

# SPM SurfRend Tutorial V0.2.1\_Release\_2005\_06\_14

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## FreeSurfer

FreeSurfer (CorTechs Labs, Inc., Charlestown, MA) is a set of semi-automated tools for reconstruction of the brain's cortical surface and overlay of function data onto the reconstructed surface (see also NeuroLens). Information on how to obtain a license and download the software is available at <http://surfer.nmr.mgh.harvard.edu/>.

## Neurolens

NeuroLens (written by Dr. Rick Hoge) is an integrated environment for the analysis and visualization of functional neuro-images. It is intended to provide extremely fast and flexible image processing, via an intuitive user interface that encourages experimentation with analysis parameters and detailed inspection of both raw image data and processing results using a consistent visualization environment. NeuroLens runs on Apple computers based on the PowerPC G4/G5 and Intel chipsets and running Mac OS X 10.3 (Panther) or later. It is available free for academic and non-profit research use. More information can be obtained at <http://www.neurolens.org/>.

# Generate SPM Overlay

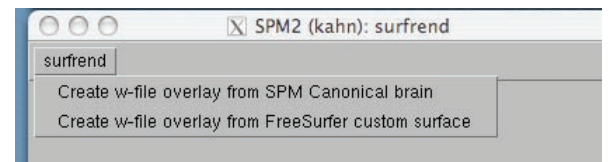
## 1.1 Start SPM

## 1.2 Choose the “Toolboxes...” pull-down menu

## 1.3 Choose the “surfrend” button

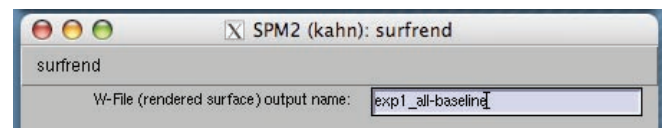


## 1.4 Select the appropriate option from the pull-down menu in the interactive

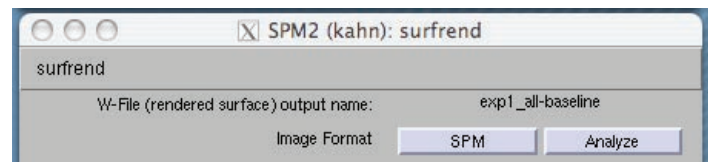


## 1.5 If you selected the “FreeSurfer custom surface”, you will be prompted for the subject name.

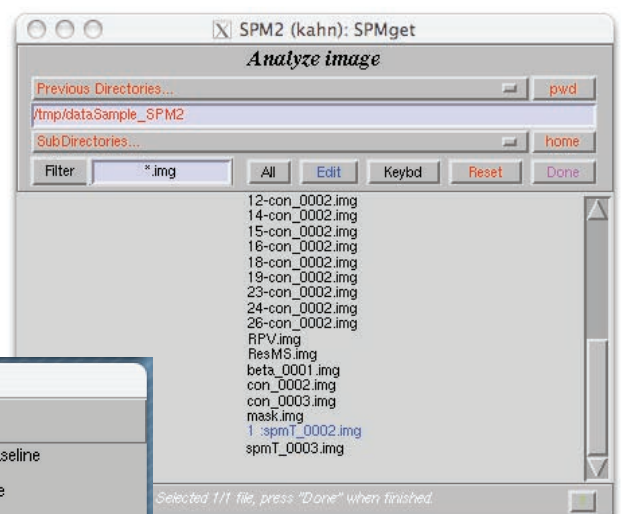
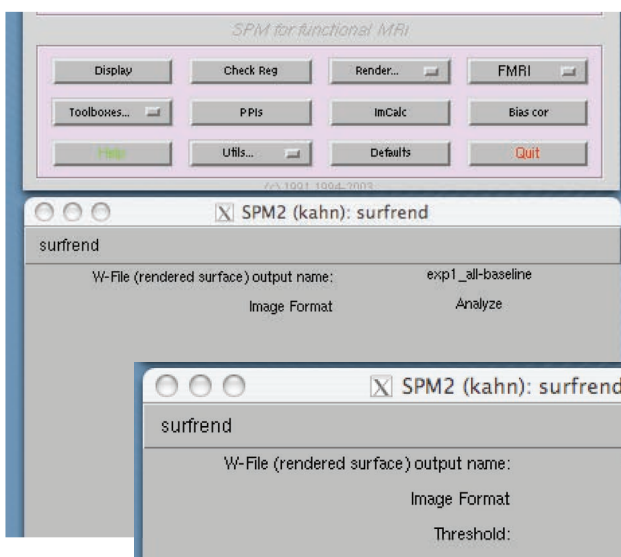
## 1.6 Enter a name for the w-file overlay. The name needs to contain enough information so you’ll be able to identify it



