

1. Create a single .txt file with all the foci

- #indicates notes
- All foci must be in the same reference space
- MNI coordinates should be converted (Tools->Convert Foci).
- Spacing is important

```
// Reference=Talairach    #applies to whole file
// George (1996).Emotion>repeat word, Emotion>Content #1 for AP Whole Brain
// Subjects=13
35    35    -6    #IFG
-40   30    -8    #IFG
-6    -30   2     #Thalamus

// Gandour etal (2003c). Emotion>Passive #2 for AP Whole Brain
// Subjects=10
-43   20    28    #MFG
45    15    29    #MFG
-1    16    48    #medial FG
-34   -44   43    #IPS
36    -53   44    #IPS
-55   -47   5     #pSTG
48    -26   3     #pSTG
```




2. Set GingerALE preferences

- GingerALE->Preferences
- Turkeltaub Non-Additive method (HBM, 2011) is recommended
- Set output directory to something more useful than the default

3. Run the Ale

- File->Load Foci (a single .txt file resembling above)
- Check that number of Foci and Experiments are correct
- Compute

4. View Results with Mango

- Open Mango
- Open->Open Image...->Browse for Colin1.1.nii (available @brainmap.org)
-    (set to stereotaxic instead of native space)
- File->Add Overlay...->Browse for *_ALEpN0.01 (or whatever threshold)
- Edit-> Update to image range (sometimes this looks like it does nothing)
- To view multiple maps on a single brain simply repeat the process
- If some maps aren't visible try View->All Overlays
- Plugins->Generate Layouts (row=6, col=5, start=4, skip=3, slice labels = true)
- For single slices ->Viewers (row=1, col=1, start=0, skip=0)
- Click update, then full preview to see the image

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- Save as... to screen capture
- File->Remove Overlay

5. Tables

- *_Clust.xls shows clusters larger than the set threshold (needs double check)
- To view tables in Mango:



- Analysis->Clusters-> -> Generate All-> Analyze All->Export


6. Logical Conjunctions

- Load .nii overlays as above
- Analysis->Logical Overlays
- Drag & Drop overlays for individual conditions
- Drag & Drop overlays for all desired combinations of conditions

7. Statistical Conjunctions using Mango

- A statistical conjunction is the minimum of two or more contrasts
- It is sometimes necessary to perform a conjunction outside of gingerALE
- E.g., the conjunction of subtractions (A-B) U (A-C)
- This is done by loading both the images ALE images (A-B) and (A-C)
- Close all viewer windows
- Open-> Open Image... browse (they will appear in grey scale)
- In either of the viewer windows
- Image-> Image calculator...
- this = min(this, other(1))
- This changes the current viewer to display the minimum of each.
- File -> Save As...
- Open a template brain and load your saved file as an overlay.

8. Creating A Custom Mask in Mango (for use in GingerALE command line)

- Open Mango
- Open->Open Image...->Browse for grayTal_10.nii (mask to be modify)
- NOTE: Cannot use colin1.1 anatomical to draw ROI. Voxel size too small.
- 
- ROI->Threshold to ROI->Exclude zero->ok
- Choose next colour
- ROI->Add ROI... Choose an appropriately sized square
- Click inside ROI to select. Click+drag edges to change size (main screen only)
- "Spacebar" to change to coronal or sagittal views
- ROI->Logic Calculator
- Select colour of rectangular ROI
- Click "and"
- Select colour of original mask file

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- Calculate (creates an ROI in the chosen colour)
- Delete all other ROIs
- File->Save ROI...
- See Command Line GingerALE instructions for analyses with custom masks

9. High Level Contrasts

- Does not work in all versions of GingerALE
- Recommend using pID FDR method (less conservative)
- Must first run 3 individual ALES
 - One for each condition and one pooling the conditions together
- Load the thresholded `_ALE_thresh.nii` for each
- File-> Open ALE image 1
- Open ALE image 2
- Open Pooled ALE image