**New GUI Options**

1. **SubSampling** – Allowing to sub-sample the original data (use lower temporal resolution).

Default: 1. DO NOT CHANGE (used for high resolution data).

1. **nVolsToRemoveFromEnd** – Cut the last volumes of the test (sometimes the last volumes are distorted).

Default: 0

1. **SubSecondResolution** – Number of sub seconds parts for super resolution ("2" means 1/2 of a second).

Default: 2

1. **MinFirstBolusStd** – The minimum width of the bolus (standard deviation of the Gaussian that represents the first bolus).

Default: 2

1. **EM\_Num\_Of\_Iterations** – Number of iterations for the Expected Minimization algorithm which finds the optimal AIF and parameters. ).

Default: 5. (Currently not used, the algorithm uses Murase)

1. **FMS\_TolFun** – Function Minimum Search's (Matlab's) parameter. Tolerate Function – minimal improvement for continuing the search.

Default:

1. **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).

Default: 10000

1. **FMS\_MaxIter** – Maximal Number of iterations for FMS algorithm.

Default: 10000

1. **MaxTDif\_ForAIFSearch** – The possible shift in time for the AIF of the representing voxels (in seconds).

Default: 3

1. **MaxTDif\_ForWholeVOI** – Same as MaxTDif\_ForAIFSearch, just when allowing shifting in time for all voxels in VOI (and not just representing voxels).

Default: 6

1. **Rep\_MaxAroundBolus** – Number of clusters around the bolus (for finding representing voxels).

Default: 10

1. **Rep\_RatioToEnd** – Number of clusters around the end of the test (for finding representing voxels).

Default: 10

1. **Rep\_nPerSet** – Number of total clusters will be MaxAroundBolus \*Rep\_RatioToEnd. This option will determine how many representing voxels we will choose from each cluster.

Default: 1

1. **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.

Default: 0

1. **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.

Default: 0

1. **MakeBATAutoArtAnalysis** – The default mode of choosing the arteries automatically.

Default: 1

1. **Extracted FAs** – Correct the flip angles of the scan (we assume there is an error).

Default: 1

1. **IncludingMainInT1 -**

Default: 1

1. **UsingN3T1 -**

Default: 1

1. **TimeMultiplier –**

Default: 1

1. **Use\_Single\_M0 –** Enable calculating T1 using a single angel.

Default: 0

1. **Calc\_Gains\_Diff –** Enable/disable gains calculation made by Gilad.  
   Default: 1
2. **Mask\_Thresh –** Set threshold for masking (the general mask of where to work).  
   For positive values (0-1) uses SPM for masking.

For negative values (0 to -1) uses BET for masking.

The absolute value is passed to the SPM or BET.

Default: 0.5 (i.e., positive, uses SPM and the thresholds with 0.5).

1. **MainCoregistration** – Choose between 1-realignment, 0-no motion correction and >=2 – coregister to that volume.

Default: 1

**Relaxometry coregistration – Use the list box:**

Can coregister to DCEMean ('Mean 4D'), use no coregistration (' No coreg’) or coregister to the median angle.

Anyway will coregister the T1 map o DCE mean.

**Mask\_Thresh** - Set threshold for masking (the general mask of where to work).

For positive values (0-1) uses SPM for masking.

**To add reference files insert NIFTI files named:**

***RefVp\_WM\_830.nii***

***RefT1\_WM\_830.nii***

***Manual\_BrainMask.nii***

For artery selection, either

**InspectedRepVox.nii** – takes exactly what's there, or

**ManualArtMask.nii** – Looks for arteries only inside that mask.