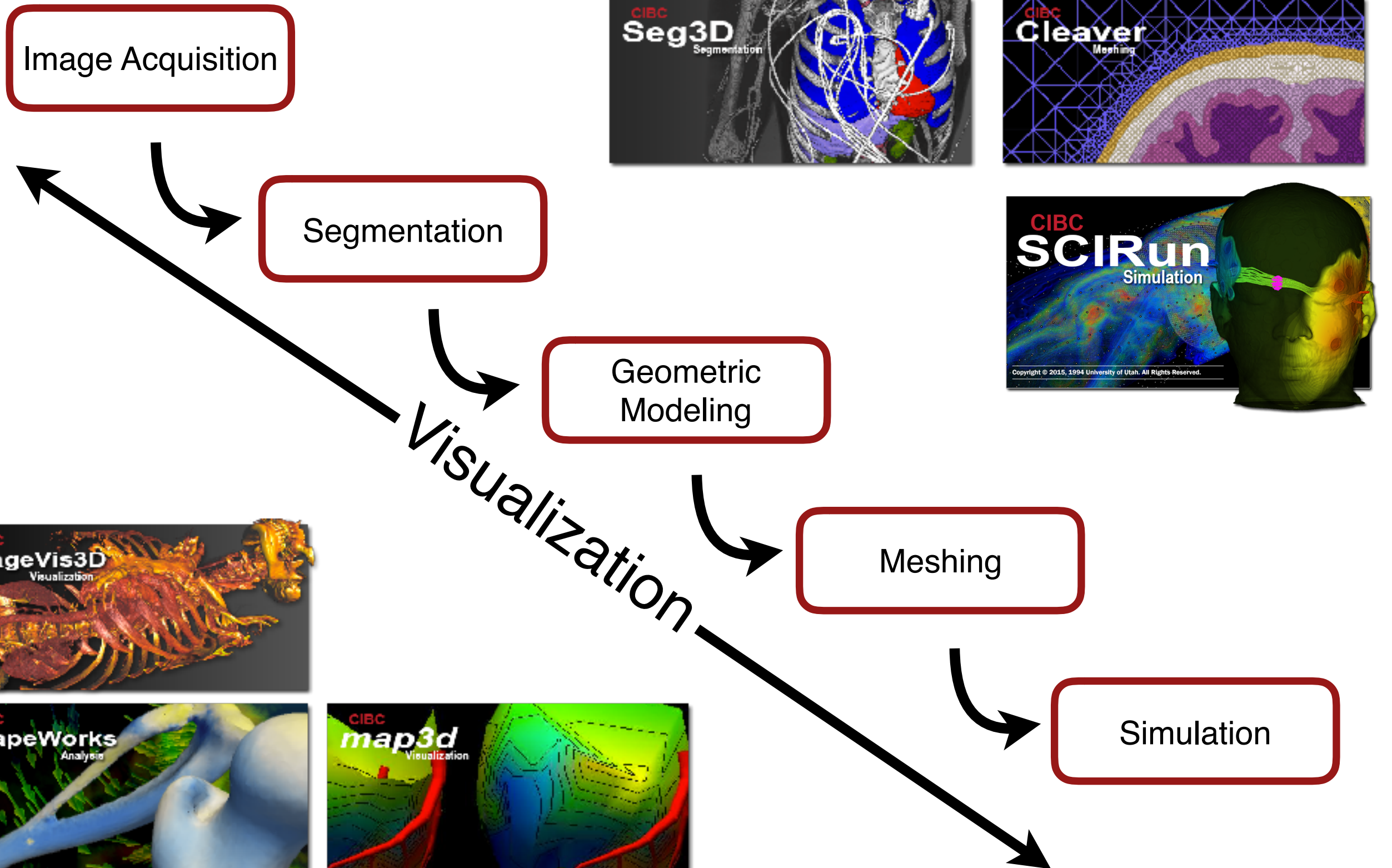
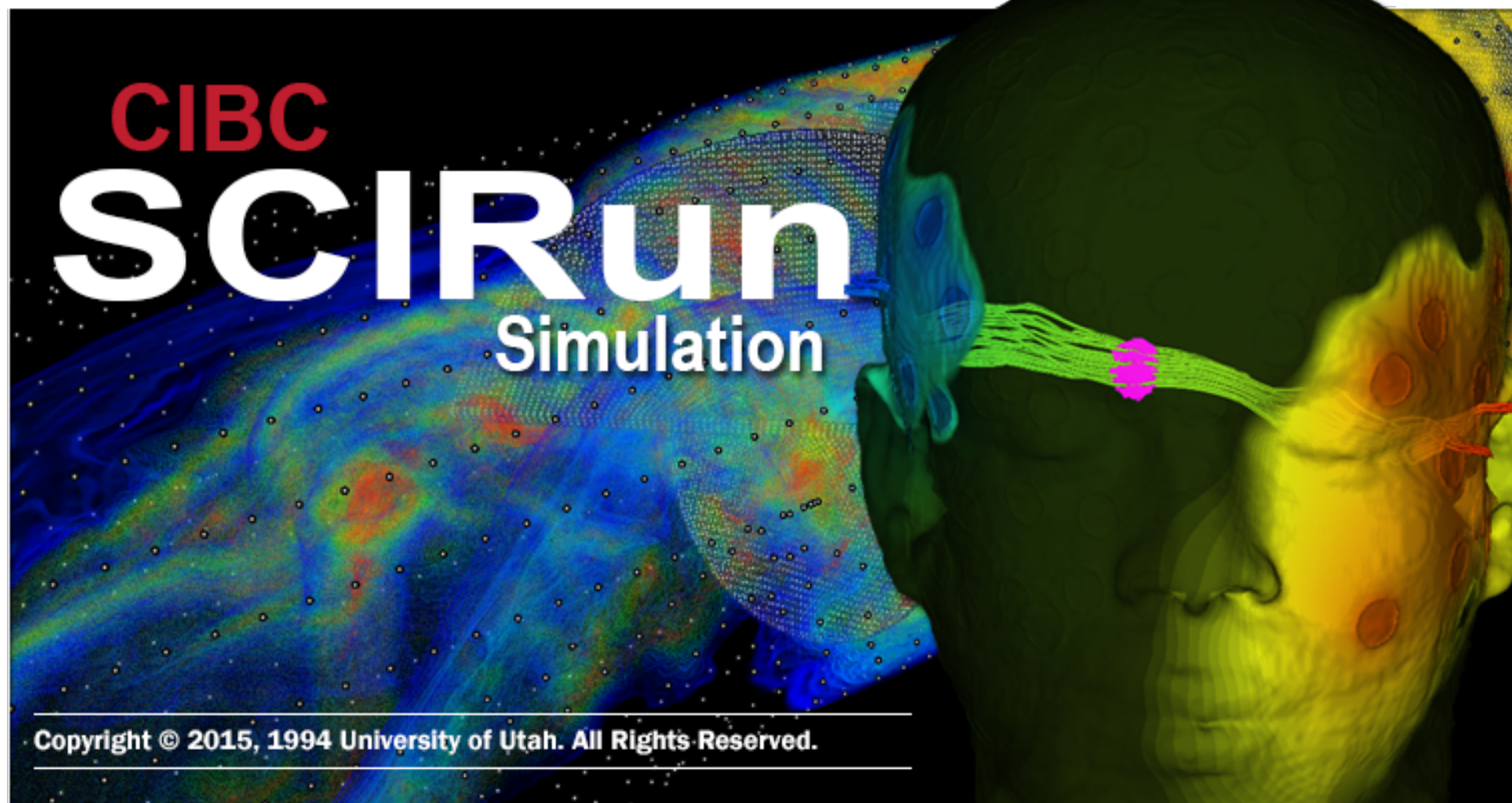


NIGMS grant number P41 GM103545-18.

# Image-Based Modeling







<http://scirun.org>

<http://sci.run>

# Latest Release

The screenshot shows a web browser window displaying the GitHub release page for the repository SCInstitute/SCIRun. The browser's address bar shows the URL <https://github.com/SCInstitute/SCIRun/releases>. The GitHub navigation bar includes a search bar, links for Pull requests, Issues, Marketplace, and Explore, and user profile icons. The repository name SCInstitute / SCIRun is displayed at the top, along with statistics: 15 Unwatch, 43 Unstar, and 41 Fork. Below this, navigation tabs for Code, Issues (333), Pull requests (1), Projects (14), Wiki, Insights, and Settings are visible. The main content area is divided into 'Releases' and 'Tags' tabs, with a 'Draft a new release' button. The current release is titled 'CinC 2018', marked as the 'Latest release'. It was released by user 'dcwhite' 16 days ago, with 8 commits to master since. The release includes four assets: SCIRun-5.0.beta.CinC2018-macOS.pkg (50.4 MB), SCIRun-5.0.beta.CinC2018-win64.exe (29.4 MB), Source code (zip), and Source code (tar.gz). The release version is v5.0-beta.CinC2018. Below this, the start of another release 'IBM 2018' is visible.

