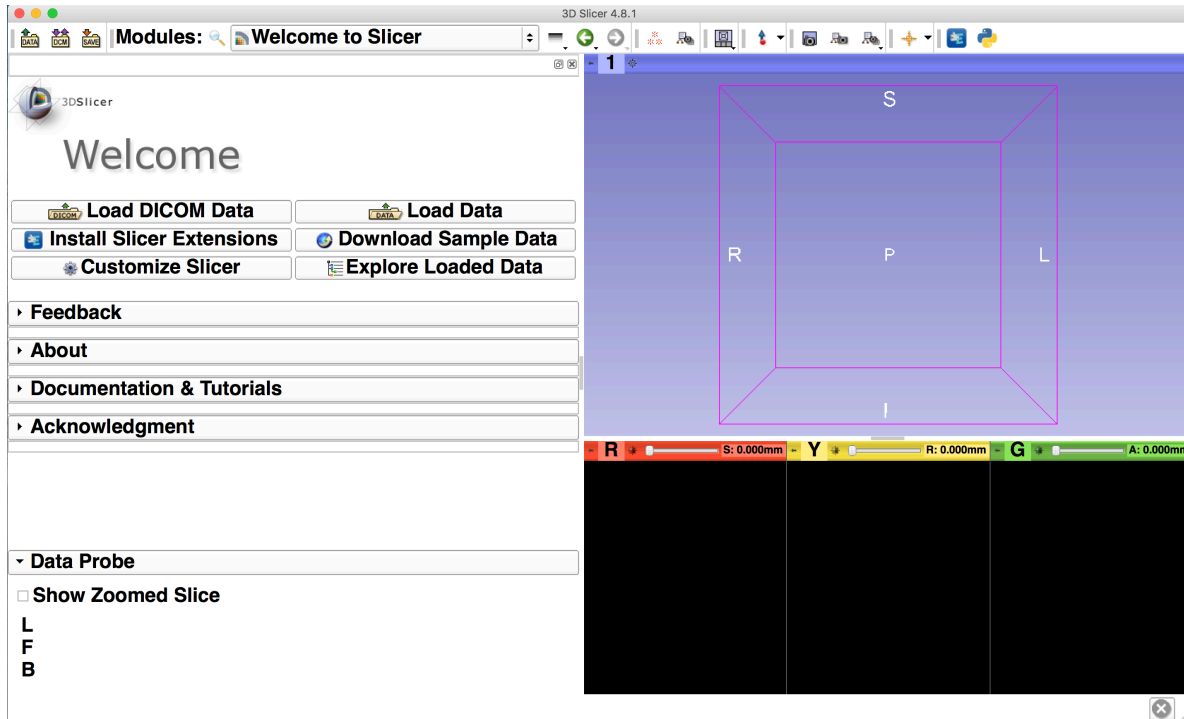


# Slicer Welcome

Sonia Pujol, Ph.D.

Assistant Professor of Radiology  
Brigham and Women's Hospital  
Harvard Medical School

