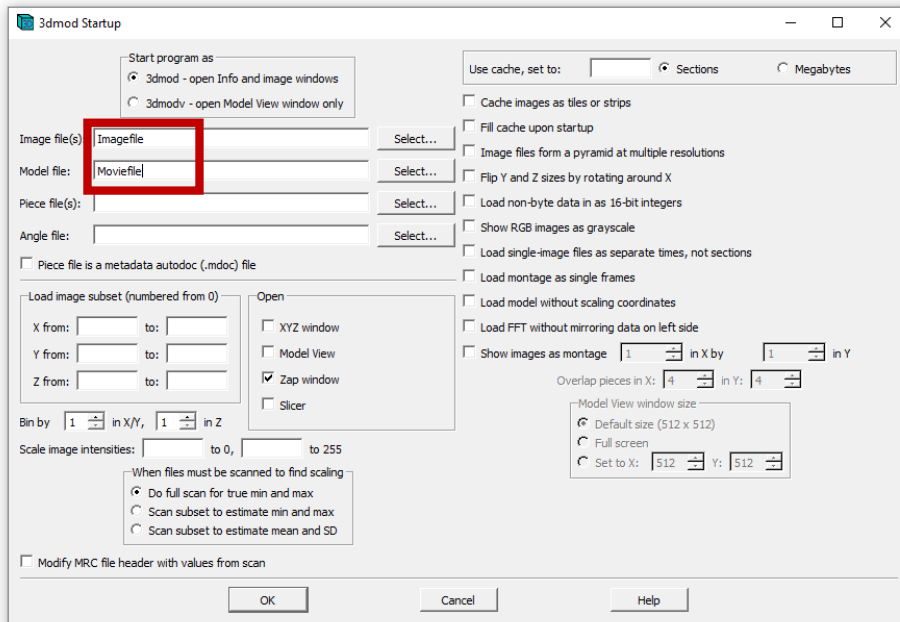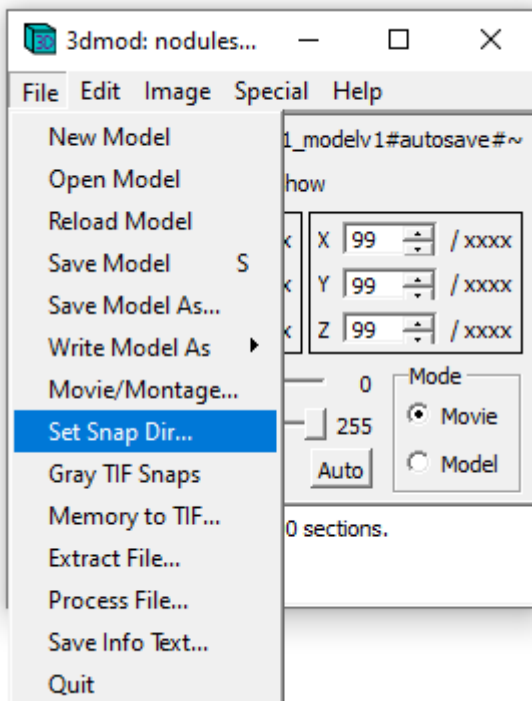# MOVIE — Making Movies of your Model using 3dmod

> To make movies using 3dmod, you have to use 3dmod to produce an image sequence, and then open the sequence on ImageJ to make the movie.