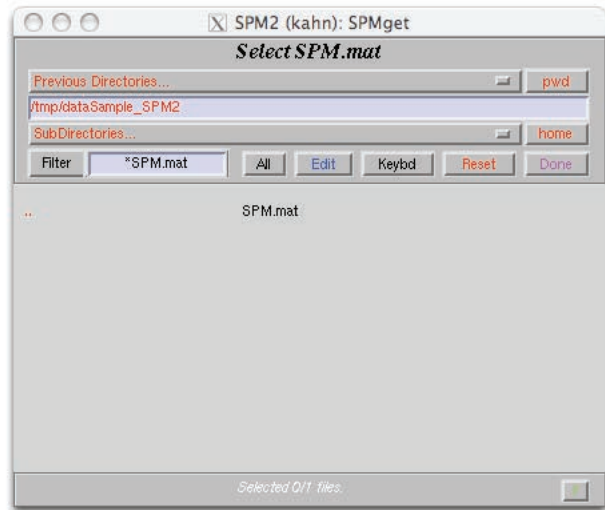
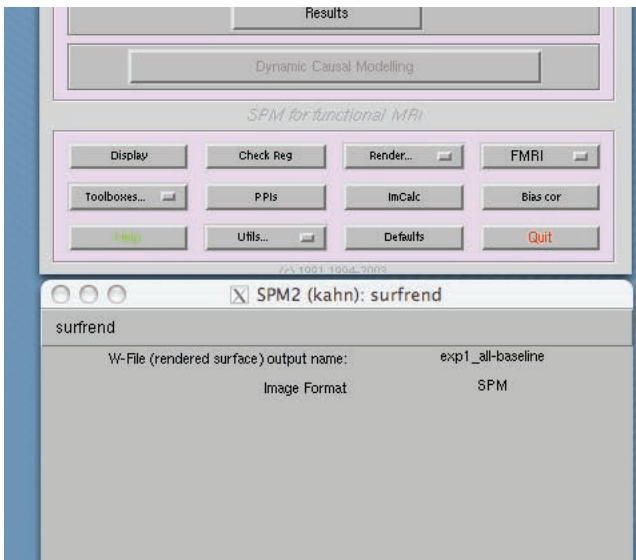
## 1.7 Choose between SPM results and the analyze format. The SPM button will call the “Results” (i.e., spm\_getSPM) function in SPM. The “Analyze” button will allow you to load the analyze image of the contrast.



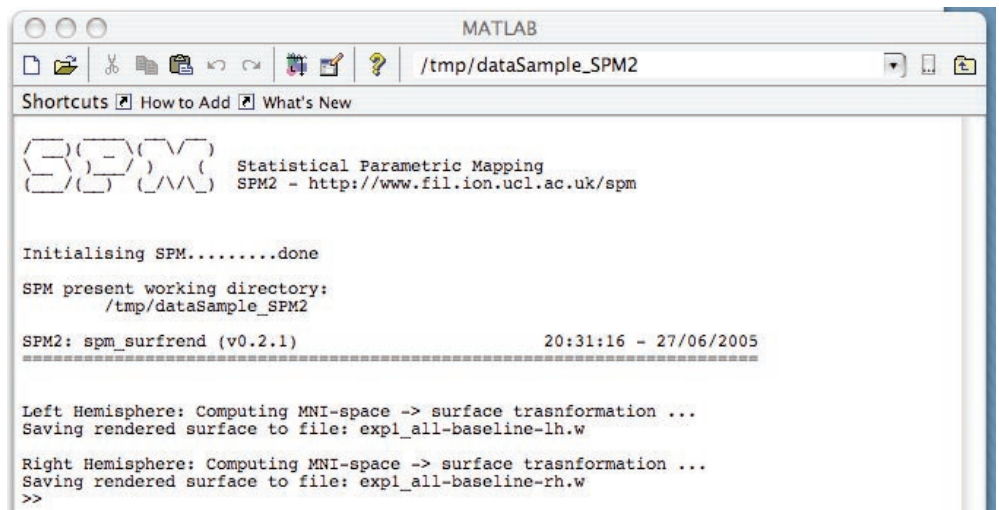
## 1.8.1 Choosing the Analyze button will prompt you for an image file. You will need to set a threshold (e.g., in spmT\*img file, the threshold corresponds to a T value).



