BOX CALIBRATION – for checkerboard cubes in use up until DATE (hopefully this will be obsolete soon)

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”

NOTE: If all the points were automatically marked in a calibration image, you still need to create an empty .csv file so the Matlab scripts recognize that these images have been checked by a human

1. 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.
2. 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”
3. Check that the calibration worked. Run script\_checkDLCBoxCalibration.m.