Producing an image series using 3dmod

1. Open 3dmod, select your image file and model file. Click OK.

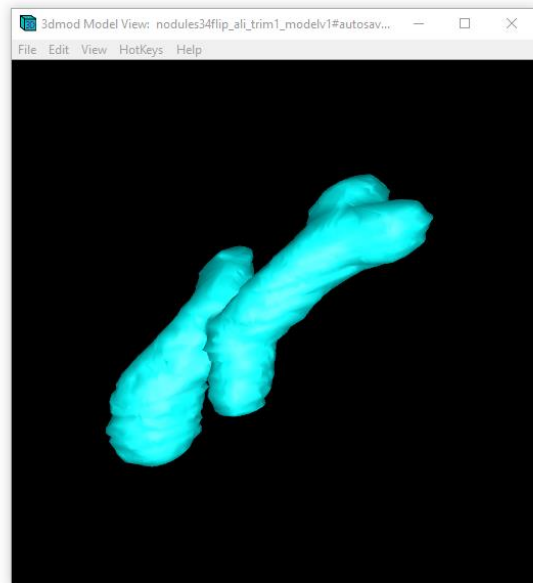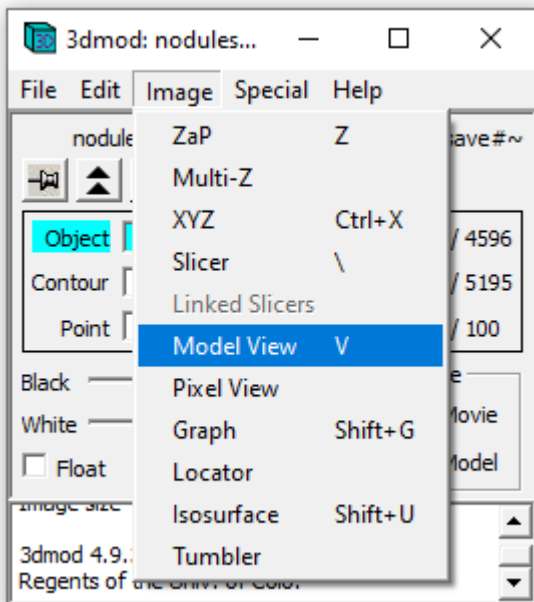2. In the main 3dmod window, select the directory you want the "snaps" (images) to go to.