Releases · SCInstitute/SCIRun

GitHub, Inc. (US) | <https://github.com/SCInstitute/SCIRun/releases>

Search or Jump to... Pull requests Issues Marketplace Explore

SCInstitute / SCIRun

Unwatch 15 Unstar 43 Fork 41

Code Issues 333 Pull requests 1 Projects 14 Wiki Insights Settings

Releases Tags Draft a new release

Latest release

v5.0-beta.CinC2018...  
e441459

## CinC 2018

dcwhite released this 16 days ago · 8 commits to master since this release

Assets 4

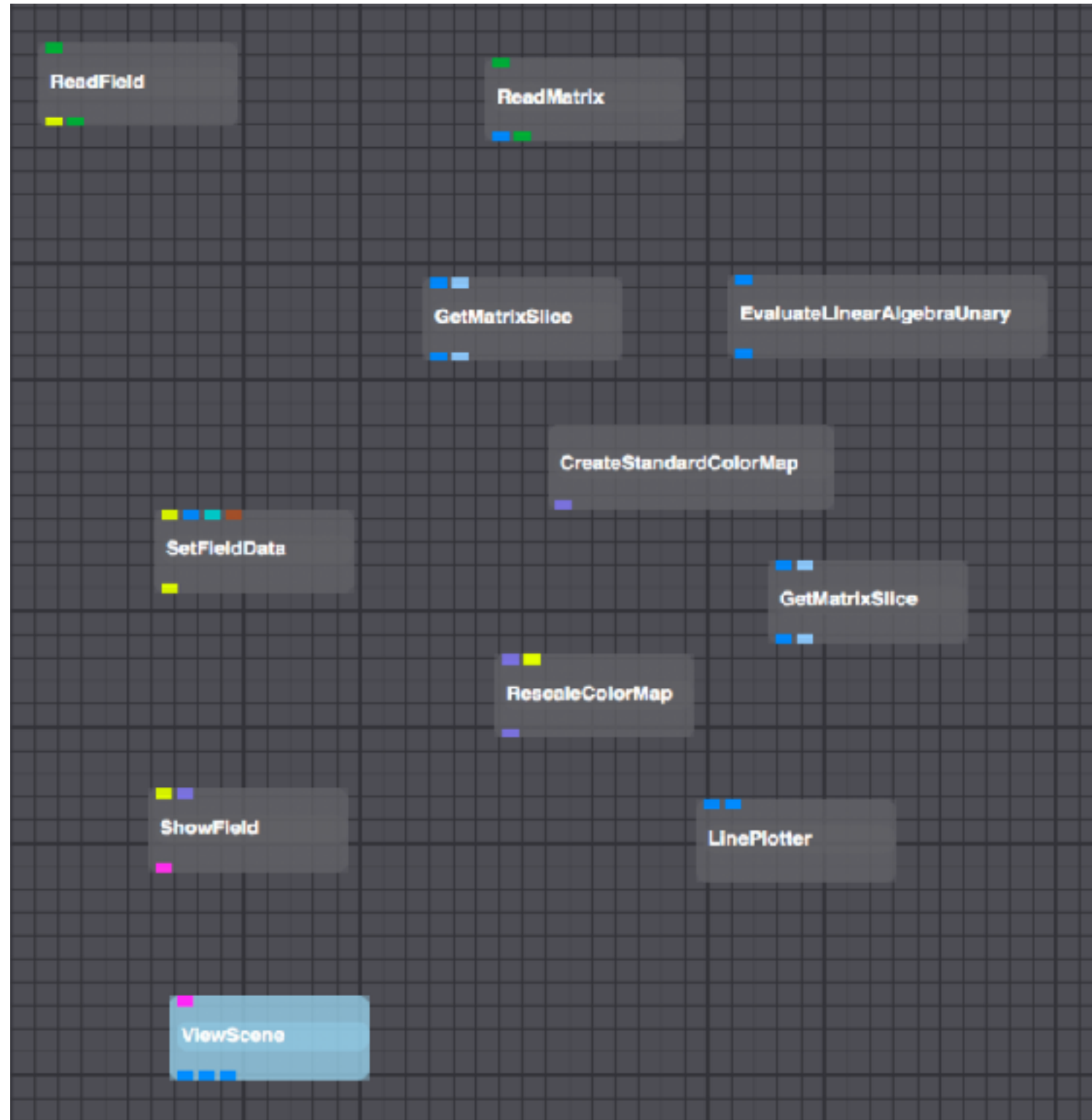
- SCIRun-5.0.beta.CinC2018-macOS.pkg 50.4 MB
- SCIRun-5.0.beta.CinC2018-win64.exe 29.4 MB
- Source code (zip)
- Source code (tar.gz)

v5.0-beta.CinC2018

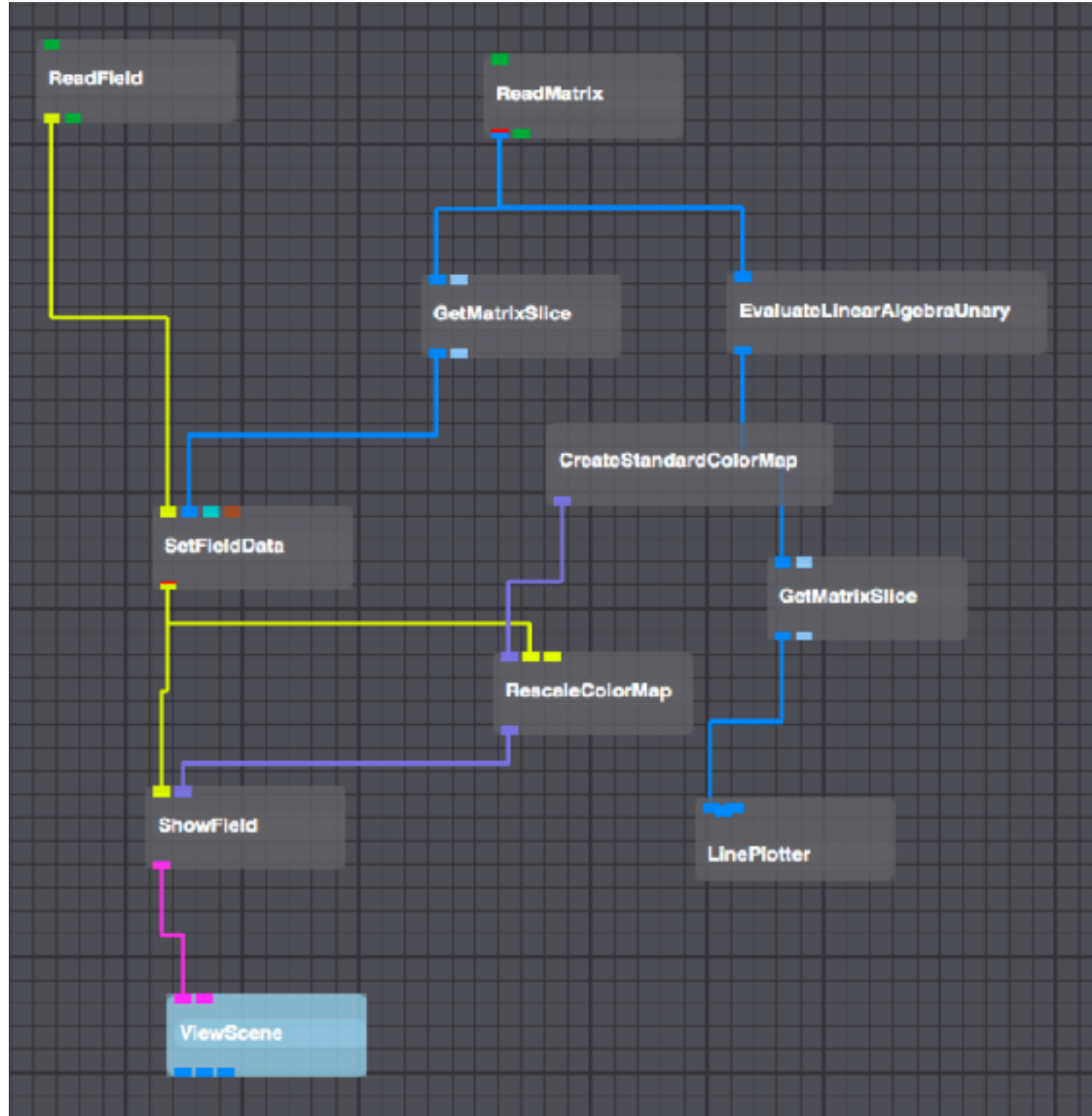
Release v5.0-beta.CinC2018

## IBM 2018

# Problem Solving Environment



# Problem Solving Environment





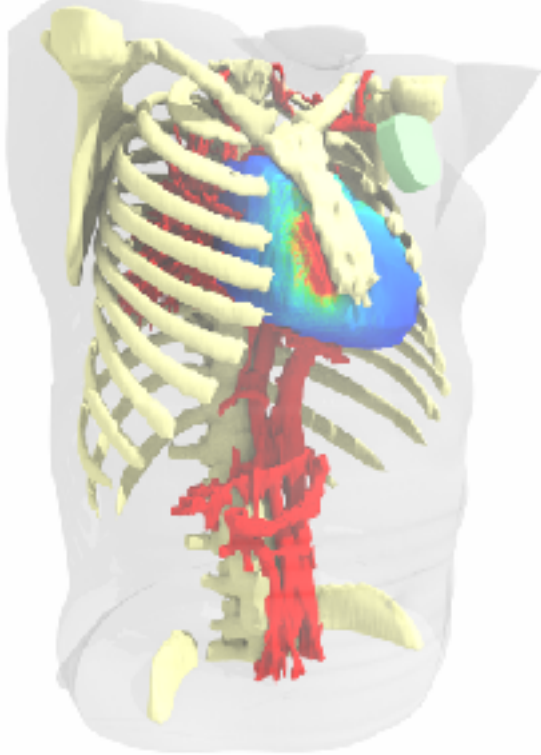
# Problem Solving Environment

The screenshot displays a complex software interface for scientific visualization and data analysis. At the top, a window titled "vis\_results.srn5 - SCIRun" shows a progress bar at 100% and a search network field. On the left, a "Module Selector" panel lists various modules under "Favorites" and "Typical Patterns". The central workspace features a "Plot title" window showing a line graph with a sharp peak and trough, and a network graph below it with nodes like "GetFieldData", "RescaleColorMap", "GetMatrixSlice", "LinePlotter", "ShowField", and "ViewScene". On the right, a "ViewScene 0" window displays a 3D visualization of a complex, multi-lobed structure in green and blue. The bottom of the interface shows a network graph and a status bar with the version "v5.0-beta.CnC2018-7-g74da7a8b7+Qr4".