# Goal

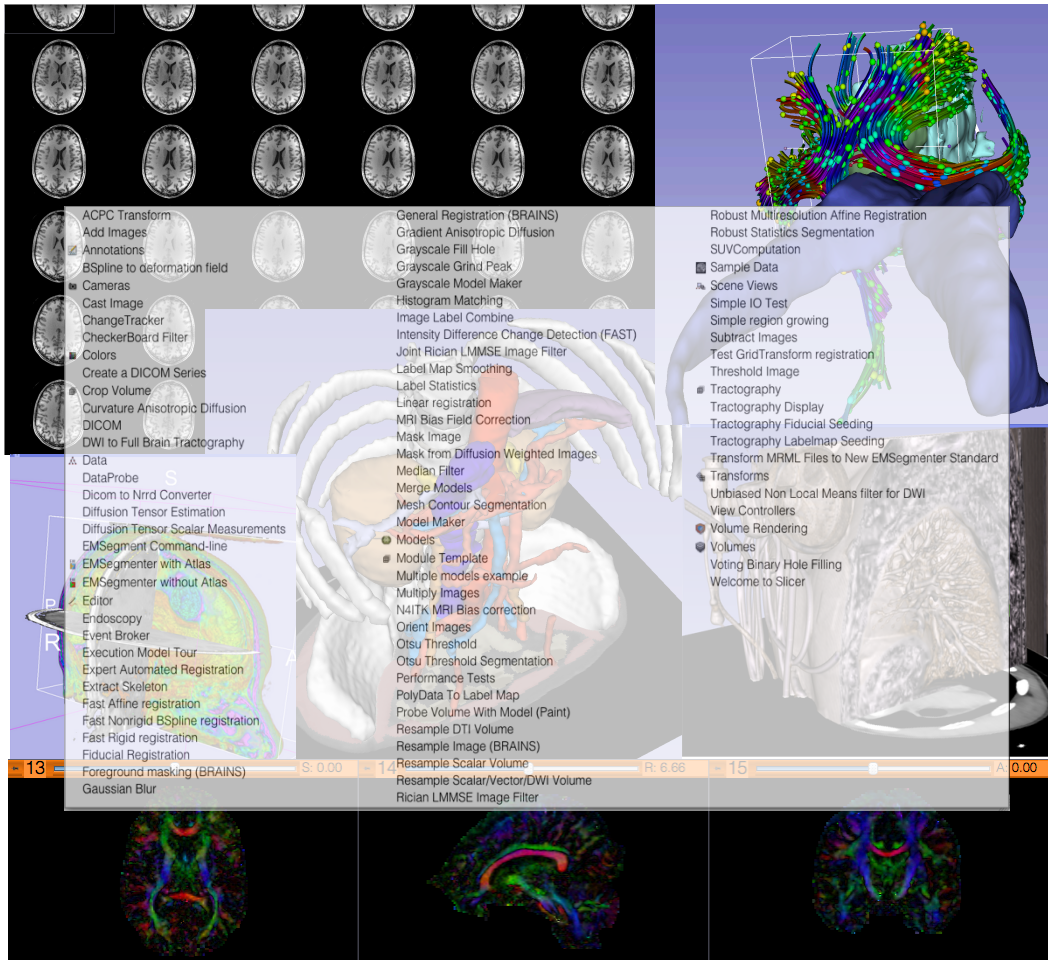


This tutorial is a short introduction to the Welcome module of the Slicer open-source software.

# Slicer4 Basics

- Slicer is an open-source software for segmentation, registration and visualization of medical imaging data
- The platform is developed through a multi-institution effort of several NIH funded large-scale consortia.
- Slicer is for medical research only, and is not FDA approved

# Slicer4 Basics



3D Slicer 4 version 4.8.1 includes 130 modules and 74 extensions for image segmentation, registration and 3D visualization of medical imaging data.