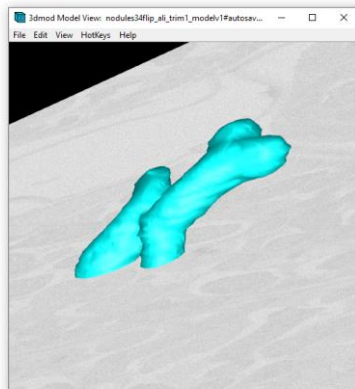

File > Set Snap Dir…

Create a folder just for the movie snaps.
Call it "Movie Snaps" or something similar.
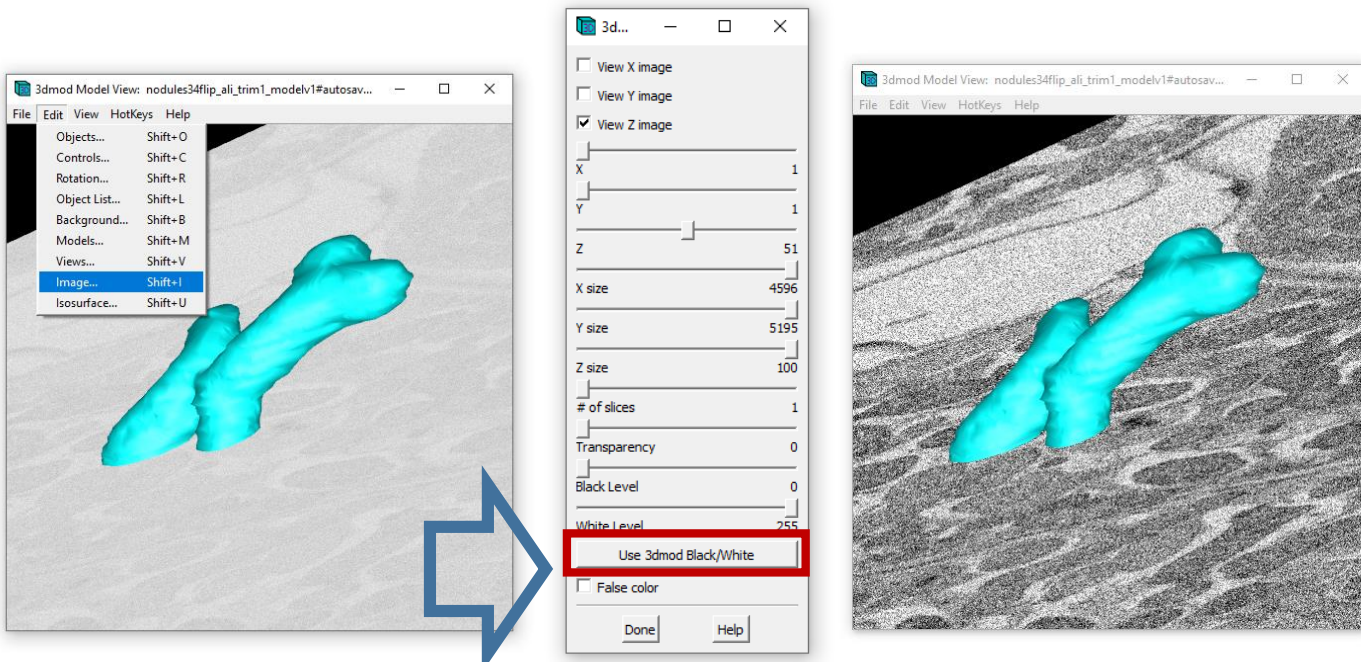
Then:
Select Folder