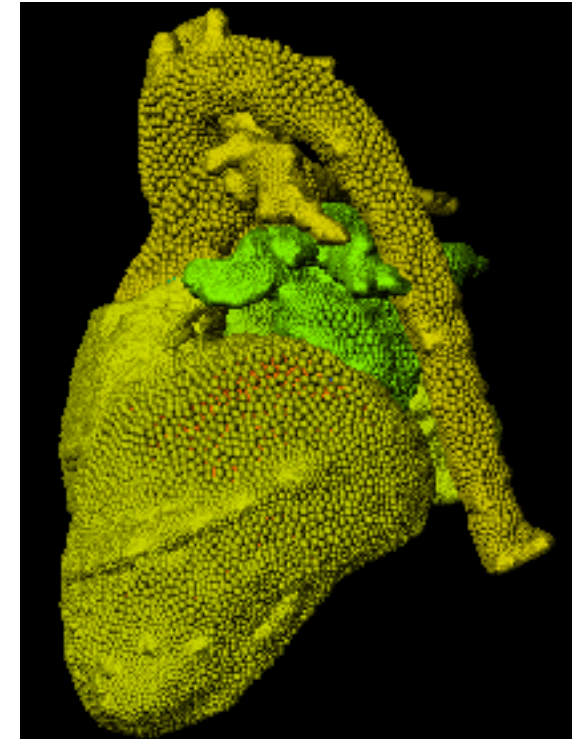
## Visual Programming Experience

# Computational Workbench

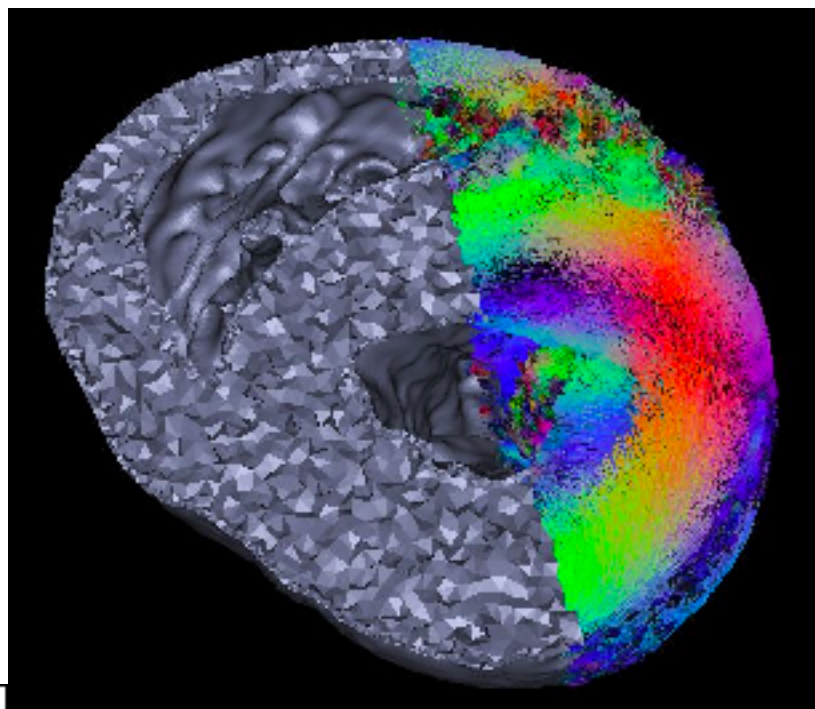
Visualization



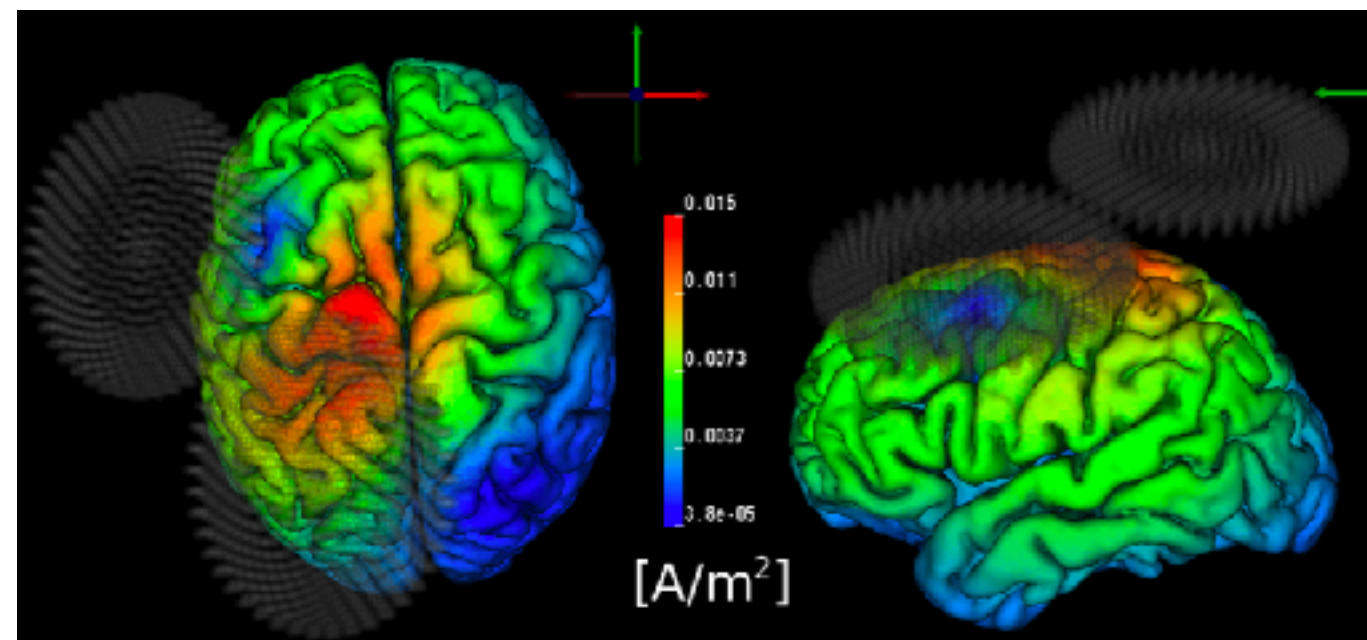
Geometric Modeling



Data Processing

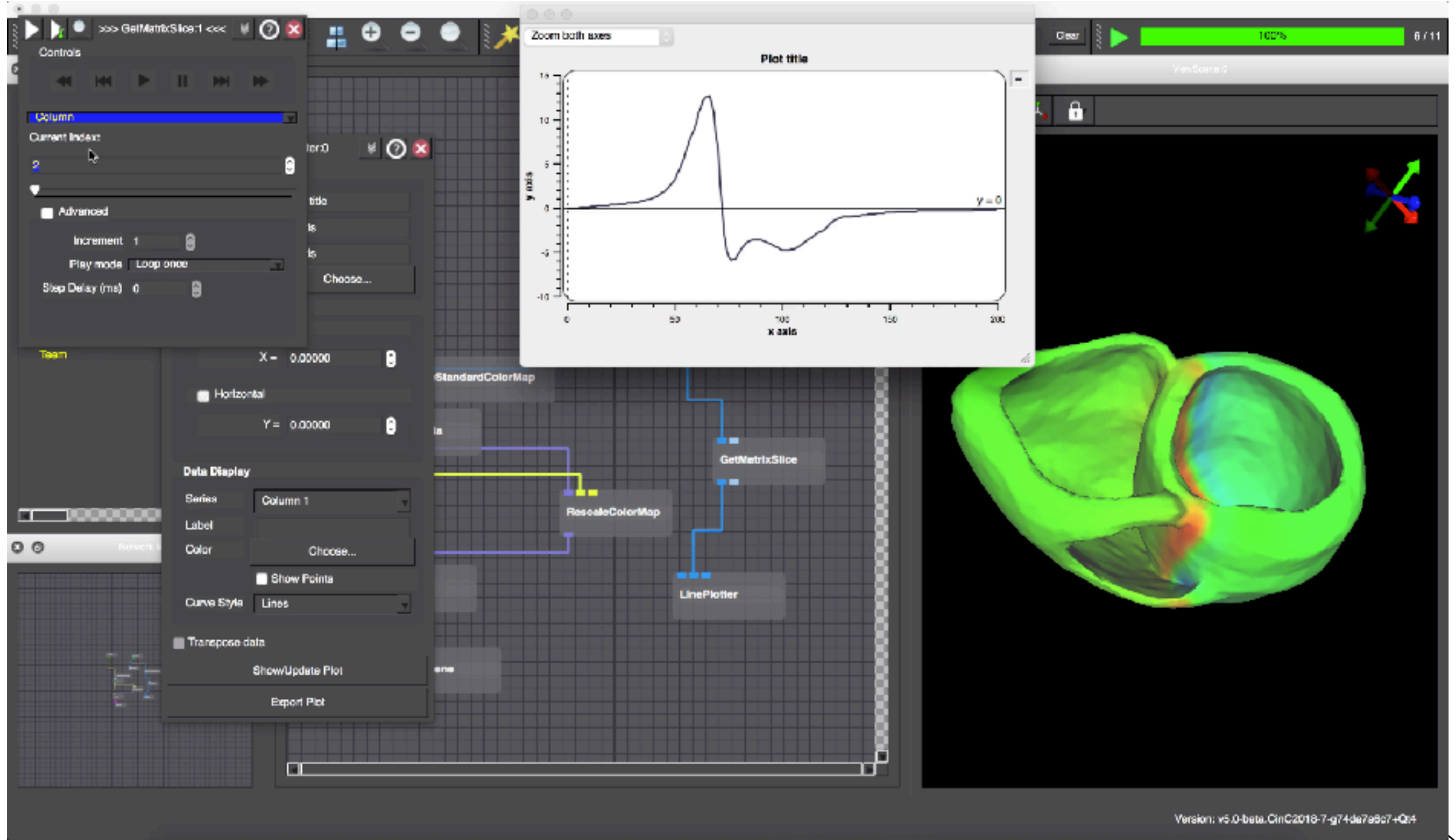


3D Simulation

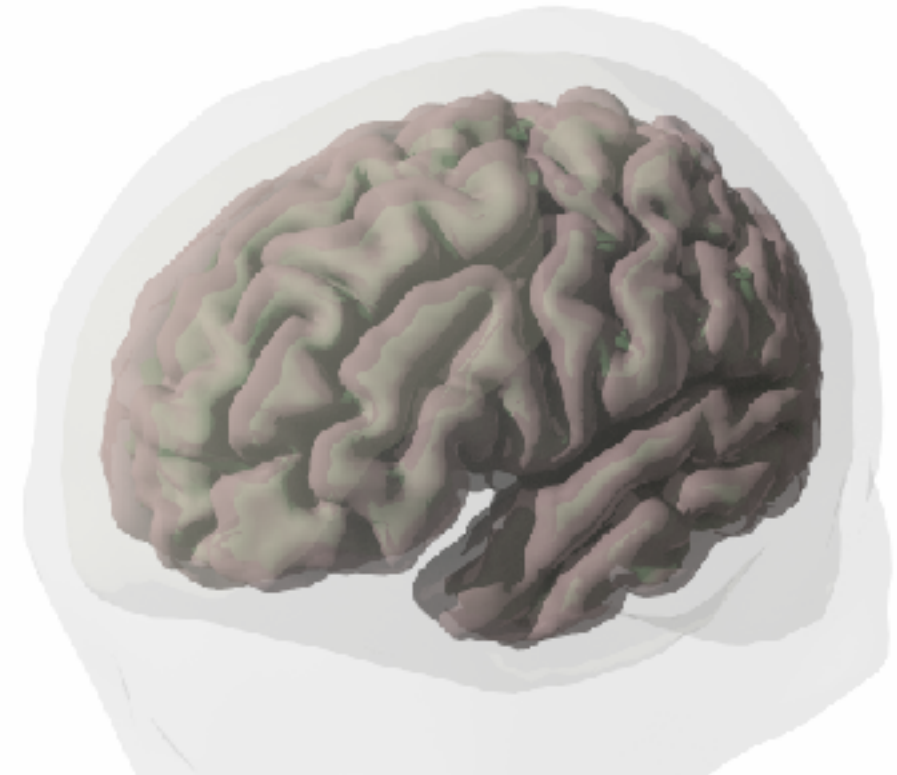
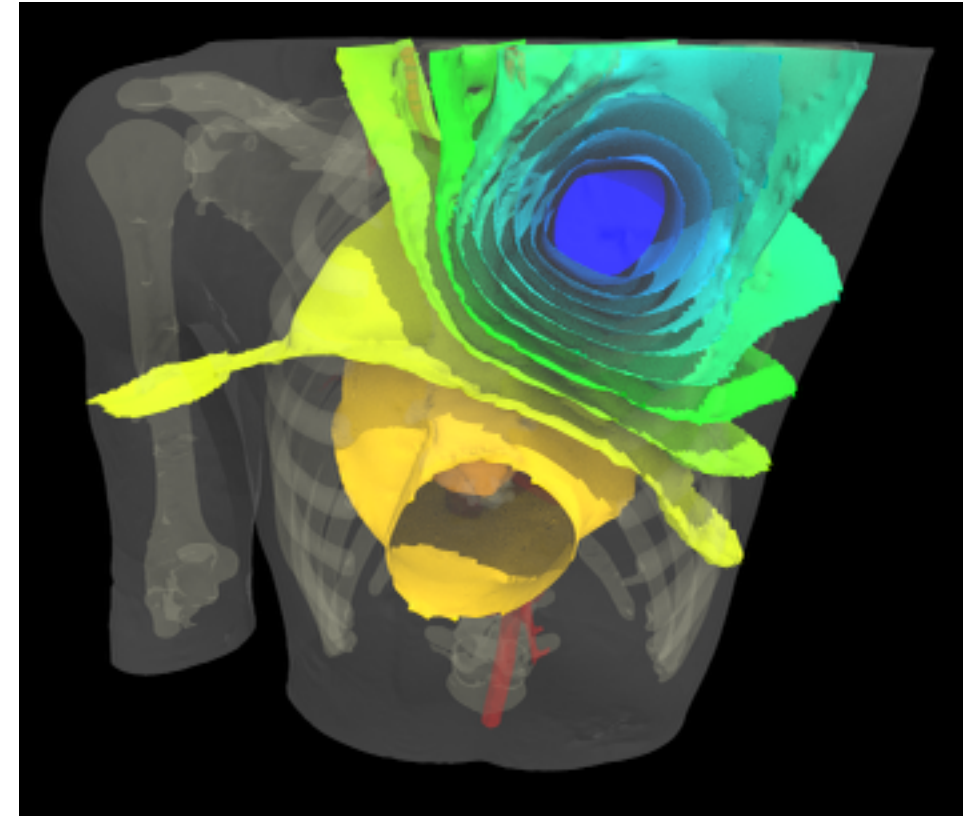
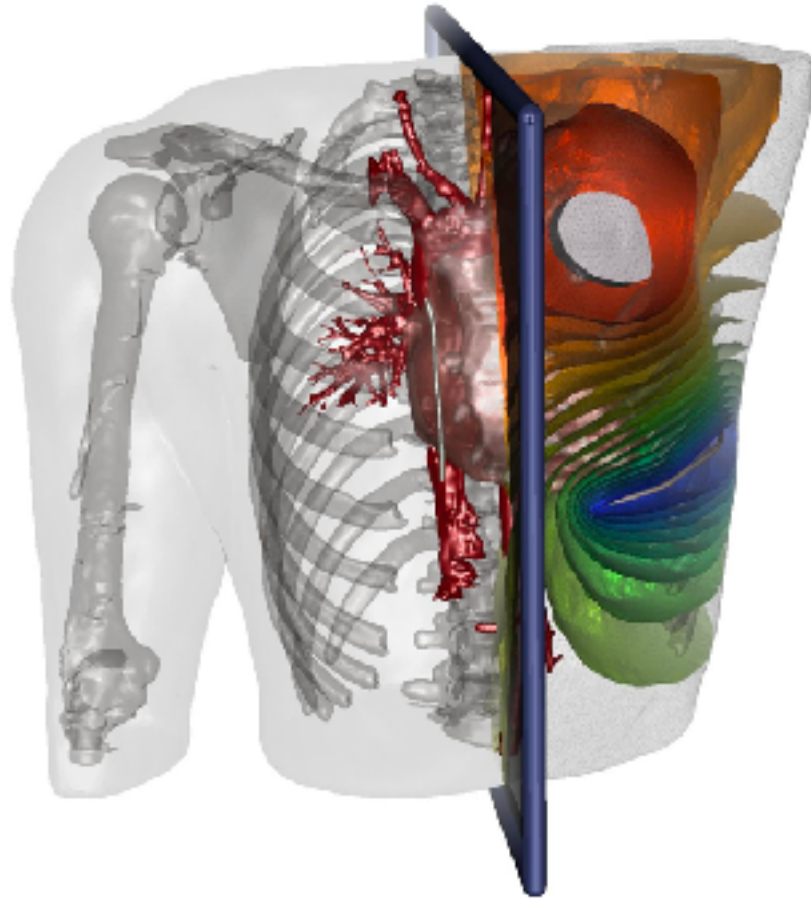