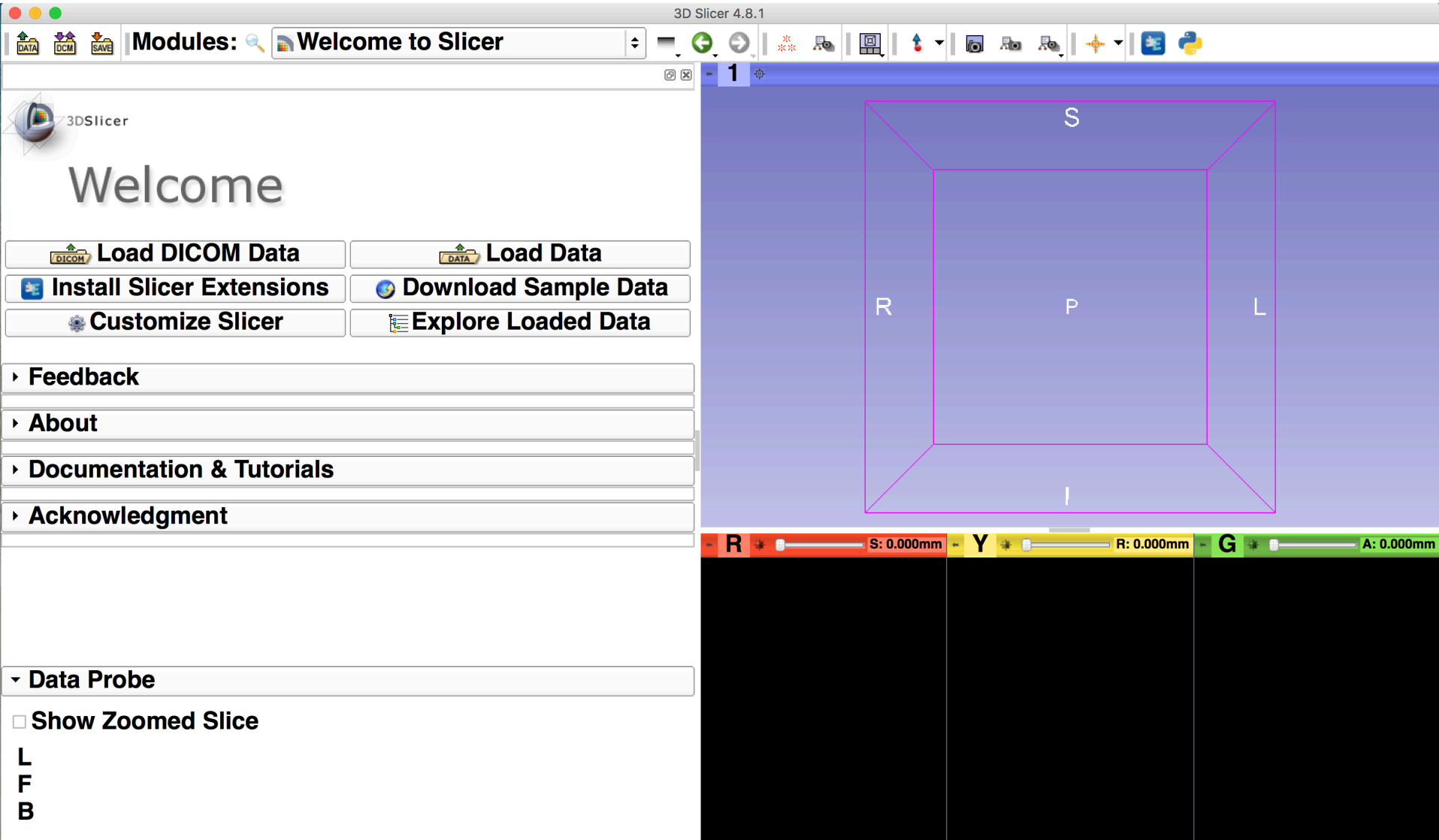
Images courtesy of Ron Kikinis, MD

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ARR 2011-2018

# Supported Platforms

- Slicer is a multi-platform software developed and maintained on Mac OSX, Linux and Windows.
- Slicer requires a minimum of 2 GB of RAM and a dedicated graphic accelerator with 64 MB of on-board graphic memory.

# 3D Slicer version 4.8



# Welcome to Slicer

3D Slicer 4.8.1

Modules: Welcome to Slicer

## Welcome

Feedback

About

3D Slicer is a free open source software platform for medical image processing and 3D visualization of image data. This module contains some basic information and useful links to get you started using Slicer. For more information, please visit our website <http://www.slicer.org>.

3D Slicer is distributed under a BSD-style license; for details about the contribution and software license agreement please see the [3D Slicer Software License](#)

Data Probe

Show Zoomed Slice

L  
F  
B

Each module of Slicer includes a series of tabs, which give access different functionalities.

