Tutorial for running the batch code

1. This .bat file aims at combining the motion correction process (by ImageJ) and stitch process (by Matlab) together to save some labor. (especially if more than one motion correction process is needed.

2. Prerequisite
   2.1 install Fiji (Fiji is just ImageJ). https://fiji.sc/#download
       ImageJ itself does not support Python build-in module. I used a Jython code, thus Fiji is needed.
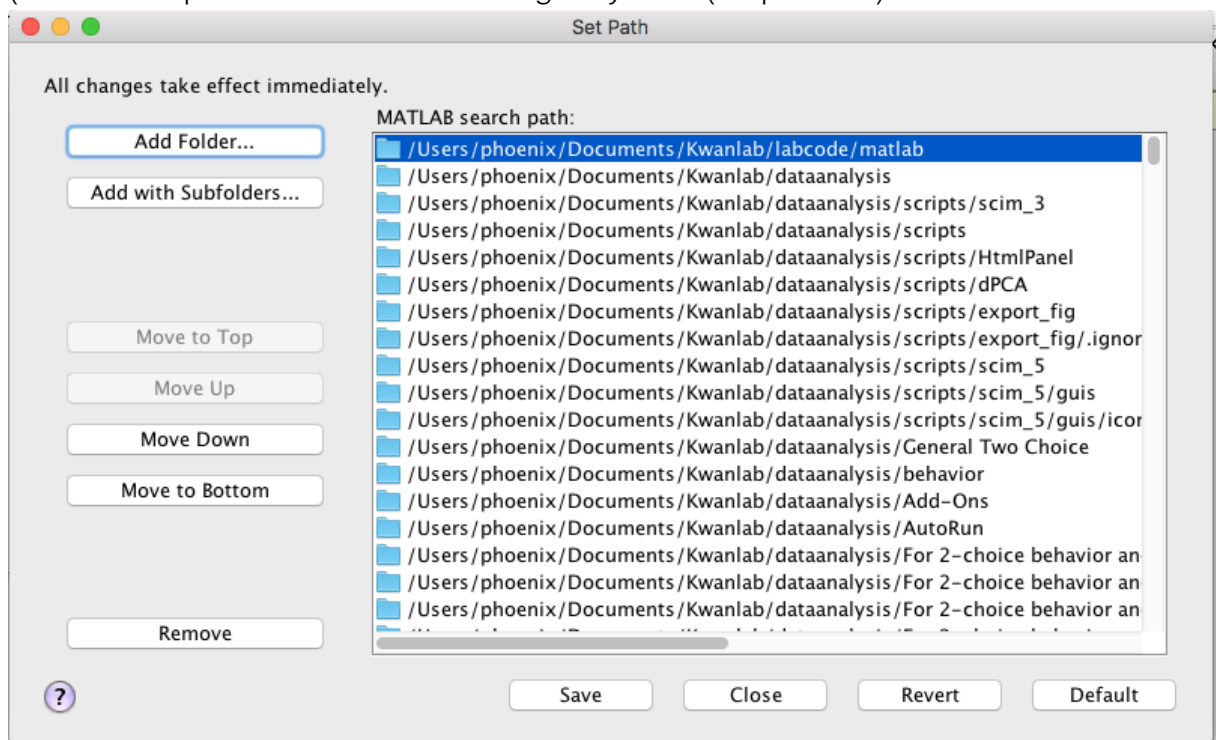   You do not need to install the turboreg (it is already in the Fiji package)
       Install the Jython.jar (Fiji will ask you to install it the first time you run Jython code)
   2.2 In Matlab, add the code directories into search path
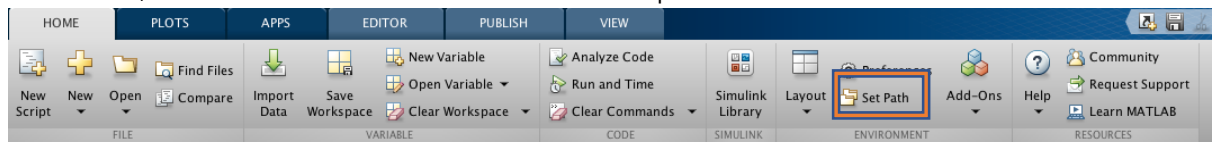
   then use the "Add with subfolders.." . Make sure you add every needed code (The codes I provided and what we originally have (script..et. al.)

3. The analysis code
   I modified the Stitch.m and batchTurboReg.ijm a little, so that they can be called directly by .bat files. Other important codes remain intact.
   3.1 For batch(windows)/bash(max/linux):
       analysis.bat / analysis.sh

3.2 For matlab
    StitchforBash.m
3.3 For ImageJ
    batchTurboReg_forPy.ijm
    motionCorrection.py

4. Lines needed modify before running
   4.1 in analysis.bat:

```
:: ------------------------set the parameters---------------------------------------------
rem specify the working disk
set disk=F:
rem dataDir: path of raw data (tif files)
set dataDir=F:\kwan\learning\\test\
rem these paths should better be in the same disk since batch cannot cd to another disk dire
set stitchFile="StitchforBash"
set IJPath="F:\Fiji.app\ImageJ-win64.exe"
set JythonPath="F:\kwan\labcode\ImageJ\motionCorrection.py"

rem set the iteration times (motion correction running times)
rem theoretically the more you run motion correction, the better the data should be
rem however, I tested one dataset, after 2 iterations it seems that motion correction
rem cannot do any better... but it was only one dataset...
set iterationTimes=4
```

disk: the disk which contains the data (the codes and data should be under the same disk)

dataDir: the root path of your data (be careful with the '\', windows may misread it as an escaping character, where you need add one more '\' to avoid that. This is true for any line which contains a path. That is why I don't like windows.)

IJPath: the path of Fiji executable file

JythonPath: the path of the motionCorrection.py file

iterationTimes: the number of times of motion correction

   4.2 in motionCorrection.py

```
46    #run the ijm for motion correction(modified to a little to suit the python code)
47    macroFileDir = "F:\kwan\labcode\ImageJ\\batchTurboReg_forPy.ijm"
48    IJ.runMacroFile(macroFileDir, Argument)
```

macroFileDir: the path of the batchTurboReg_forPy.ijm

5. double click the analysis.bat, have a drink and it is done.