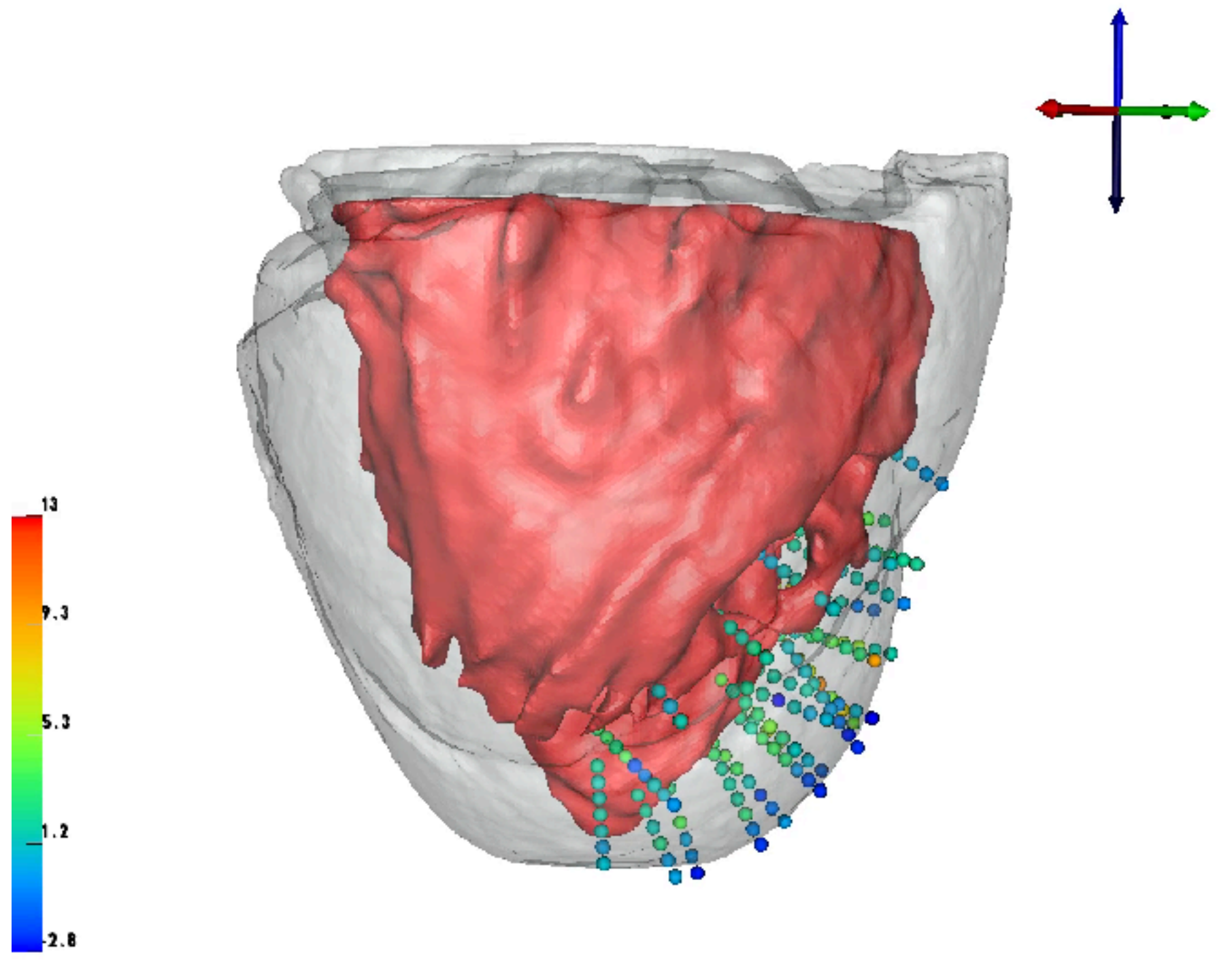
# Easy Visualization



# Visualization

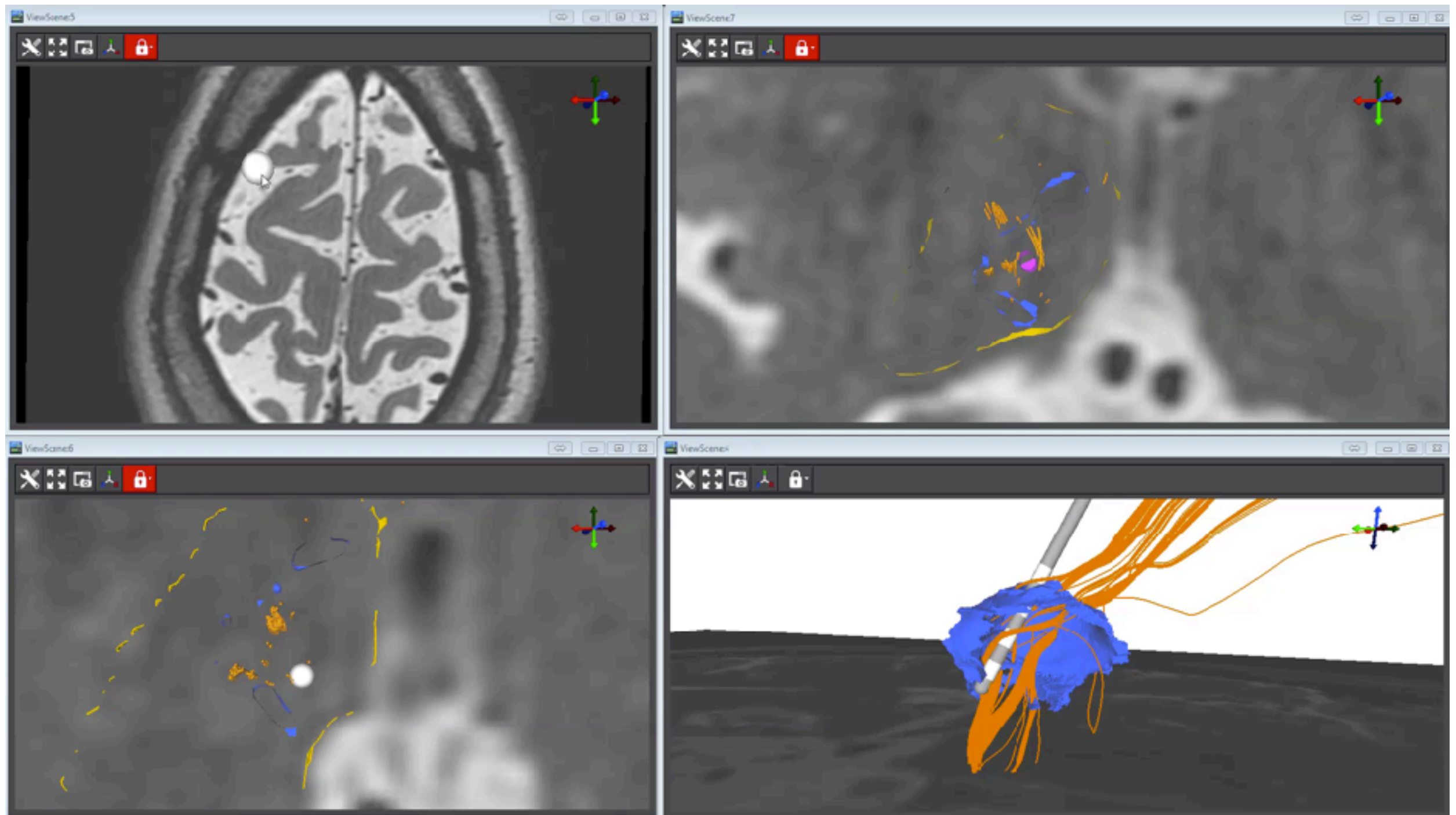


# Data Processing





# Data Processing

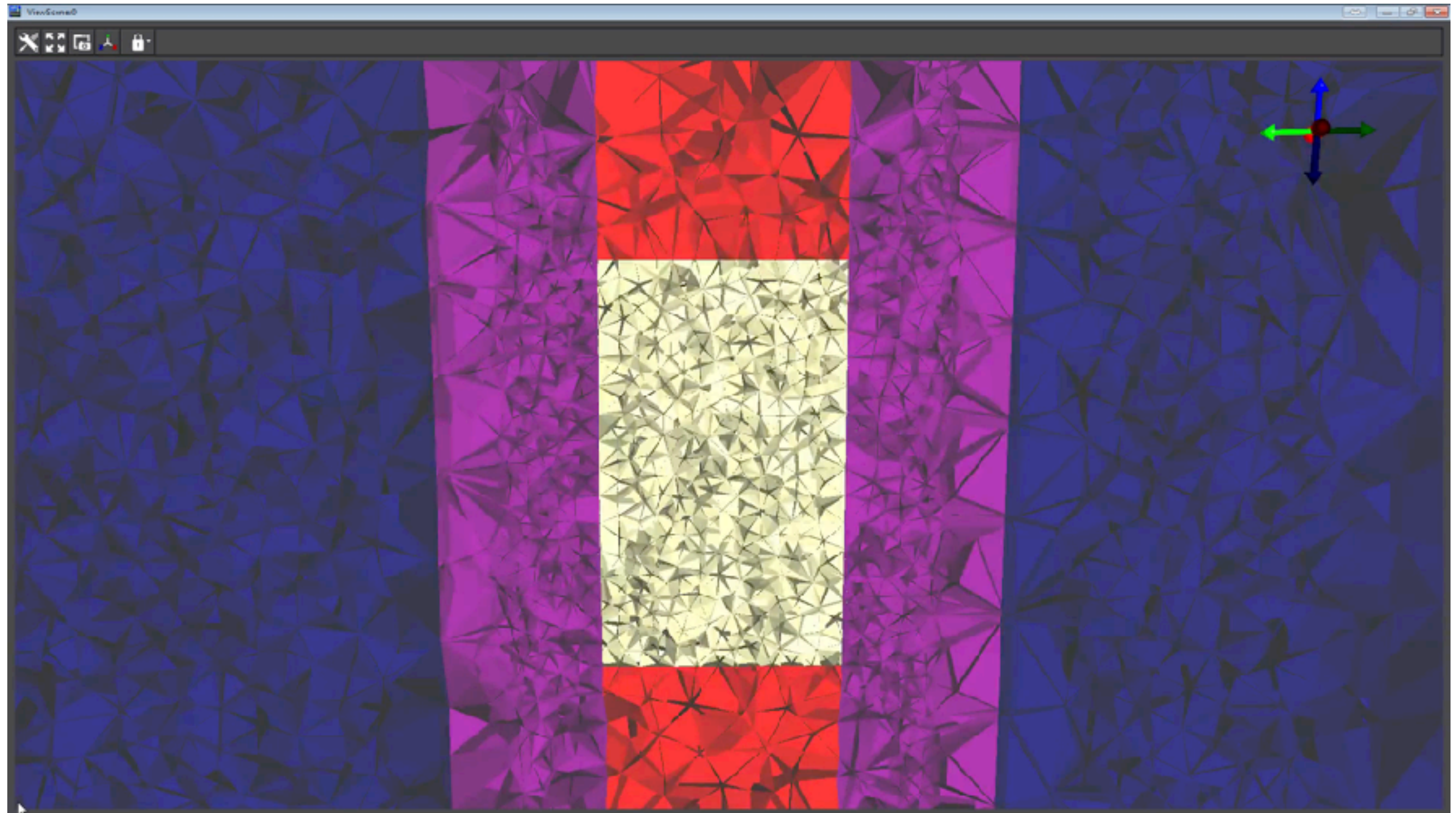


# Geometry Processing

The screenshot displays the SCIrun software interface. On the left is a sidebar with a search filter and a list of modules categorized into Clipboard History, Favorites, Saved Subnetworks, Snippets, and SCIRun. The SCIRun section includes BrainStimulator and Bundle categories. The main workspace shows a workflow diagram with nodes: GetFieldBoundary, RescaleColorMap, ShowField, and ViewScene, connected by colored lines. On the right, two 3D brain scan visualizations are shown. The top visualization is a color-coded surface map of a brain slice, and the bottom visualization shows a similar slice with a blue region highlighted. The interface includes a top toolbar with various icons and a status bar at the bottom right showing the version: v5.0-beta.C-32-g9a372cd.

