

## Workflow for isolating cores/u-channels that were CT scanned in batches using SedCTsplit

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### Software:

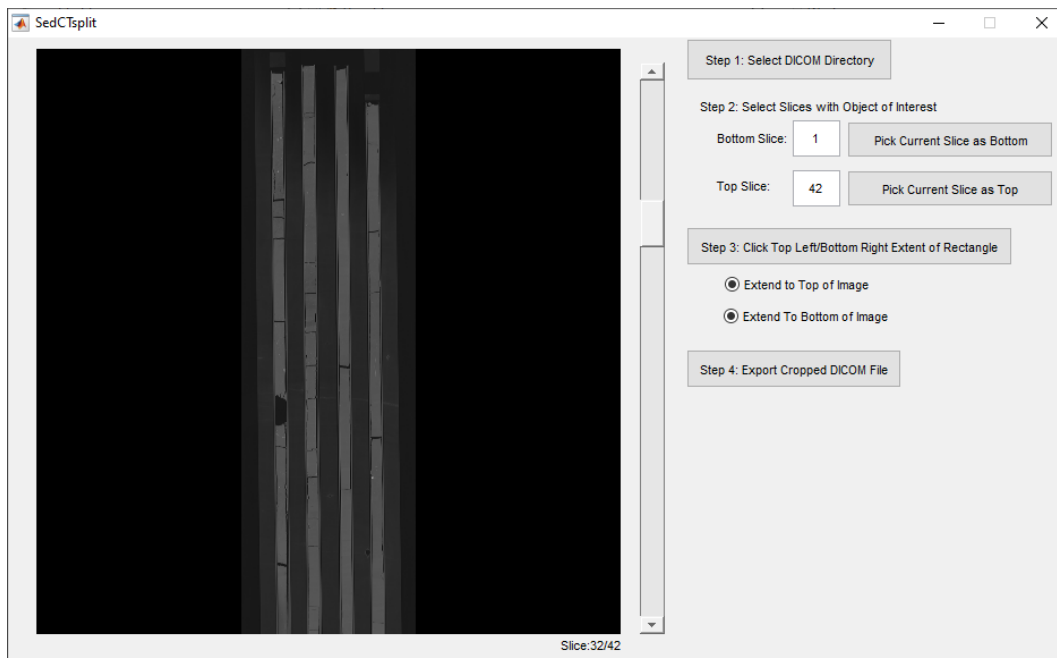
SedCTsplit was designed using MATLAB R2015b in Windows 10. Functions require the Imaging Toolbox.

### Setup:

If you already have SedCT on your computer, add ***SedCTsplit.m*** and ***SedCTsplit.fig*** to your ***Documents/MATLAB/SedCT*** folder. If you do not have SedCT, you will need to create a new folder and add it to your MATLAB path.

### Workflow:

- 1) Type ***SedCTsplit*** into the MATLAB terminal. A new window will appear.
- 2) Click the ***Step 1: Select DICOM Directory*** button, located in the upper right of the window. Navigate to and select the directory that contains your DICOM files. Click ***Select Folder***. Note, if there are non-DICOM files in this directory you will get an error.
- 3) An image will appear in the left half of the window. You can use the scroller to the right of the image to move through the series of slice images associated with each DICOM file. The slice you are currently viewing is indicated at the bottom right of the image.



- 4) Under ***Step 2: Select Slices with Object of Interest***, you will need to set the range of slices that you want isolate. You can do this by scrolling to the lowermost and uppermost slice that

contain the object of interest and clicking the buttons ***Pick Current Slice as Bottom*** and ***Pick Current Slice as Top***. Or you can type the slice range you want to use in the boxes.

- 5) Next, you will need to identify the area you would like to isolate in the plane of the DICOM Slices.
  - a. First, using the scroll bar, navigate to a slice image that clearly shows the object you are trying to isolate.
  - b. Then decide if you want the area to extend to the upper and lower most edges of the CT scan. If so, keep the radio buttons ***Extend to Top of Image*** and ***Extend to Bottom of Image*** selected. If you are interested in an object that does not extent to the edge of the image, click the radio button once to deselect it.
  - c. Next, click the ***Step 3: Click Top Left/Bottom Right Extent of Rectangle*** button. You will see crosshairs around your mouse.
  - d. Click the point you want the top left corner of your rectangle to be. A red circle will appear.
  - e. Click the point you want the bottom right corner of your rectangle to be. A red rectangle will appear illustrating the area you chose.
  - f. At this point, you can use the scroll bar to make sure the rectangle covers your object of interest.
  - g. If you are unhappy with your selection, you can click the ***Step 3: Click Top Left/Bottom Right Extent of Rectangle*** button again and repeat steps 5d-5f.
- 6) Once you are happy with the region you wish to isolate, click the ***Step 4: Export Cropped DICOM File*** button. You will be prompted to navigate to the directory you would like to save the exported DICOM files in. Navigate to a directory, create a folder with the Sample ID, and click ***Select Folder***.
- 7) Your new DICOM files will have all the metadata associated with the original DICOM files but only include the region you selected. These DICOM files can now be used in SedCT or the image analysis program of your choice.