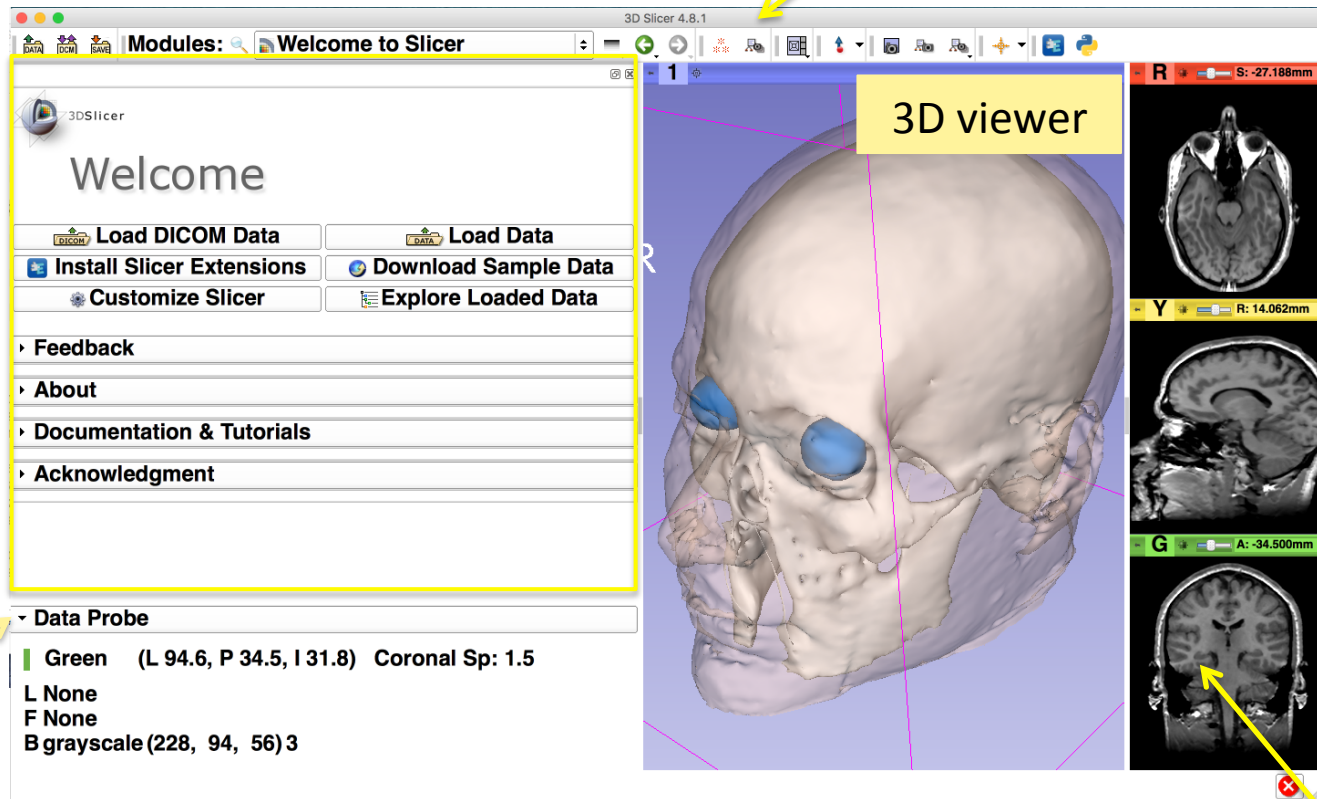
Click on the arrow symbol to display the content of each tab.

R A: 0.000mm

7

# Slicer User Interface

Toolbar



User Interface (UI) panel of the Slicer Welcome Module

3D viewer

Data Probe

2D anatomical viewers



# Welcome Module

3D Slicer 4.8.1

Modules: Welcome to Slicer

## Welcome

**Load DICOM Data** | **Load Data**

**Install Slicer Extensions** | **Download Sample Data**

**Customize Slicer** | **Explore Loaded Data**

Feedback

About

**Documentation & Tutorials**

**Application- and Module-Specific Documentation**

- [Slicer Documentation Wiki pages.](#)
- [General application and specific module documentation.](#)
- [Mouse Buttons, "Hot-keys" and Keyboard Shortcuts.](#)
- [Supported data formats.](#)

**Data Probe**

Show Zoomed Slice

L  
F  
B

The Documentation & Tutorials tab contains links to the training compendium and documentation pages of 3D Slicer version 4.8.

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ARR 2011-2018

# Slicer 4.8 Training & Documentation

## Documentation/4.8/Training

Home < Documentation < 4.8 < Training

### Introduction: Slicer 4.8 Tutorials

- This page contains "How to" tutorials with matched sample data sets. They demonstrate how to (release) to accomplish certain tasks.
  - For tutorials for other versions of Slicer, please visit the [Slicer training portal](#).
  - For "reference manual" style documentation, please visit the [Slicer 4.8 documentation page](#)
  - For questions related to the Slicer4 Training Compendium, please send an e-mail to [Sonia Pujoi](#)
- 
- Some of these tutorials are based on older releases of 3D Slicer. The concepts are still useful but features will be different in updated versions.