3. Open model view: Image > Model View **(or just V)**

4. To see an overlay of the data images on the model, press **Z** with the model window selected.


5. To change the contrast and brightness of the image to those in the Zap window image, go to **Edit > Image**, then click on **Use 3dmod Black/White**.

6. At this point you might want to:

(1) Use the mouse to rotate the model to choose your favourite view angle of the model on top of the original data.

(2) Scroll up and down in Z to see how the model will "appear" from the data, once you make the movie. This will help you choose a view angle.

Different views of the model

Model emerging from data as you scroll UP/DOWN in Z
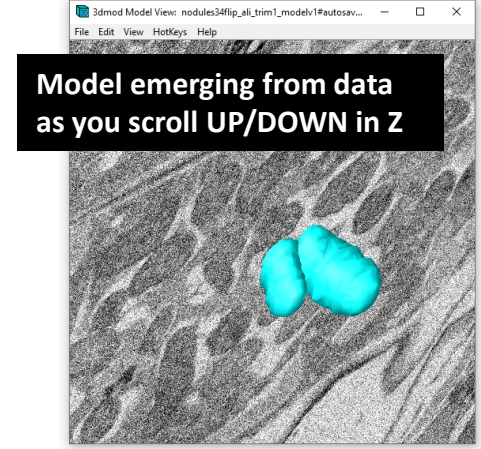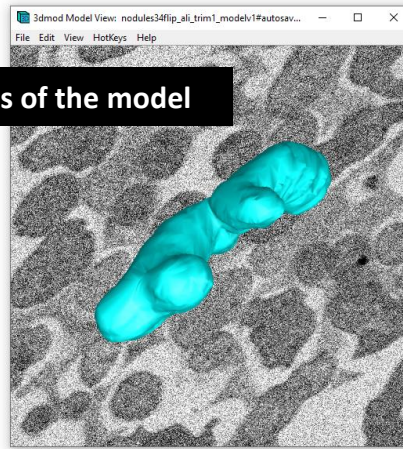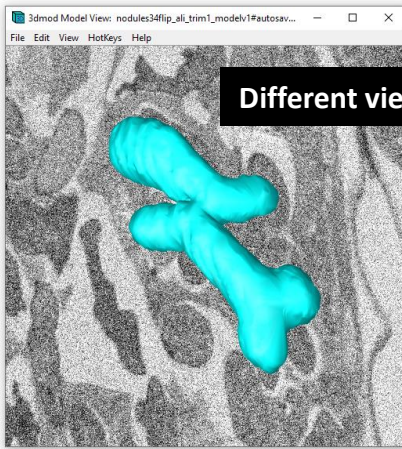
7. Open the Movie/Montage window from the Model View window, using **File > Movie/Montage** (or simply M). <u>Tick **Write files**</u>, then open the **Sequence** window.
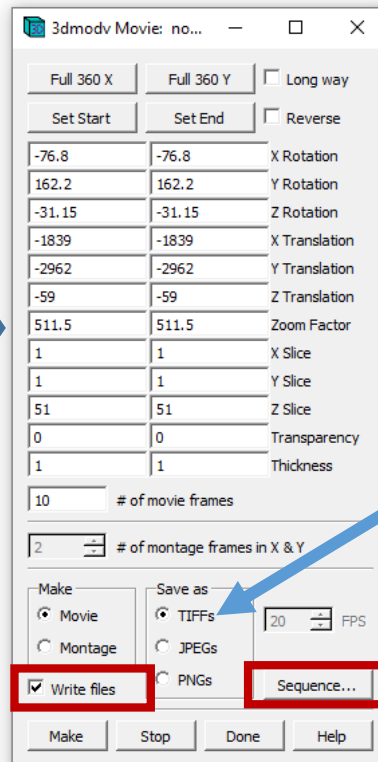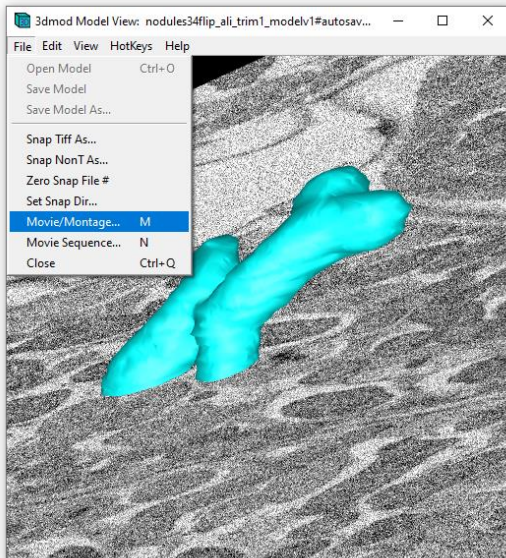
**TIP:** you might want to change the file type to JPEGs for smaller files.
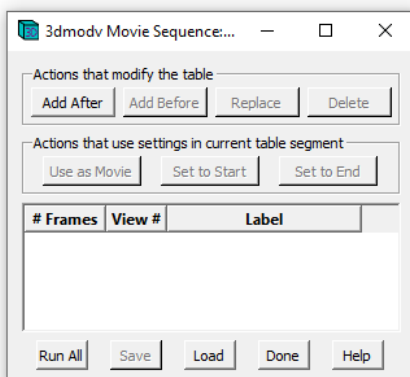
This window is used to record a sequence of snaps with your model moving in whatever way you like. For example, you can make the model emerge from the data, then spin on the y axis and on the x axis.

From now on, the instructions will show you **a simple example** of how to record the following image sequence: **model emerging from the data, then rotating around the Y axis, and finally rotating around the X axis.**

Once you have understood the simple example shown here, you can play around with the parameters in the Movie/Montage and Sequence windows to make a sequence of images of your model moving in pretty much *any way you like*!

