

Workshop Segment 1 - Stacy

Guided Tour of Morphosource Website

- Definition of terms: CT data, Image Stack (and file types), voxel, mesh
- Searching Morphosource: by taxonomy, by media type, by project
- Detailed look at a cat specimen:

<https://www.morphosource.org/concern/parent/000362695/media/000362550>

Download and import the above morphosource specimen into 3DSlicer

- Overview of types of data that can go into 3DSlicer and how to import them
- Import cat dataset linked above (and in our workshop folder for easier access)
- Follow Steps 7a-b and 7f in the Buser et al., 2020 article (making a volume rendering and exporting a mesh)

“3D Slicer Quick-Start” once data is imported, for following along during the workshop:

Visualization (Volume Rendering)

- Use drop-down “Modules” menu to open Volume Rendering module
- Click “Center 3D View” button in top left of purple window
- Use drop-down “Preset” menu to select a preset profile
- Toggle “shift” to select density (See Buser et al., 2020 Section 7a for options)
- Mac Navigation:
 - Rotate 3D: left click + scroll
 - Zoom: right click + scroll (or ctrl + scroll)
 - Rotate 2D: command + left click + scroll
 - Drag/pan: option + left click + scroll (or shift + left click + scroll)

Export 3D Mesh

- Use drop-down “Modules” menu to open Segmentation Editor module
 - Click “Add” button
 - Click “Threshold” button; adjust threshold; Click “Apply”
 - Optional steps (see Buser et al., 2020 for details)
 - Use “Islands” button to isolate islands
 - Use “Scissors” tool to crop and/or cut away unwanted bits
- Use “Modules” menu to open Segmentations module
 - Click “Export/import models and labelmaps”
 - Select “Models” for exporting the mesh
 - Save as an .stl or .obj