BOX CALIBRATION

1. move all calibration .png files that you want to work on into one folder. Use script\_groupCalibrationImages to scour a file directory to find files named ‘GridCalibration…’ and move them to one folder
2. run script\_detect\_calibration\_points. This will detect as many checkerboard corners as it can and save them to the folder in which the original GridCalibration images are collected. It will save an “\_auto.mat” file that contains the point coordinates and a .png file with the undistorted calibration image with points marked on it named “GridCalibration\_date\_img#\_marked.png”
3. Scan through the saved “marked” .png images. If any points aren’t marked or points are mismarked, load into Fiji. Mark the checkerboard points that need to be, save as a “marked.tif”. Get the coordinates (“measure” or command-M), and save the .csv file as “GridCalibration\_*date*\_*img#*.csv”
4. Run script\_add\_manual\_marks. This will match the .csv files with the images and determine which points match up in each view. It will save “\_all.mat” file with all the point markings and an “\_all\_marked.png” file with all the markings. Circles are automatically found points, squares are marked by the user in Fiji.
5. Run script\_calibrateBoxes. This takes all the matched points and calculates transformation matrices for 3D reconstructions. It stores them in a file called “SR\_boxCalibration\_*date*.mat”
6. Check that the calibration worked. Run script\_checkDLCBoxCalibration.m.