**New GUI Options**

1. **SubSampling** – Allowing to sub sample the original data and then use super resolution (a small test Gilad tried to do).
2. **nVolsToRemoveFromEnd** – Cut the last volumes of the test (sometimes the last volumes are distorted)
3. **SubSecondResolution** – Number of sub seconds part for super resolution ("2" means 1/2 of a second).
4. **MinFirstBolusStd** – The minimum width of the bolus (standard deviation of the Gaussian that represents the first bolus).
5. **EM\_Num\_Of\_Iterations** – Number of iterations for the Expected Minimization algorithm which finds the optimal AIF and parameters.
6. **FMS\_TolFun** – Function Minimum Search's( Matlab's) parameter. Tolerate Function – minimal improvement for continuing the search.
7. **FMS\_MaxFunEvals** – Number of possibilities for the F Mean Search at each step to change. Can think of it as in the case of 2-D vector f(**X**) ( How many 2-D points to move to from the current one).
8. **FMS\_MaxIter** – Maximal Number of iterations for FMS algorithm.
9. **MaxTDif\_ForAIFSearch** – The possible shift in time for the AIF of the representing voxels (in seconds).
10. **MaxTDif\_ForWholeVOI** – Same as MaxTDif\_ForAIFSearch, just when allowing shifting in time for all voxels in VOI (and not just representing voxels).
11. **Rep\_MaxAroundBolus** – Number of clusters around the bolus (for finding representing voxels).
12. **Rep\_RatioToEnd** – Number of clusters around the end of the test (for finding representing voxels).
13. **Rep\_nPerSet** – The number of total clusters will be MaxAroundBolus \* Rep\_RatioToEnd. This option will determine how many representing voxels we will choose from each cluster.
14. **MakeNoBATManualArtAnalysis** – If "1" and manualArt.nii exists, take the arteries from that file, take their average and make a regular calculation (we have AIF so we simply use Murase to get the PK parameters) **without the possibility to shift BAT**.
15. **MakeBATManualArtAnalysis** – If "1" and manualArt.nii exists, take the arteries from that file, calculate the parameters using F Min Search on the picked arteries (instead of finding representative) and **allow the possibility to shift BAT**.
16. **MakeBATAutoArtAnalysis** – The default mode of choosing the arteries automatically.