**T1\_HCP\_PreFreeSurferPipeline.sh**

Minimum processing chain without T2-weighted images:

output folder: SubjFolder/Subject/T1w ; SubjFolder/Subject/MNINonLinear

1- to reorient an image to match the orientation of the standard template images (MNI152): fslreorient2std → T1\_gdc

2- ACPC align T1w image to 0.7mm MNI Template to create native volume space: ACPCAlignment.sh → T1\_acpc and xfms/acpc.mat

3- Brain Extraction(FNIRT-based Masking): BrainExtraction\_FNIRTbased.sh → T1\_acpc\_brain and T1\_acpc\_brain\_mask

4- To copy T1\_acpc → T1\_acpc\_dc → T1\_acpc\_dc\_restore and T1\_acpc\_brain → T1\_acpc\_dc\_brain → T1\_acpc\_dc\_restore\_brain

5- Atlas Registration to MNI152: FLIRT + FNIRT: T1\_AtlasRegistrationToMNI152\_FLIRTandFNIRT.sh → MNI/xfms/acpc\_dc2standard.nii ; MNI/xfms/standard2acpc\_dc.nii ; MNI/T1 ; MNI/T1\_restore ; MNI/T1\_restore\_brain

Example: T1\_HCP\_PreFreeSurferPipeline.sh -path ${SubjFolder} -subject ${Subject} -t1 ${SubjFolder}/${Subject}/unprocessed/3T/T1w/T1w.nii.gz -t2 "NONE"