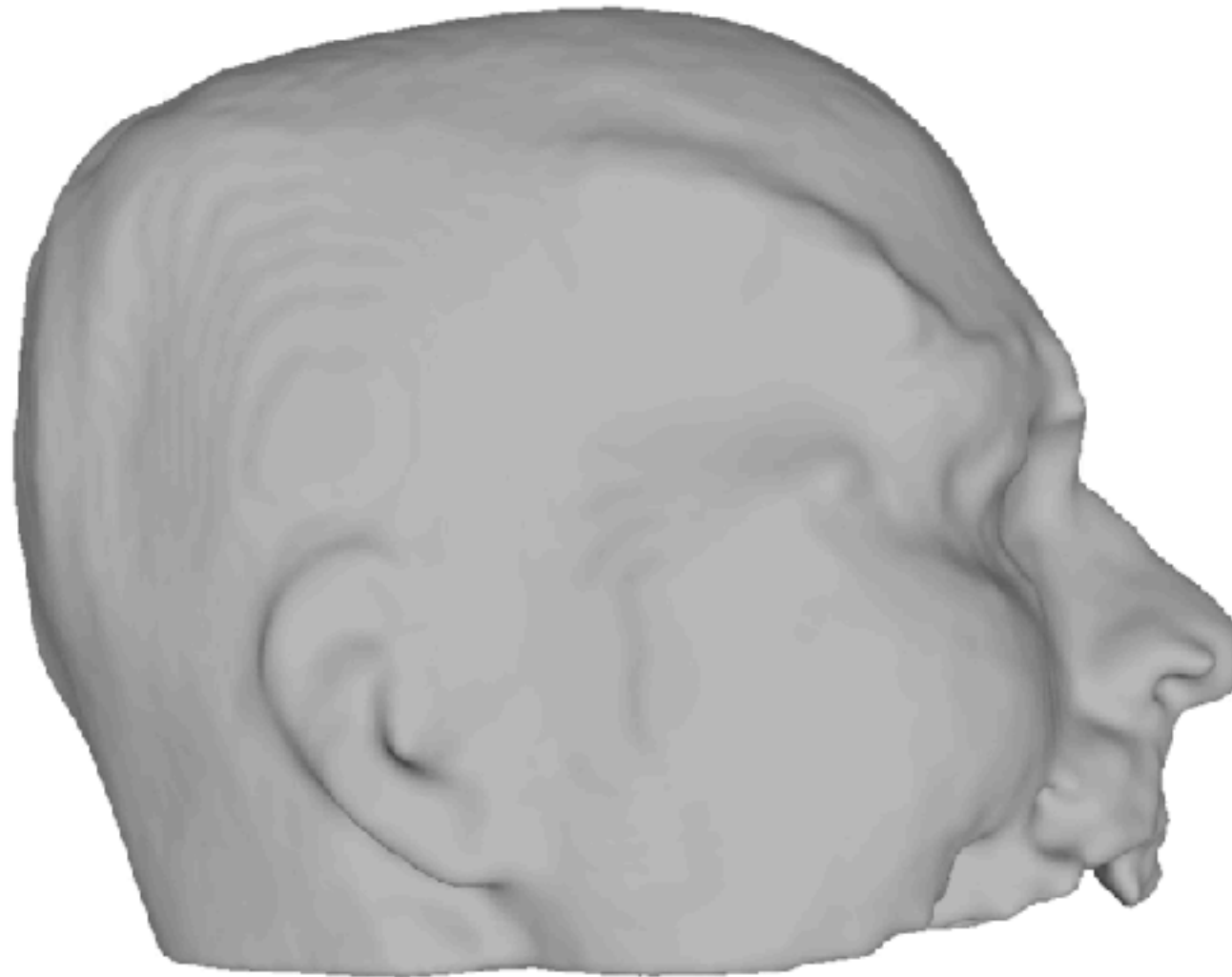


# Meshing

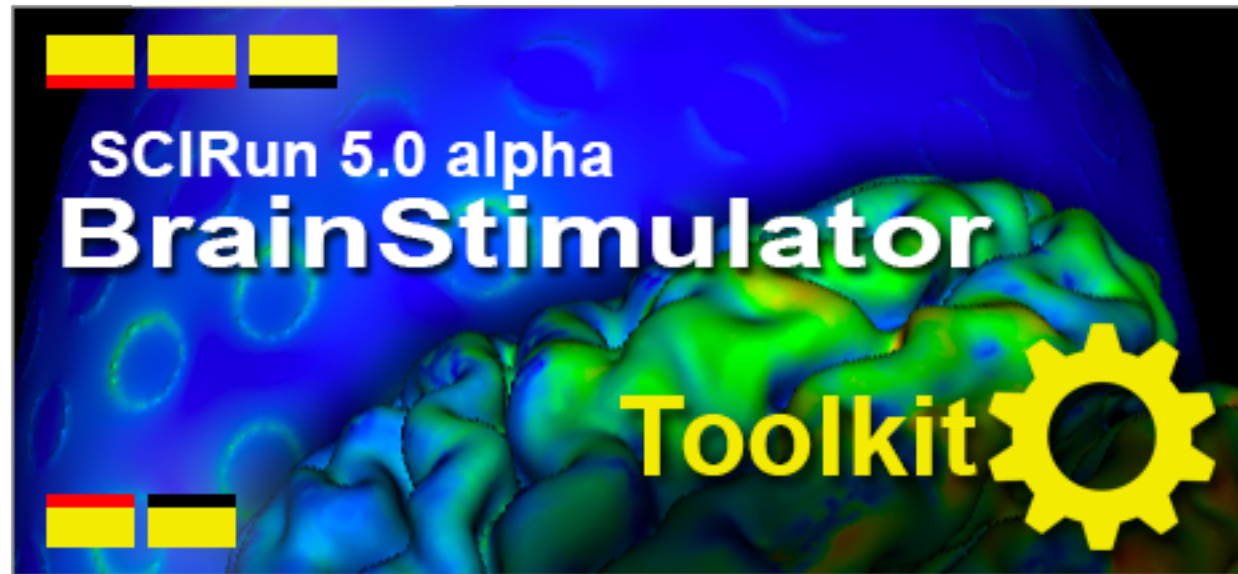




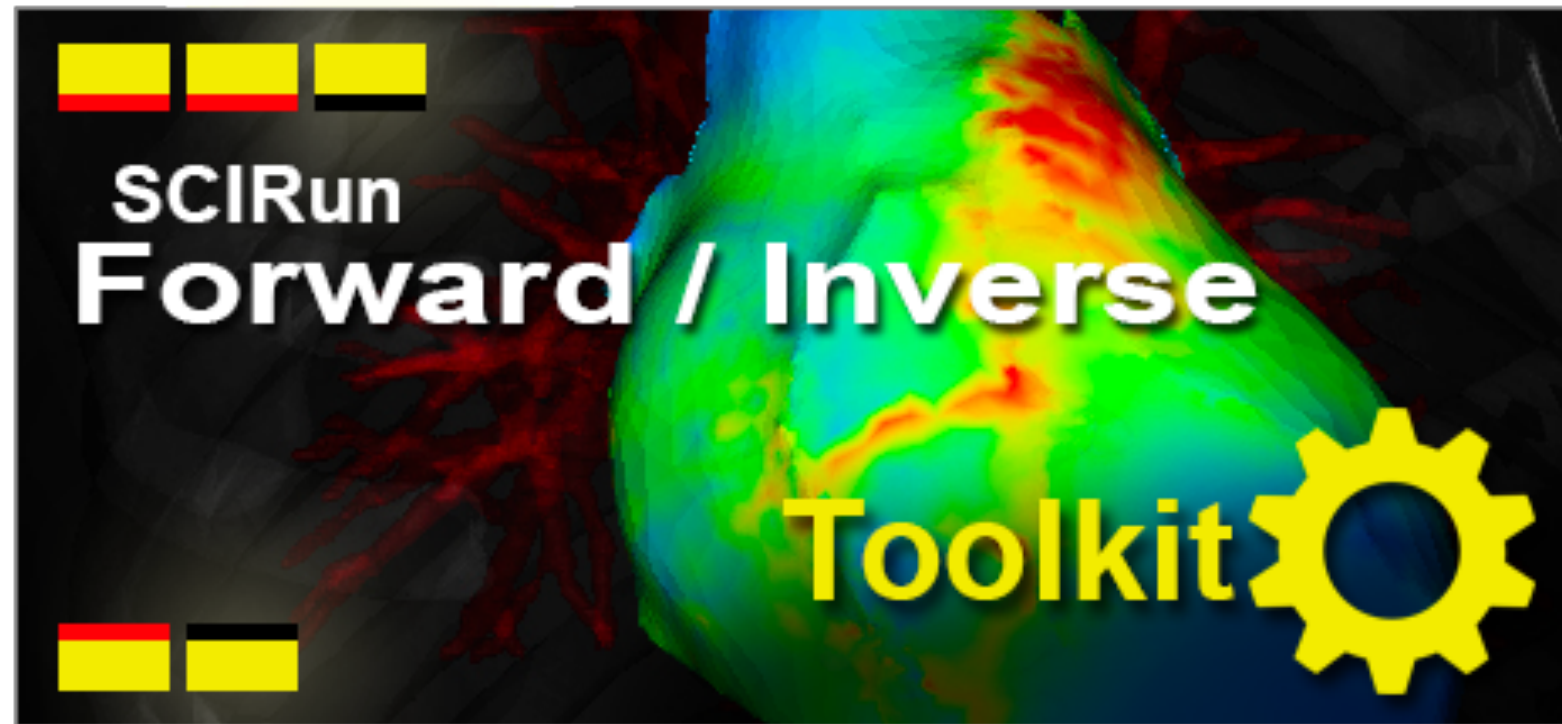
# Bioelectric Field Modeling



# Toolkits

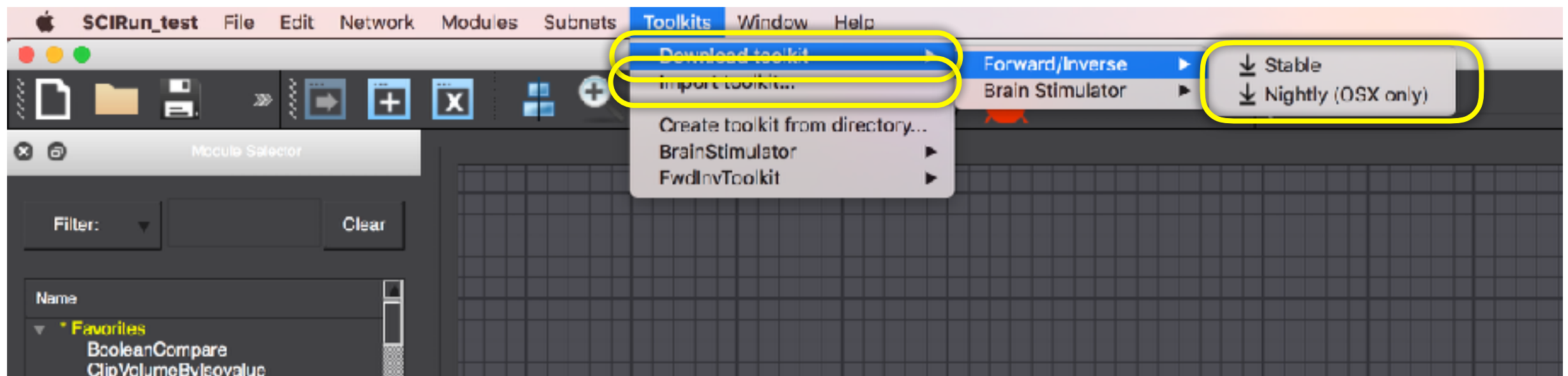


# Toolkits





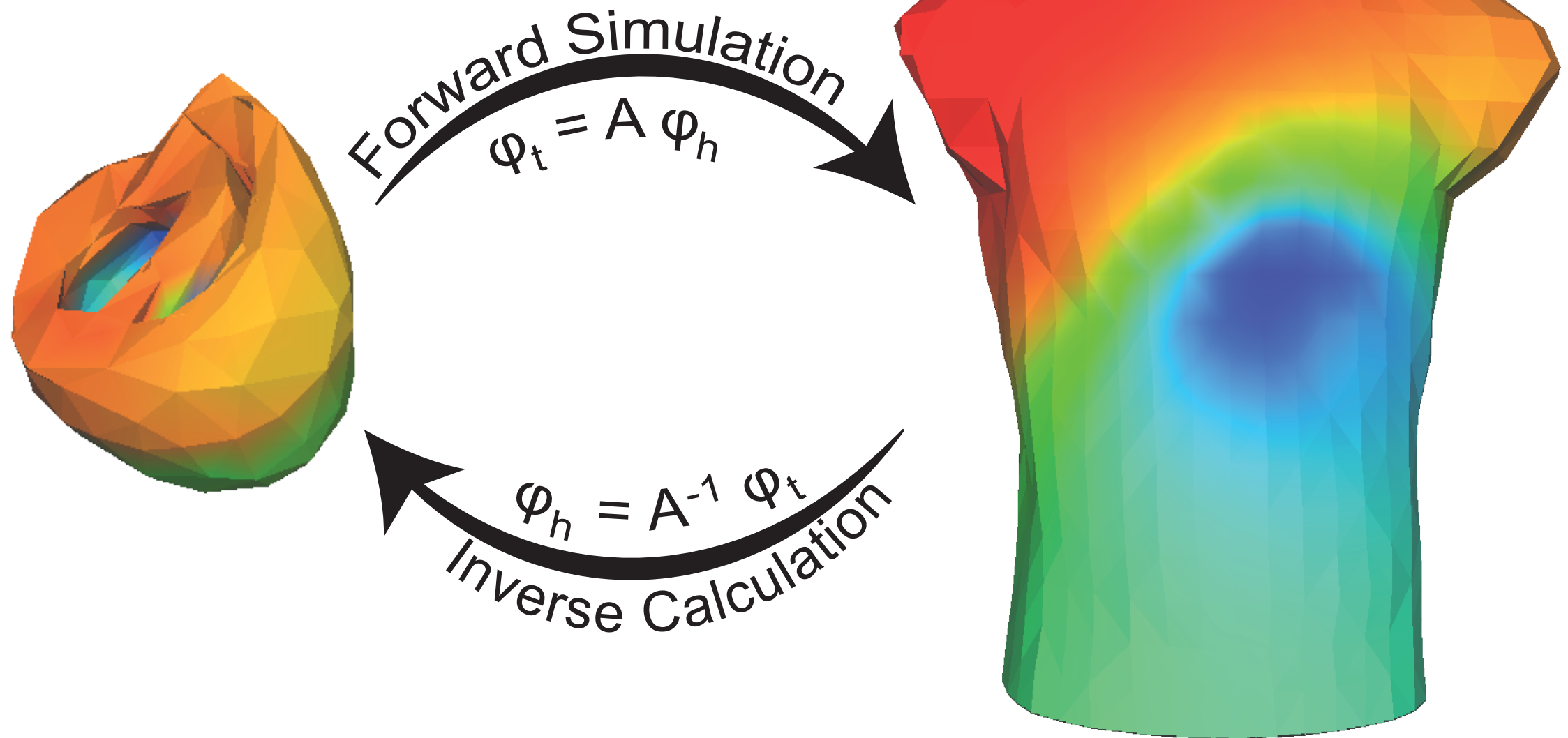
# Toolkit Download



# Fwd/Inv Pipeline

Heart Potentials ( $\varphi_h$ )

Torso Potentials ( $\varphi_t$ )