1.8.2 Choosing the SPM button will prompt you for an SPM.mat file. Then you will be required to set the parameters similar to what you would have been asked were you to press the “Results” button in the SPM control panel.



1.9 A progress bar will be shown for each hemisphere separately on the SPM interactive window. The Matlab command window will display the filenames of the overlays.



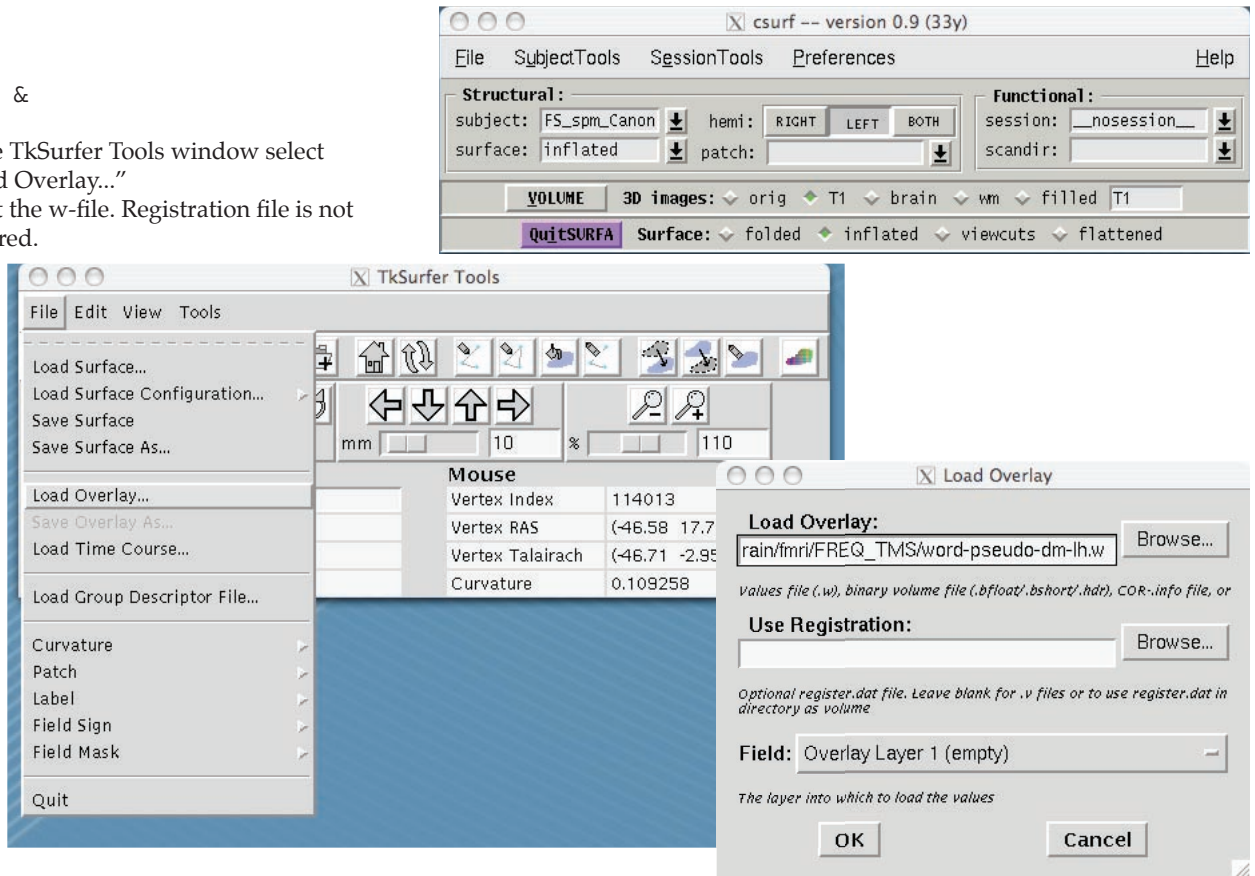
# Render SurfRend Overlay

## 2. FreeSurfer

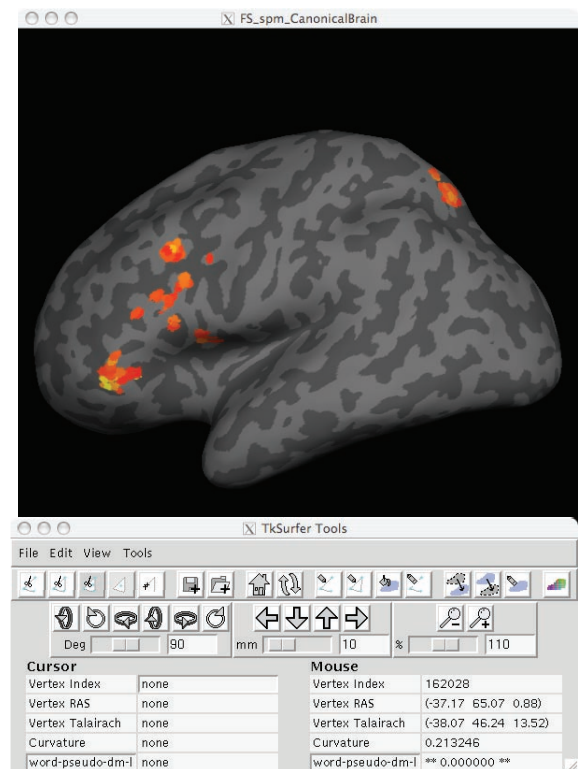
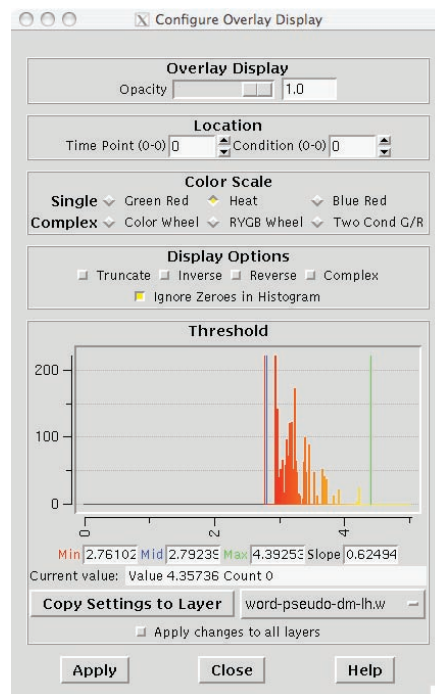
csurf &

