**Input Data**
- sTSLIM image stack of the guinea pig cochlea
  (1472×1646×900 voxels @ 4.625×4.625×5 µm)
- Tissue resistivities from existing models and other literature
- 1 mA constant current source

**Image Processing and Segmentation**
- Cropped in Adobe Photoshop and segmented in VSG Amira
- Separated 14 different tissue types into 22 masks

**Solid Modelling**
- Surface model of cochlear tissues generated in Simpleware ScanIP
- CAD model of intracochlear electrode array created in PTC
  Pro/ENGINEER (courtesy Cochlear Limited)

**Mesh Generation**
- Performed in ICEM CFD
- Solid models combined into one geometry
- Generated volume mesh (as NASTRAN file) using Octree algorithm

**Finite Element Analysis**
- Performed in COMSOL Multiphysics
- Assigned material properties to corresponding domains
- Applied load at active electrode (variable)
- Tested multiple boundary conditions