- D-LMBmap software
  - **Open file-->brain data in 488/647 channel (e.g. Testing data/190312_488_LP70_ET50_Z08_HF0_17-26-21.tiff)**
    - Image operation
      - Mirror
        - Mirrored brain based on the assigned normal plane
      - Crop
        - Click one point (in green) and choose cropped direction (Up, Down, Left, Right)
          - Cropped brain
        - Edit the range of cropped brain (keep the brain in the input range)
          - Cropped brain
      - Rotate
        - Click one point (in green) as the rotation center, then rotate brain based on assigned angle and the clicked plane (-360 to 360)
      - Exchange dim
        - Change viewpoints with assigned direction by select two dimensions
      - Resize
        - Resized brain data with assigned resolution
      - Mirror and stitch
        - Mirror half brain and stitch with assigned plane
      - Pad
        - Adjust the image resolution by padding with blank
      - Brightness/Contrast
        - Click the "sun" icon on the left panel
      - Hide image channels
        - Click the "eye" icon on the left panel
      - Delete image channels
        - Click the "cross" icon on the left panel
      - Rename file names
        - Directly input the new file name on the left panel
  - **Open file-->axon stained cube (e.g. Testing data/test_axons_segmentation/cropped-volume-147.tif)**
    - Axon segmentation
      - Cube based
        - Segmented axons
  - **Open file-->brain data in 488 channel(e.g. Testing data/190312_488_LP70_ET50_Z08_HF0_17-26-21.tiff)**
    - Region-wise operation
      - Start style transfer
        - Select source data type (Adipo-clear)
          - Style transferred brain (need about 6 minutes)
        - Select target data type (Allen atlas)
      - Start segmentation
        - Select brain regions need to be segmented
          - Brain outline
          - Major brain regions: CP, HPF, CTX, CB, CBX, BS
          - Small brain regions: IPN, act, Hb, mtt, fr
  - **Open file-->brain data in 488 channel(e.g. Testing data/190312_488_LP70_ET50_Z08_HF0_17-26-21.vset)**
    - Registration (New panel)
      - Click "Moving" on top left-->File-->Import--> From main interface
        - Click "Action"-->Register-->Select mode
          - Select brain regions for constrain
            - Obtain registerred brain (in column-3 --> Registration) (about 3 minutes)
              - Click "Action"-->Creat heatmap
                - Select one mask-->Axon
                  - Heatmap with axon density in hundreds of brain regions
              - Visualize hundred of brain regions
                - On the left panel of Registration-->"Regions"
                  - **Right Click interested brain regions**
                    - Add to Fix brain
                    - Add to Registration brain
                    - Add to heatmap
              - Click Combine
                - Visualize and compare Moving brain, Fix brain, Registratiojn brain, heatmap brain slice-by-slice
      - Click "Moving (raw)" in the registration panel-->Showing "Moving (transfer)"--> Click "Moving" on top left-->Fike--> Import-->From file-->Upload a style transferred brain(Testing data/transferred.tiff)
      - Users can also upload multiple brain regions as constraints (in the "Moving (raw)" panel)
      - Users can also upload a whole-brain segmented axon file
  - **Open file-->brain data in 647 channel (stained soma/nuclei, e.g. Testing data/test_soma_detection/181207_647_10-39-06.tiff)**
    - Soma detect
      - Cube-based
        - assign cube size and the location of cube center
          - Click "detect"
            - Detected some in assigned cubes
      - Whole-brain wide
        - Detected soma in whole-brain
  - Export output
    - Save image (tiff/nii format)
    - Save as video
    - Save as set (vset format)