8. In the Movie/Montage window, **Set Start** to a **z slice** where your model is not yet visible, and **Set End** to a **z slice** where your model is fully visible.
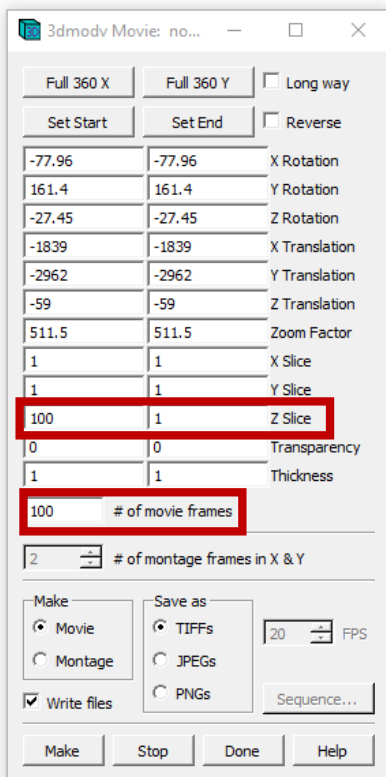
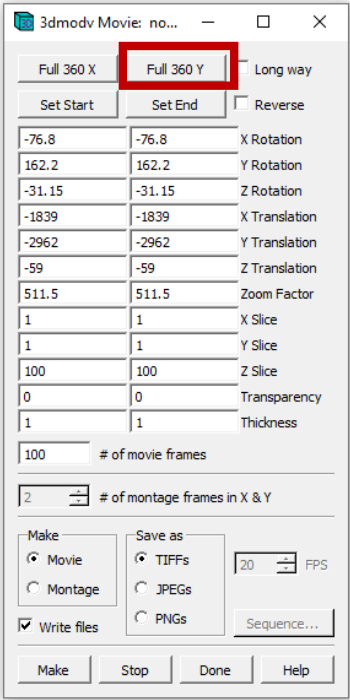9. Change the number of movie frames to the number of z slices you would like to record.

10. In the Sequence window, click "**Add After**". A number 1 should appear in the column on the left, showing the number of Frames of 1 view each, with no Label.
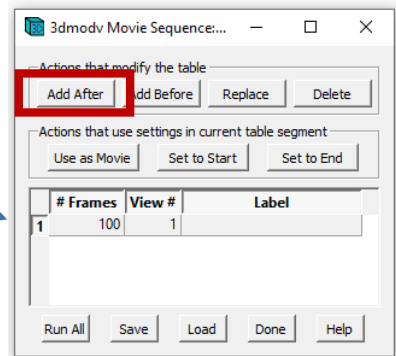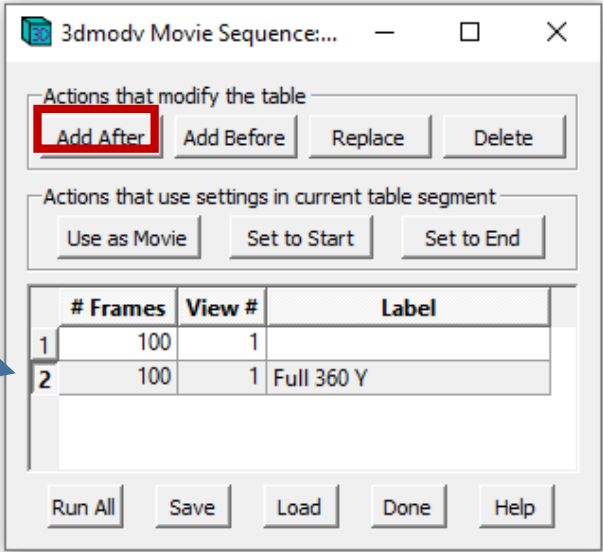

11. In the Model View window, **click Z** to remove the background data image. Now Model View should show the model only.
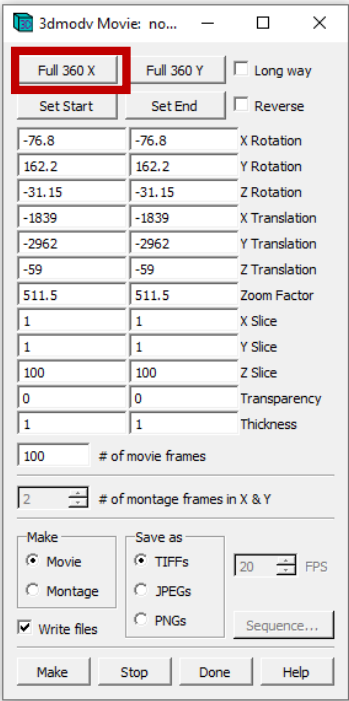
**12. In the Movie/Montage window, click on Full 360 Y.**