2.1 In the TkSurfer Tools window select  
"Load Overlay..."

2.2 Select the w-file. Registration file is not  
required.



2.3 Adjust overlay threshold by opening the configure  
overlay window (View -> Configure... -> Overlay...)



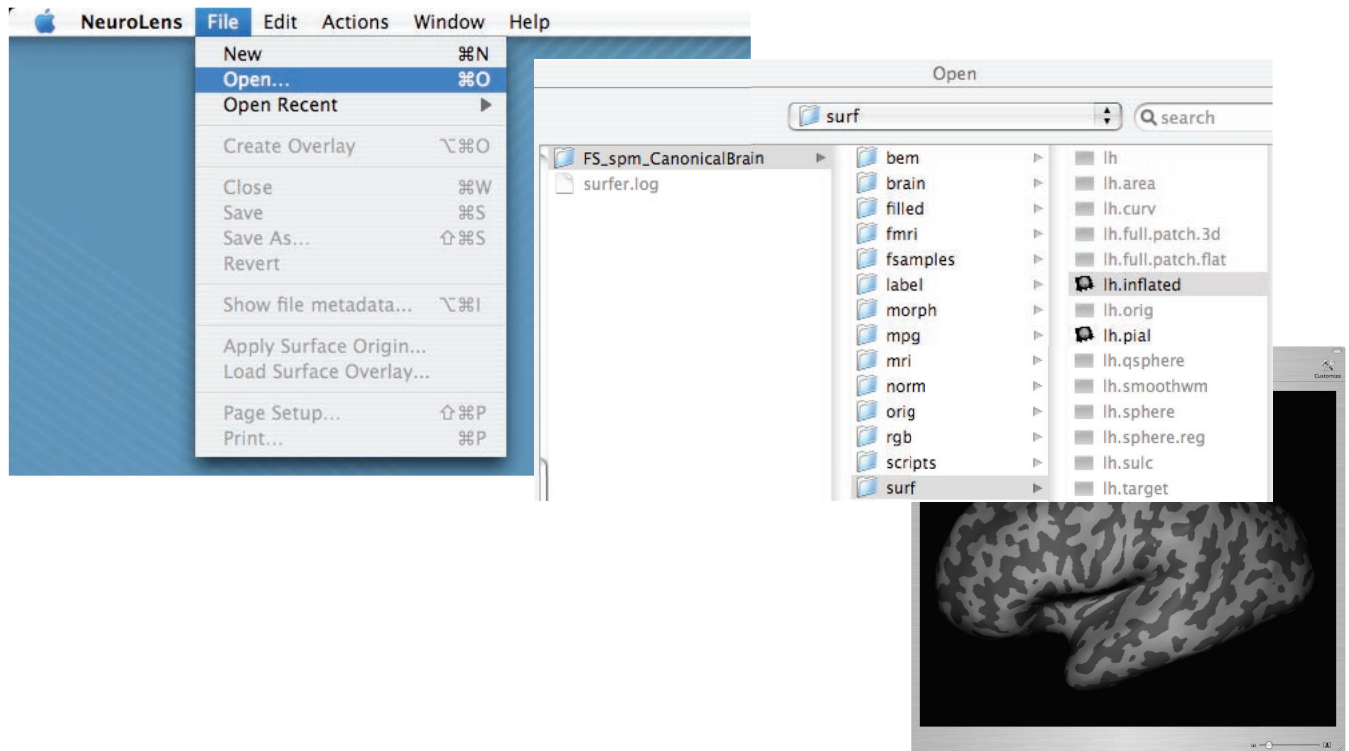
2.4 Alternatively, the surface and overlay can be opened from the command line:

```
qsurfer -subject FS_spm_CanonicalBrain -hemi lh -surf inflated -stat word-pseudo-dm
```

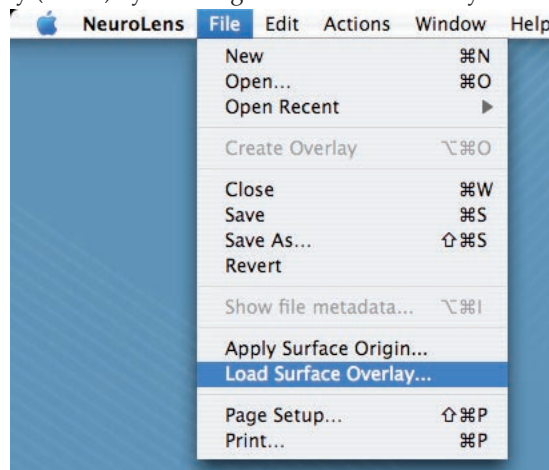


### 3. NeuroLens

3.1 Open a surface file by selecting Open... in the File menu.



3.2 Load an overlay (w-file) by selecting Load Surface Overlay... in the File menu.



3.3 Adjust overlay threshold by opening the inspector panel