# Fwd/Inv Toolkit



## Tools in the Forward/Inverse Toolkit

	Forward	Inverse
Potentials	FEM BEM	Tikhonov Tikhonov SVD Truncated SVD Isotropy (Greensite) Gauss-Newton Wave-Based Total Variation Spline MFS
Activation Times	BEM (Through ECGSim)	Gauss-Newton Non-Neg TMP



# Uncertainty Quantification

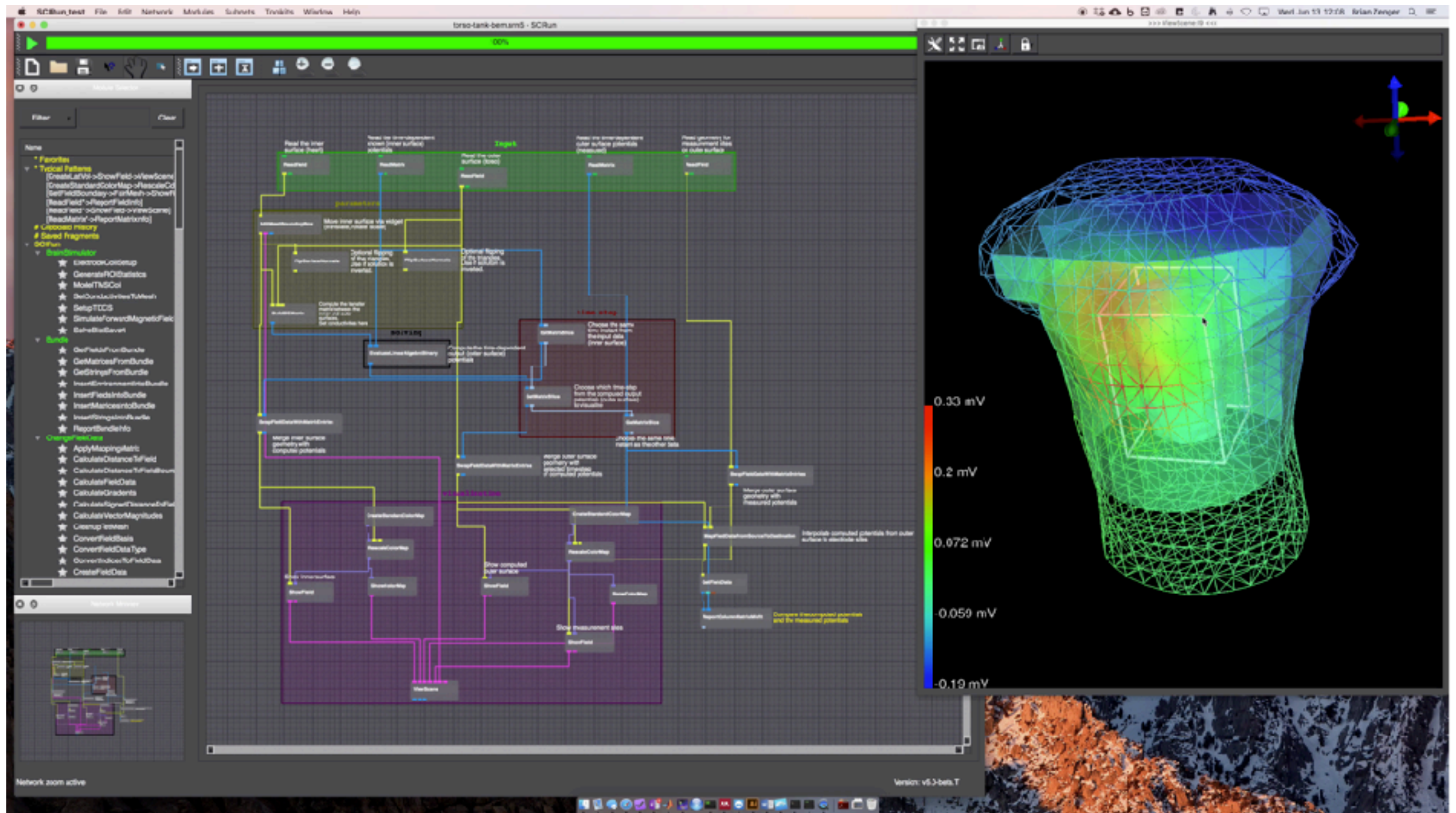
The screenshot displays the SCI Run software interface, titled "Untitled - SCI Run". The interface is divided into several panels:

