Sun analysis programs general workflow

Sun’s Matlab programs take tracking data (from the program cmeAnalysis.m) and converts them into plots of the lifetime and average intensity versus time. There are a lot of features but this will be the bare bones workflow. The first program, Associate\_tracks, associates the GFP and RFP position files into two-color “associated tracks,” and single-color “unassociated tracks” based on their distance. The second program classifies tracks into good and bad tracks, based on your own criteria of tracking quality (“manually\_pick”) or an automated (mostly untested) classification of the signal, movement etc of the tracks (“clean\_associated\_tracks”).The third program (plot\_stats) plots the lifetimes and average intensities of the tracks.

1. Follow “cmeAnalysis tracker general workflow” document to perform tracking on your GFP movies and your RFP movies. At the end of that analysis you should have .xls files with the name “\_Position” at the end.
2. Organize your data into two layers of subfolders. Your GFP and RFP data from one round of tracking goes into “experiment/ Date/ cell1/” where “experiment/” is the master folder, “Date” is subfolder 1, and “celll1” is subfolder 2. The names of these folders don’t matter; you just need to have two layers of subfolders. Put the movies and the \_Position.xls files there.
3. On the desktop of the image analysis computer, find the shortcut for the “SunPrograms\_20160726” folder. Open “Associate\_tracks\_20151221” (it should open in Matlab 2015b). Run this program (the green triangle “Play” button).
4. Open and run a classification program (either “manually\_pick” to decide which tracks are good) or “clean\_associated\_tracks” to try to automatically classify tracks).
5. Open and run “plot\_stats20151006.” When prompted give the experiment a name (your variables will be saved under this name in the “Documents/Matlab” folder).