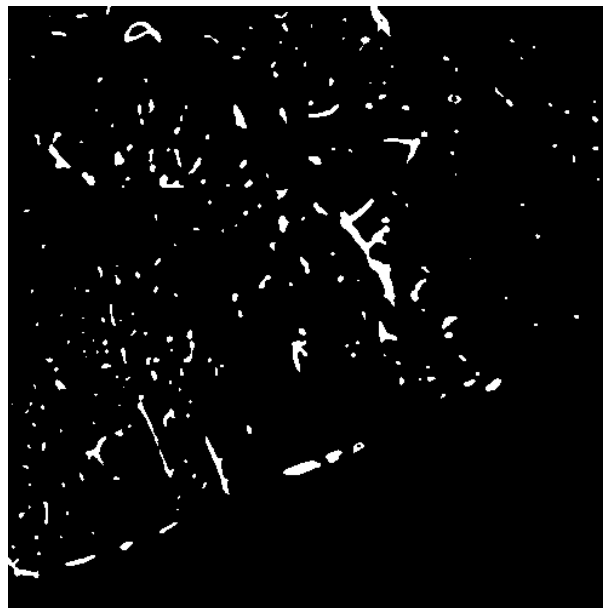
6. In the color panel, select the "black" color as the foreground color.

7. Select all the regions of interest (Ctrl + A or Cmd + A) and go to "More >>,"

then click on "Fill."

8. Now all the artifacts in the selected regions have been removed. Repeat this process for other regions. Remember to save the resulting image as TIFF.

Post Processing after Feature Extraction:

Due to imperfections in the bifurcation extraction algorithm, it is possible for one bifurcation to be represented by multiple points, leading to inaccurate quantification of the total number of bifurcations. To create a more accurate representation of the bifurcation points, please follow these steps:

1. Open "ImageJ" and load the file "bifurcations.tif".

2. Navigate to the "Analyze" menu and select "3D Object Counter."
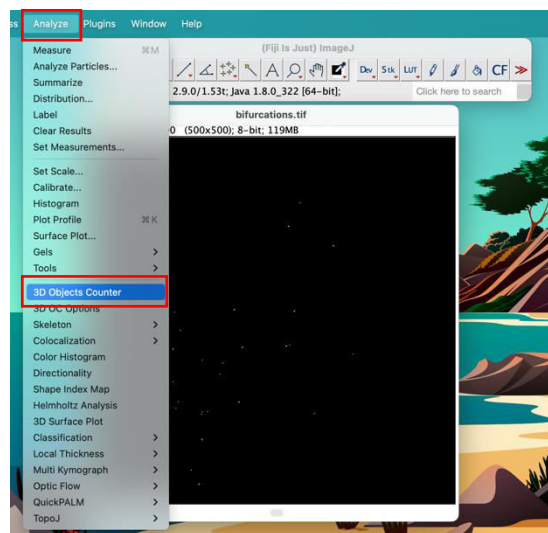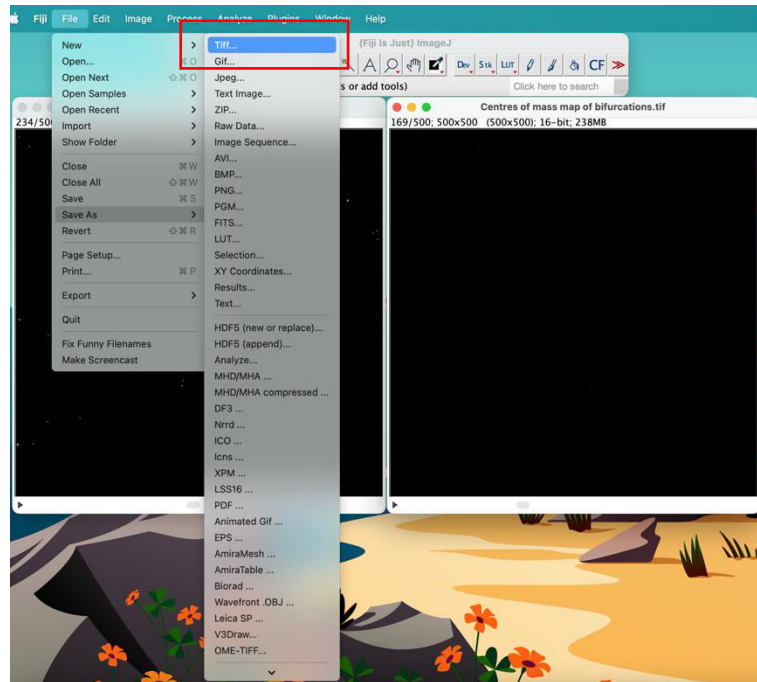

3. In the "Maps to show" section, choose "Centres of Mass" and click "Ok."
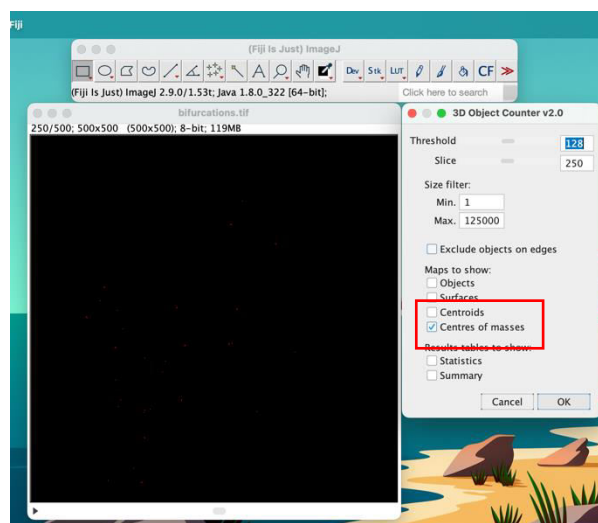
4. Once the process is complete, a new window will display all the centers of

mass. Save this new image as "COM_bifurcations.tif"

5. Remember to apply the "BinaryConverter.py" to "COM_bifurcations.tif"!