#### Contents [hide]


- 1 Introduction: Slicer 4.8 Tutorials
- 2 Quick Start Guide
  - 2.1 Downloading and Installing Slicer
- 3 General Introduction
  - 3.1 Slicer Welcome Tutorial
  - 3.2 Slicer4Minute Tutorial
- 4 3D Visualization
  - 4.1 Slicer4 Data Loading and 3D Visualization
  - 4.2 Slicer4 3D Visualization of DICOM images for Radiology Applications
- 5 Programming
  - 5.1 Slicer4 Programming Tutorial
  - 5.2 Developing and contributing extensions for 3D Slicer
- 6 Segmentation
  - 6.1 Slicer4 Image Segmentation
- 7 Registration
  - 7.1 Slicer4 Image Registration
  - 7.2 Slicer Registration Case Library
- 8 Slicer Extensions
  - 8.1 Slicer4 Diffusion Tensor Imaging Tutorial
  - 8.2 Slicer4 Neurosurgical Planning Tutorial
  - 8.3 Slicer4 Quantitative Imaging tutorial
  - 8.4 Slicer4 IGT

## Documentation/4.8

Home < Documentation < 4.8

Nightly 4.8 4.6 4.5 4.4 4.3 4.2 4.1 4.0 3.6 3.5 3.4 3.2 ALL VERSIONS

### Where to start ?

- [Getting started](#)  
Quick overview about Slicer
- [Training pages](#)  
Information on how to use Slicer 4.8
- [FAQ](#)  
Set of common questions/answers
- [Discussion Forum](#)   
The most effective way to get help from the community

### How to

- [Report a problem / Create a feature request](#) **NEW**

### Slicer Application

- [Installation / Uninstallation](#)
- [Main Application User-Interface](#)
- [Application Settings](#)
- [Extensions Manager](#)
- [Mouse Buttons, "Hot-keys" and Keyboard Shortcuts](#)
- [Recommended Computer Configurations](#)
- [Loading or Saving data and listing of supported data formats.](#)
- [Slicer Lookup Tables](#)


### Modules

-  [Annotations](#)
  -  [Data](#)
  -  [Data Store](#)
  -  [DICOM](#)
  -  [Editor](#)
  -  [Markups](#)
  -  [Models](#)
  -  [Scene Views](#)
  - [Segmentations](#)
  -  [Segment Editor](#) 
  -  [Transforms](#)
  -  [View Controllers](#)
  -  [Volume Rendering](#)
  -  [Volumes](#)
  -  [Welcome to Slicer](#)
- [Modules by category](#)
  - [Modules by name](#)
  - [Modules by contributing organization](#)
  - [Modules by contributing individual](#)
  - [Modules by type](#)
  - [Modules by extension](#)
  - [Extensions by category](#)
  - [Extensions by name](#)
  - [Extensions by contributing organization](#)
  - [Extensions by contributing individual](#)

### Developers Corner

- [Information for Software Developers](#) **UPDATED**  
Source code, contribute patch, develop modules

