

**FreeSurfer Recon-All Class**  
Winter 2017

**Location:** TBD

**Schedule:**

<b>Class</b>	<b>Covers</b>	<b>Date/Time</b>	<b>For Further Practice</b>
Introduction	<ul style="list-style-type: none"><li>• Freesurfer overview</li><li>• Installation</li><li>• MRI T1w data</li><li>• Pipeline overview (recon-all)</li></ul>	TBD	<ol style="list-style-type: none"><li>1. Install Freesurfer!</li><li>2. Download the class bin</li><li>3. Process Monica brain (or your own)</li></ol>
Data Preprocessing	Autorecon1: <ul style="list-style-type: none"><li>• Motion correction (ish)</li><li>• Talaraich registration</li><li>• NU correction</li><li>• Skull stripping</li></ul>	TBD	<ol style="list-style-type: none"><li>1. Process Meghan brain (or your own)</li><li>2. Manually adjust Tal registration</li><li>3. Edit brainmask</li></ol>
Segmenting the Brain	Autorecon2: <ul style="list-style-type: none"><li>• WM/GM surface generation</li><li>• Subcortical segmentation</li><li>• TKMedit GUI</li></ul>	TBD	<ol style="list-style-type: none"><li>1. Run a brain through autorecon2</li><li>2. Pull up the wm.mgz and brainmask</li><li>3. Edit pial/wm lines</li></ol>
Parcellating the Cortex	Autorecon3: <ul style="list-style-type: none"><li>• Surfaces and atlases</li><li>• Freeview GUI</li><li>• Extracting data</li></ul>	TBD	<ol style="list-style-type: none"><li>1. Run a brain through autorecon3</li><li>2. Open aparc+aseg.mgz and brain in freeview</li><li>3. Extract data</li></ol>
Other Cool Freesurfer Stuff	<ul style="list-style-type: none"><li>• Using multimodal data</li><li>• Hippocampus segmentation</li><li>• TRACULA</li><li>• PETSurfer (and PVC)</li><li>• PySurfer</li></ul>	TBD	<ol style="list-style-type: none"><li>1. Segment M&amp;M's hippocampus</li><li>2. Run Meghan's DTI brain in TRACULA</li><li>3. Visualize a brain using the PySurfer script</li></ol>

**Helpful Links**

Class GitHub Page: [https://github.com/catcamacho/freesurfer\\_class](https://github.com/catcamacho/freesurfer_class)

Wiki Landing Page: <https://surfer.nmr.mgh.harvard.edu/fswiki/FreeSurferWiki>

Installation: <https://surfer.nmr.mgh.harvard.edu/fswiki/DownloadAndInstall>

Recon-All Page: <https://surfer.nmr.mgh.harvard.edu/fswiki/recon-all>

v5.3 Table: <https://surfer.nmr.mgh.harvard.edu/fswiki/ReconAllTableStableV5.3>