

Files we will be loading...

- **Parameters file**
 - Settings for loading the data and for analyzing/displaying the data
- **Location file**
 - contains the information for the template background brain on which the data are displayed
 - contains subject specific information for alignment purposes and translation from channel to voxel space
 - defines the number of subjects in the analysis
- **Data file**
 - contains the path and name of all of the averaged data files
- **Design file**
 - contains the contrast weights for analyzing the data
- **Alignment file**
 - Including this file determines a shift of the individual subject maps to align them to a particular spatial location defined in Talairach (or MNI) space.
 - This spatial location may be chosen to reflect a particular structural (e.g., the origin of the calcarine fissure) or functional (e.g., a peak point selected using a localizer task) information about each subject.
- **Region of Interest file**
 - defines a 3-dimensional region of interest (or bounding box)

Two types of location files (.loc)

***The order of this list MUST match the order in your .dat file**

1. Using opt3d for co-registration and Talairach transformation:

```
c:\data\anc\opt-crd\brain2.vmi
c:\data\anc\opt-crd\brain2.tai
14 16
1
c:\data\anc\reg\anc.mtg
c:\data\anc\reg\anc071.elp
c:\data\anc\reg\071ov_043003.tai
1
c:\data\anc\reg\anc.mtg
c:\data\anc\reg\anc086.elp
c:\data\anc\reg\086ov_043003.tai
1
c:\data\anc\reg\anc.mtg
c:\data\anc\reg\anc089.elp
c:\data\anc\reg\089ov_051603.tai
.
.
.
```

2. Using COREG to create .tol files, then loading these files into opt3d:

```
c:\data\anc\opt-crd\brain2.vmi
c:\data\anc\opt-crd\brain2.tai
14 16
2
c:\data\anc\reg\anc.mtg
c:\data\anc\reg\anc071.tol
2
c:\data\anc\reg\anc.mtg
c:\data\anc\reg\anc086.tol
2
c:\data\anc\reg\anc.mtg
c:\data\anc\reg\anc089.tol
.
.
.
```

Notice in your .loc file, anc071 is used twice. No MRI available for the next to last subject (#524), so substitute coordinate info from subject with similar head size.

List of data files (.dat)

***The order of this list MUST match the order in your .loc file**

c:\data\anc\opt-crd\brain2.vmi	[c:\data\anc\pc00-00\ALLanc071a.avg] 2 montages per subject
c:\data\anc\opt-crd\brain2.tai		c:\data\anc\pc00-00\ALLanc071b.avg	
14 16		c:\data\anc\pc00-00\ALLanc086a.avg	
1		c:\data\anc\pc00-00\ALLanc086b.avg	
c:\data\anc\reg\anc.mtg		c:\data\anc\pc00-00\ALLanc089a.avg	
c:\data\anc\reg\anc071.elp		c:\data\anc\pc00-00\ALLanc089b.avg	
c:\data\anc\reg\071ov_043003.tai		c:\data\anc\pc00-00\ALLanc105a.avg	
1		c:\data\anc\pc00-00\ALLanc105b.avg	
c:\data\anc\reg\anc.mtg		c:\data\anc\pc00-00\ALLanc110a.avg	
c:\data\anc\reg\anc086.elp		c:\data\anc\pc00-00\ALLanc110b.avg	
c:\data\anc\reg\086ov_043003.tai		c:\data\anc\pc00-00\ALLanc114a.avg	
1		c:\data\anc\pc00-00\ALLanc114b.avg	
c:\data\anc\reg\anc.mtg		c:\data\anc\pc00-00\ALLanc126a.avg	
c:\data\anc\reg\anc089.elp		c:\data\anc\pc00-00\ALLanc126b.avg	
c:\data\anc\reg\089ov_051603.tai		c:\data\anc\pc00-00\ALLanc127a.avg	
.		c:\data\anc\pc00-00\ALLanc127b.avg	
.		c:\data\anc\pc00-00\ALLanc517a.avg	
.		c:\data\anc\pc00-00\ALLanc517b.avg	
		c:\data\anc\pc00-00\ALLanc524a.avg	
		c:\data\anc\pc00-00\ALLanc524b.avg	
		c:\data\anc\pc00-00\ALLanc526a.avg	
		c:\data\anc\pc00-00\ALLanc526b.avg	

Design File (.des)

Contrast weights for statistical analyses

```
3
Average
Slope
1Hz
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
1 1 1 1 1 3 1 0 -1 -3 1 0 0 0 0
```

- The data set we are working with has 5 conditions varying in frequency of stimulation (1, 2, 4, 6, or 8 Hz)
- This design file will run 3 separate contrasts
 - The average of all bins
 - A linear trend
 - 1 Hz > 2 Hz > 4 Hz > 6 Hz > 8 Hz
 - 1 Hz versus baseline (null)
- Each row corresponds to a subject
 - To quickly disregard a subject or group of subjects from the analysis, just zero out the relevant row(s)

Optional Files: Region of Interest (.roi) and Alignment (.ali)

Loading an .roi file will provide additional info, such as correction for multiple comparisons.

3

1 V1 area

1. -15. 15. -110. -75. -15. 15.

1 Right area

1. 16. 40. -100. -75. -16. 28.

1 Left area

1. -40. -16. -100. -75. -16. 28.

Including this file determines a shift of the individual subject maps to align them to a particular spatial location defined in Talairach (or MNI) space.

3	0	-1
-5	0	4
2	0	-1
3	0	1
0	0	0
2	0	-17
9	0	0
4	0	-1
1	0	5
-1	0	5
2	0	-6

- Each row is a subject's X, Y, Z coordinate
- In this case, the Talairach location of the calcarine fissure