Tips and Tricks for MAP Bone Mesh Generation

General:

The reduction you get as you move through each step in the work flow reduces, doing more iterations of earlier steps will result in a lower RMS error compared to running a lot of iterations at the final local mesh fitting process.

You may need to run the initial TRC fitting step with different "Frame Selector" values until you find one which will give you a good result. If you are not seeing reductions with increasing # PC you may want to change frame #

For long bones – typically HMF and LMF procedure works well, for the pelvis a combination of PC and LMF procedures is recommended. In some cases HMF cannot handle segmentations with large deviations from the mean model. In this case, use PC instead of HMF for that bone.

TRC Fitting step:

In addition to trying different frame # run this step multiple times

Aim for: RMS < 10 mm

Recommended Settings

It #	1	2	3	4	5	6	7	If	8
PC	1	1	3	5	7	9	10	**RMS**	10
MW	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**still** **not** **ideal**	0.2

Rigid Registration:

[Reset] So registered and source align

Apply manual rotation so source and target are aligned but not necessarily overlapping

Apply automatic registration (ICP Rigid Target-Source)

Apply registration and scaling (ICP Rigid + Scale Target-Source)

Host Mesh Fit:

Use starting values are recommended by map client fai workshop (http://map-client-fai-workshop.readthedocs.io/en/latest/workflow-meshgen.html)

Settings to edit:

Setting name	Generic	Change 1	Change 2	Change 3	Change 4
slave sobelov weight	all e-4	all e-4	all e-4	all e-5	all e-6
slave normal weight	100	75	50	50	50
host sobelov weight	e-4	e-4	e-4	e-5	e-6

Local Mesh Fit:

Use starting values are recommended by map client fai workshop (http://map-client-fai-workshop.readthedocs.io/en/latest/workflow-meshgen.html)

Settings to edit:

Setting name	Generic	Change 1	Change 2	Change 3	Change 4
Sobelov weight	all e-4	all e-4	all e-4	all e-5	all e-6
normal weight	100	75	50	50	50