- Network Editor:** The central workspace shows a complex network graph with nodes and connections. Nodes include "ReportMatrixInfo", "ConvertScalarToMatrix", "BooleanCompare", "InterfaceWithPython", "GetMatrixSlice", "ReportMatrixInfo", "ReportMatrix", "ReportStringInfo", "ResizeMatrix", and "GetMatrixSlice".
- Network Selector:** Located on the left, it features a "Filter" and "Clear" button, a list of nodes under "Favorites" and "Typical Patterns", and a "Clipboard History" section.
- Network Min View:** A smaller version of the network graph is shown in the bottom-left corner.
- ViewScene1:** On the right, a 3D visualization of a human torso is shown with a color-coded uncertainty map. The map uses a rainbow color scale (red, orange, yellow, green, blue) to represent different levels of uncertainty across the body. A 3D coordinate system is visible in the top right of the view.

At the bottom right of the interface, the version information is displayed: "Version: v5.0-beta.CinC2018-7-g74da7a8c7+Qt".

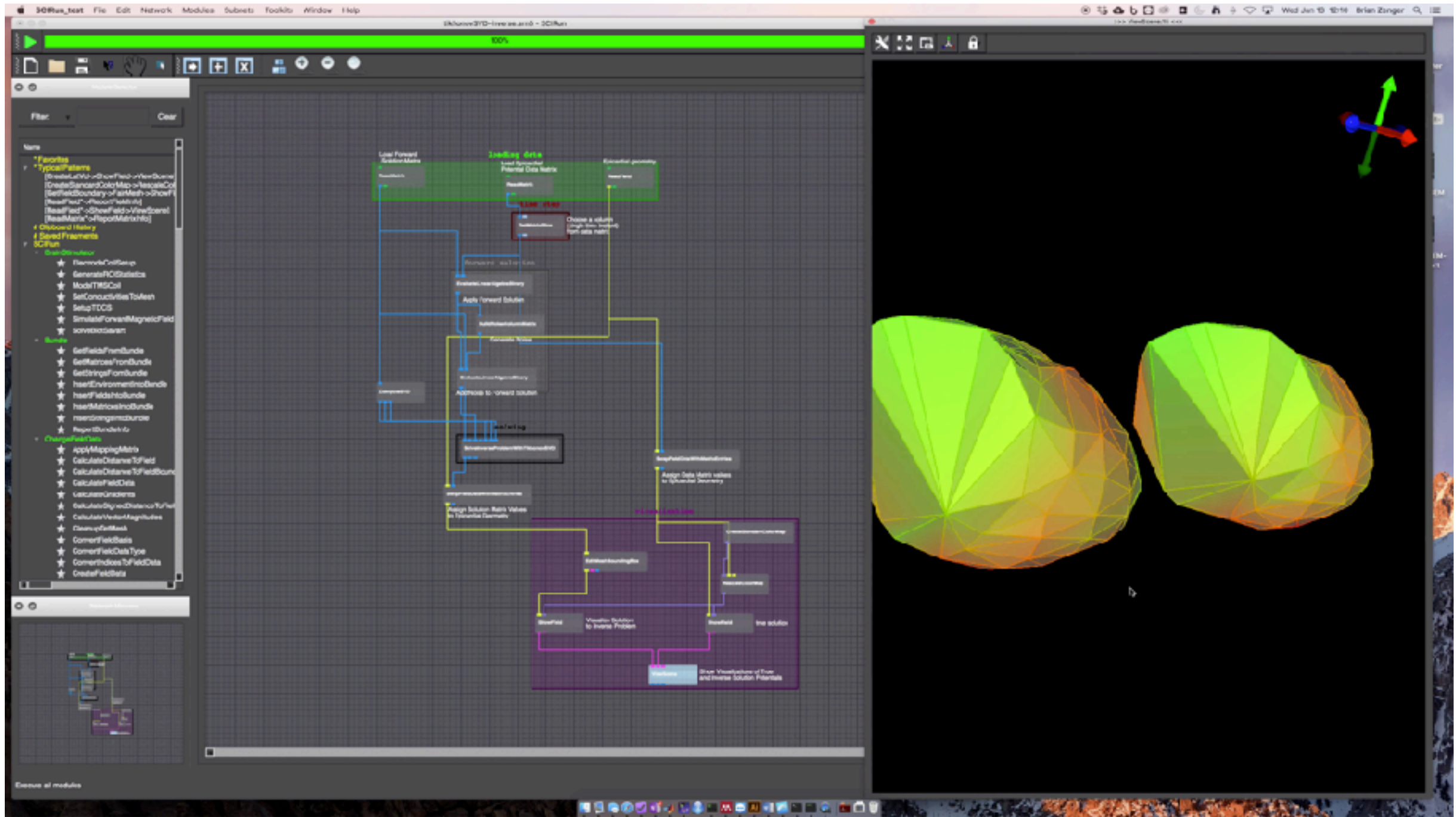
# Demo

# ECG Forward





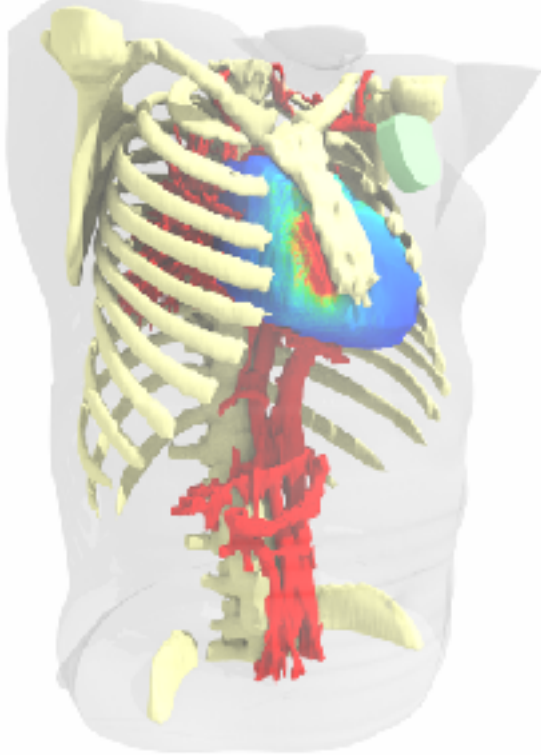
# ECG Imaging



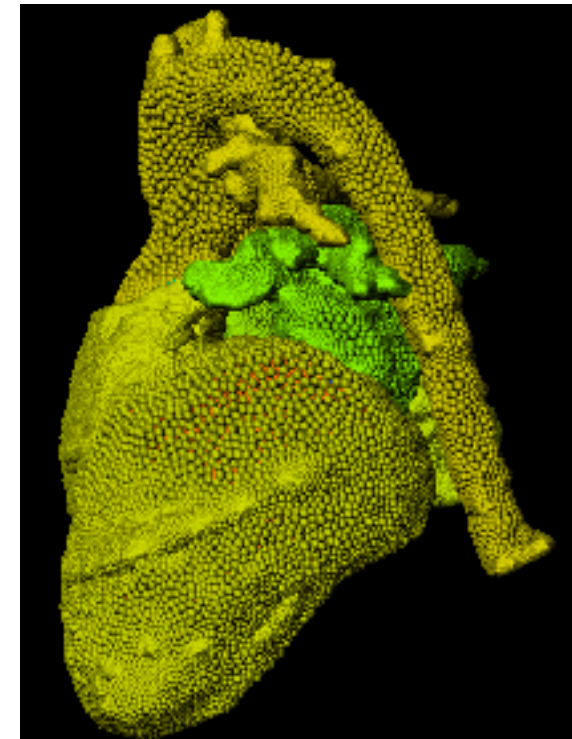


# Computational Workbench

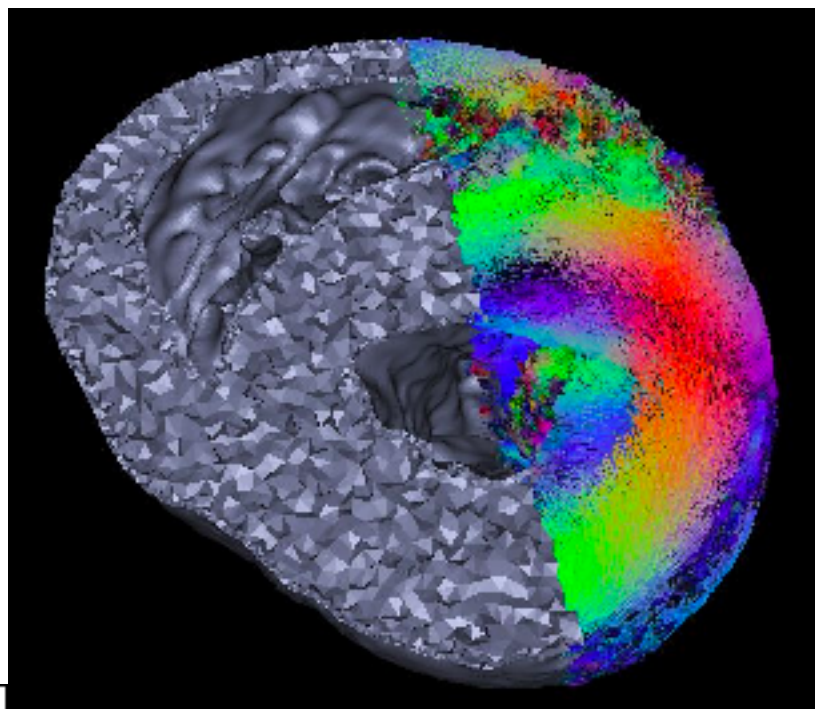
Visualization



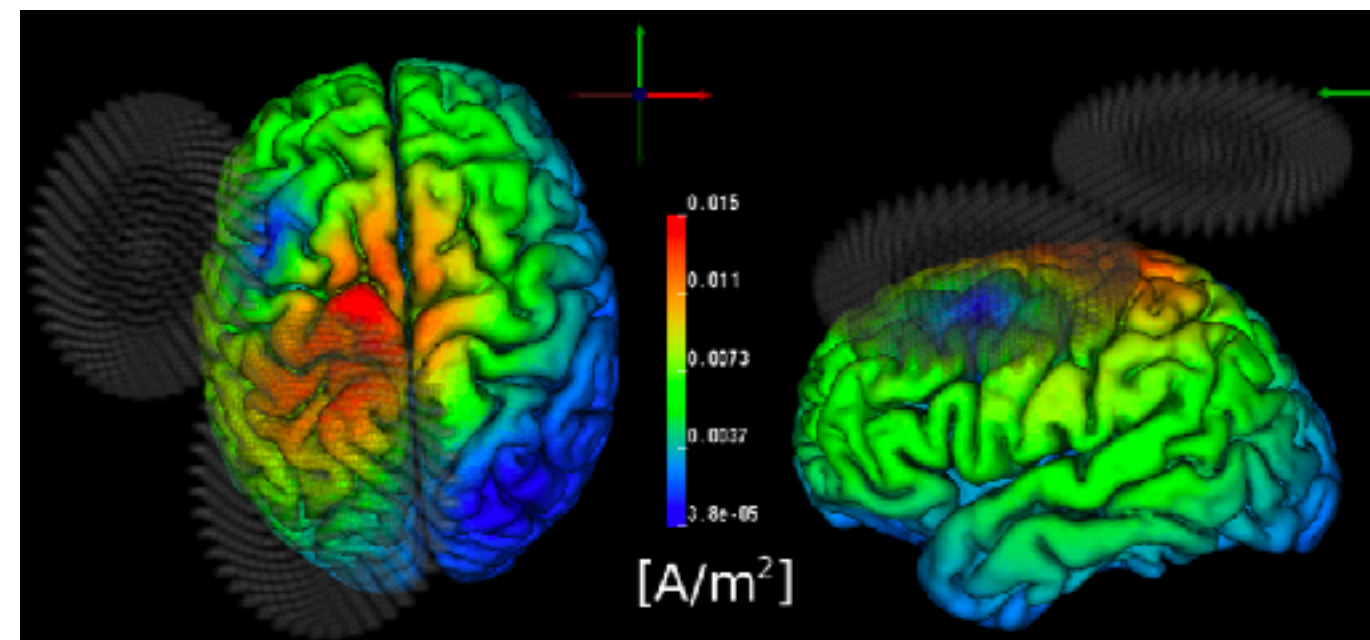
Geometric Modeling

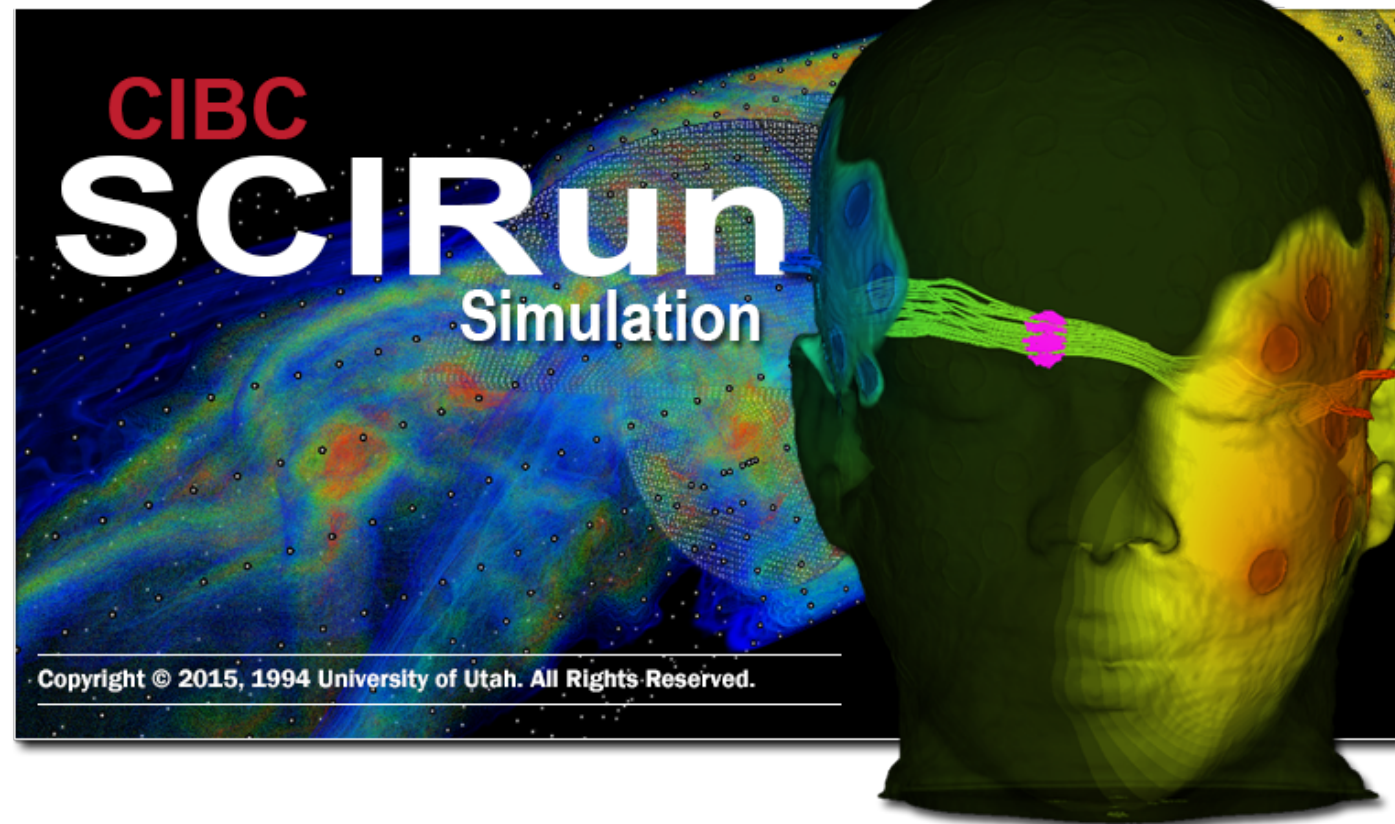


Data Processing



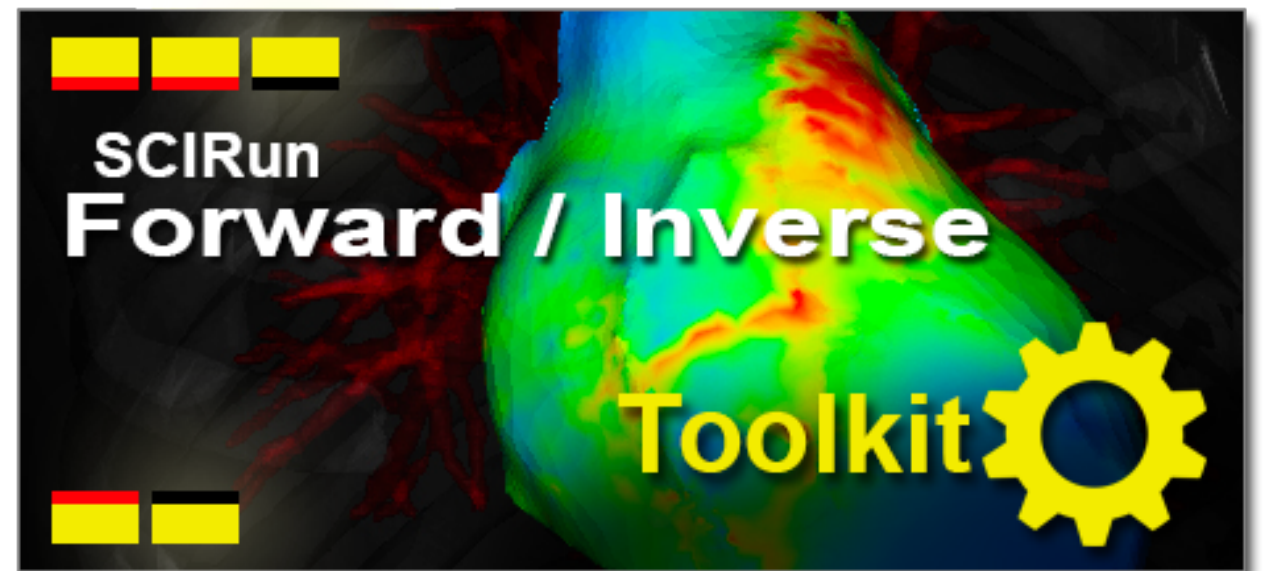
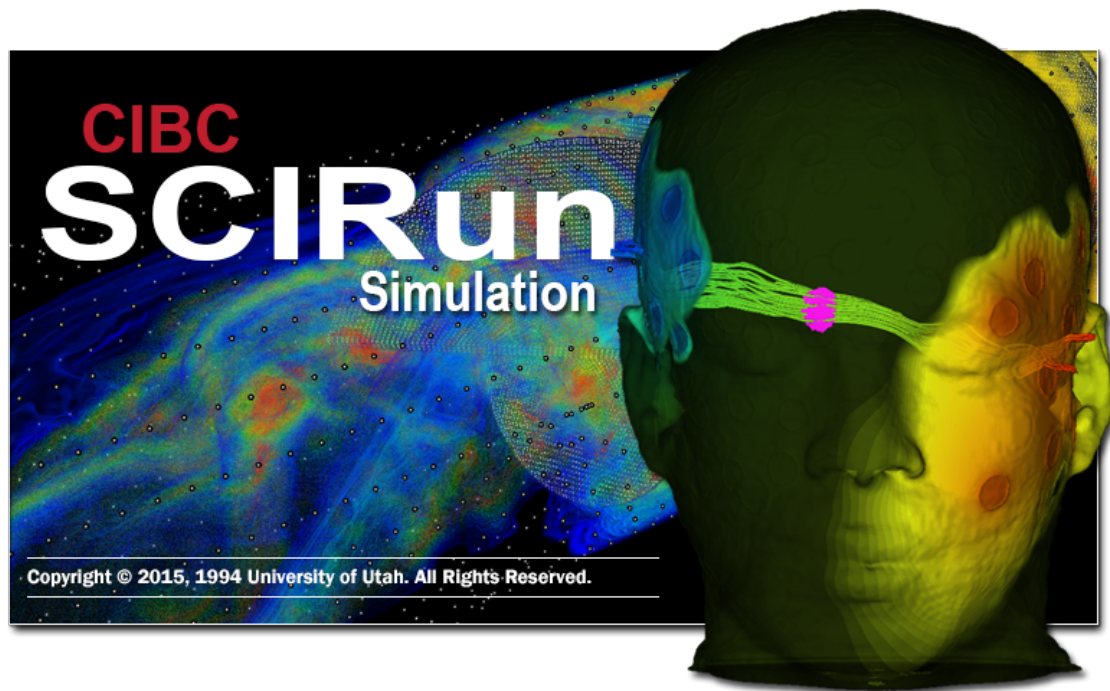
3D Simulation





# Integrate and Versatile





Please try the demos  
and ask us questions