13. In the Sequence window, click Add After. A number 2 should appear in the column on the left showing the number of Frames of 1 view each, with **Full 360 Y** as a Label.

| # Frames	View #	Label
1	100	1	
2	100	1	Full 360 Y

14. In the Movie/Montage window, click on Full 360 X.

15. In the Sequence window, click Add After. A number 3 should appear in the column on the left showing the number of Frames of 1 view each, with **Full 360 X** as a Label.

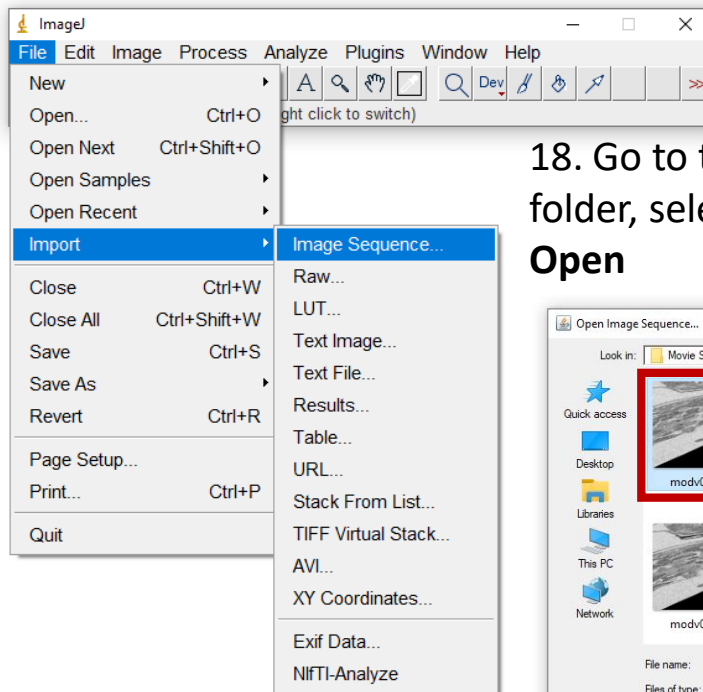| # Frames	View #	Label
1	100	1	
2	100	1	Full 360 Y
3	100	1	Full 360 X
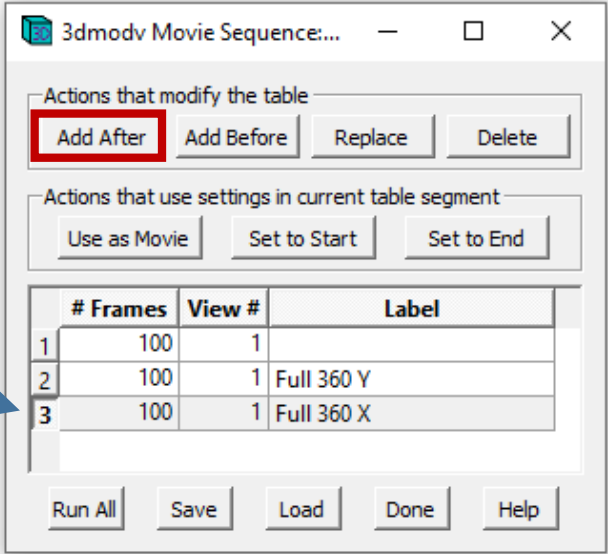
15. In the Sequence window, click Run All.

