**New DCE GUI Options – V2.2**

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

Default: 1. DO NOT CHANGE (used for high resolution data). 3= for HTR change from 2sec to 6sec

1. **nVolsToRemoveFromEnd** – Cut the last volumes of the test (sometimes the last volumes are distorted). Default: 0
2. **SubSecondResolution** – Number of sub seconds parts for super resolution ("2" means 1/2 of a second). Default: 2
3. **MinFirstBolusStd** – The minimum width of the bolus (standard deviation of the Gaussian that represents the first bolus). Default: 2
4. **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)
5. **FMS\_TolFun** – Function Minimum Search's (Matlab's) parameter. Tolerate Function – minimal improvement for continuing the search. Default:
6. **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
7. **FMS\_MaxIter** – Maximal Number of iterations for FMS algorithm. Default: 10000
8. **MaxTDif\_ForAIFSearch** – The possible shift in time for the AIF of the representing voxels (in seconds). Default: 3
9. **MaxTDif\_ForWholeVOI** – Same as MaxTDif\_ForAIFSearch, just when allowing shifting in time for all voxels in VOI (and not just representing voxels). Default: 6
10. **Rep\_MaxAroundBolus** – Number of clusters around the bolus (for finding representing voxels). Default: 10
11. **Rep\_RatioToEnd** – Number of clusters around the end of the test (for finding representing voxels). Default: 10
12. **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
13. **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
14. **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
15. **MakeBATAutoArtAnalysis** – The default mode of choosing the arteries automatically. Default: 1
16. Extracted FAs – Correct the flip angles of the scan (we assume there is an error).Default: 1
17. IncludingMainInT1 - Default: 1
18. **UsingN3T1 -** Default: 1
19. **TimeMultiplier –**Default: 1
20. **Use\_Single\_M0 –** Enable calculating T1 using a single angel.Default: 0
21. **Calc\_Gains\_Diff –** Enable/disable gains calculation made by Gilad. Default: 1
22. **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
2. **CoregRelaxToMain** - Do coregistration between Relaxometry and main. 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.

**To force AIF shape (parameters) calculated before:**

***InspectedAIFParams.mat***

**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.

**Supplementary – Eval DCE param**

**FastVpMap.m**

עושה מקסימום באיזור הבולוס, ומוציא מפת FastVp.nii בתוך הספריה AutoArtBAT של הנבדק

צריך – להיכנס לסקריפט ולשנות את שם הנבדק

**NormalizeByVeins.m**

לגבי הנרמול ע"פ סורבון,לפני הרצה צריך ליצור קובץ **Veins.nii** עם סימון של כמה ורידים. הוא ייקח את זה עם השטח הכי גדול מתחת לגרף וינרמל לפיו. הוא יוצר תמונה, עם הנרמול הקודם בכחול והחדש במג'נטה. בכותרת יש את קבוע הנרמול החדש. כאשר ערך קרוב ל - 1 = דימיון גבוהה בין גים לסורבון.

לקבלת מפות מנורמלות ע"פ סורבון - צריך לקחת את הערכים המנורמלים הקודמים (VpN, KtransN) ולחלק בקבוע הנרמול החדש

**DCE – Perfusion [Guy]**

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**>>** **Test\_On\_Real\_Data\_Script**

Change:

Subject\_name = 'ReYe';

ShortName = 'ReYe\_20140615';

Subject\_Path = '\\fmri-t9\users\Moran\DCE\HTR\_STROKE\...\Study20140615\_114415\';

WM\_mask\_absolute\_path = [Subject\_Path '**RefT1\_WM\_830.nii**'];

Art\_Mask = [Subject\_Path '**InspectedRepVox.nii**'];

After\_CTC\_mat = [Subject\_Path '**AfterCTC.mat**'];

**RUN ICA for AIF selection**

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DemoForMoranCTC.m