Now check that the image sequence was saved in the folder you set as Snap Directory. If the folder is empty, make sure you did **step 2**, and **Write files is ticked**, then repeat Run All.
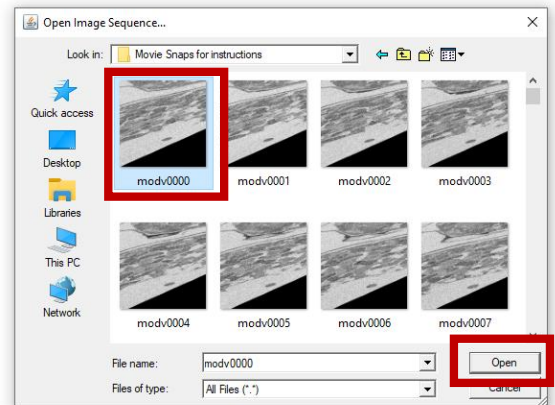
# Frames	View #	Label
1	100	1	
2	100	1	Full 360 Y
3	100	1	Full 360 X
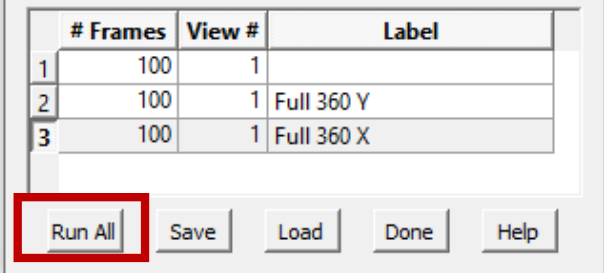
16. Open ImageJ (or Fiji) – or to download, go to https://imagej.nih.gov/ij/
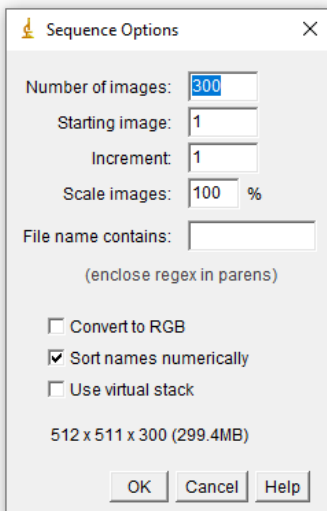
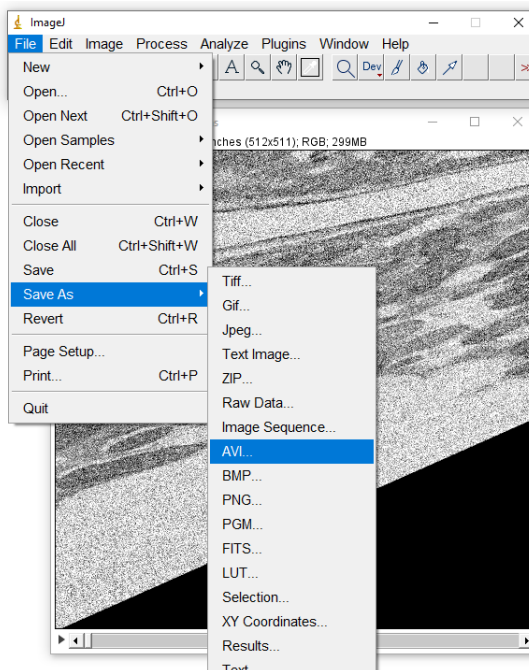17. Go to File > Import > Image Sequence.

18. Go to the Movie Snaps folder, select the first file. Click **Open**

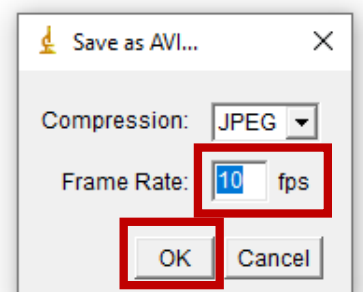19. Click OK and wait for the full image sequence to be loaded.

19. Go to File > Save As > **AVI**

TIP: You might want to change the frame rate to 10 fps, which is more comfortable to view.

20. Click **OK.**

21. Select the file name and destination folder and click **Save**.

ImageJ will then save an .avi movie file of your image sequence. ***The end!***