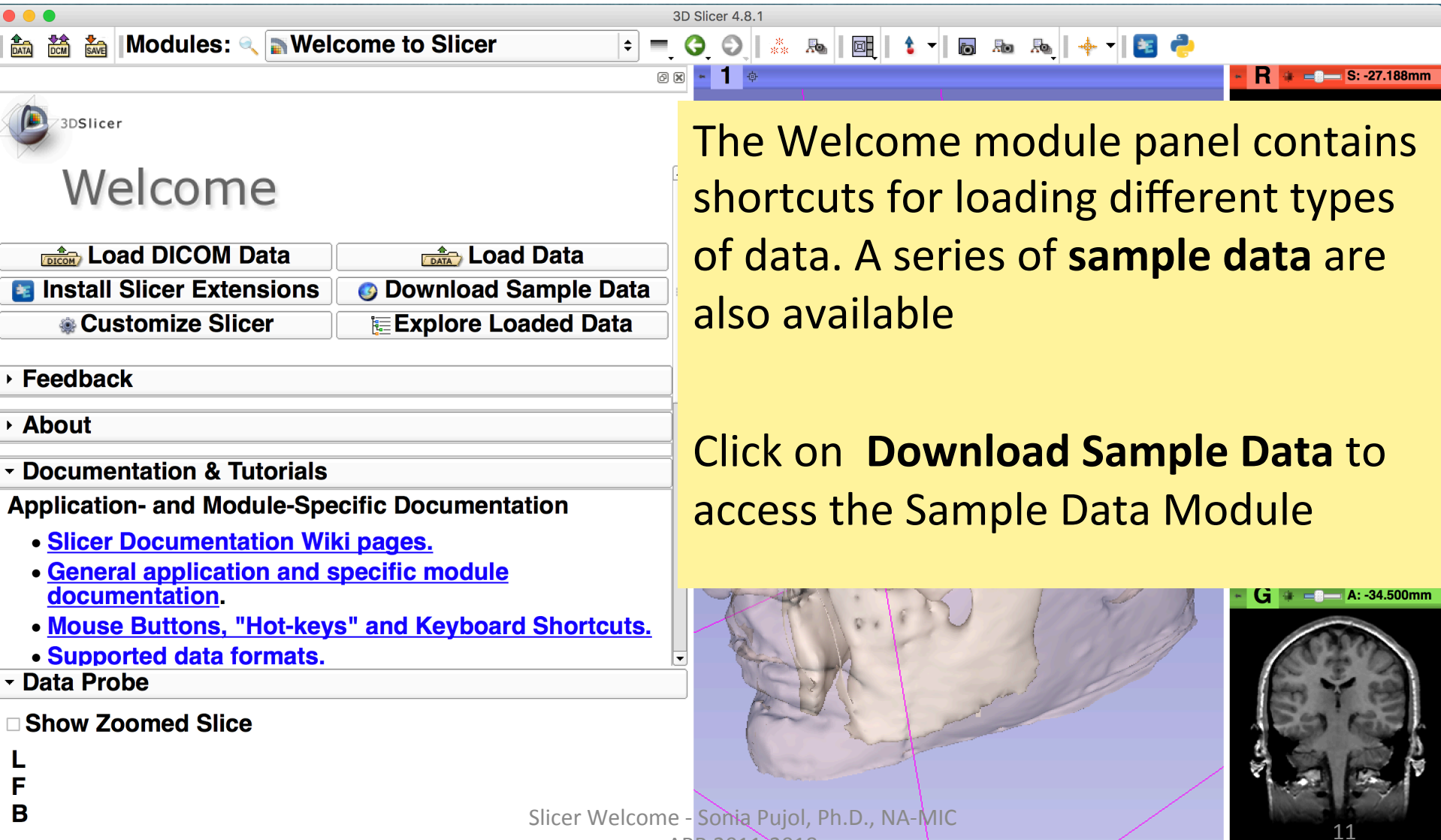
### Miscellaneous

- [Documentation guidelines](#)  
Slicer user documentation principle and guidelines
- [Visual blog](#)  
Set of screenshots showing Slicer in action.
- [Release Notes](#)  
Platform specific issues and considerations
- [Announcements & Acknowledgments](#)
- [Registration Library](#)   
Real-life example cases of using the Slicer registration tools, incl. datasets and step-by-step instructions to follow and try yourself.

### Documentation in other languages

- [Español](#)

# Welcome Module



The screenshot shows the 3D Slicer 4.8.1 interface. The top toolbar includes icons for DATA, DCM, SAVE, and a search icon. The 'Modules' dropdown menu is set to 'Welcome to Slicer'. The main panel displays the 'Welcome' module with the following options:

- Load DICOM Data
- Load Data
- Install Slicer Extensions
- Download Sample Data
- Customize Slicer
- Explore Loaded Data

Below these are sections for Feedback, About, and Documentation & Tutorials. The Documentation & Tutorials section includes:

- Application- and Module-Specific Documentation
  - [Slicer Documentation Wiki pages.](#)
  - [General application and specific module documentation.](#)
  - [Mouse Buttons, "Hot-keys" and Keyboard Shortcuts.](#)
  - [Supported data formats.](#)
- Data Probe
  - Show Zoomed Slice

On the left side, there are labels for 'L', 'F', and 'B' (Left, Front, Back views).

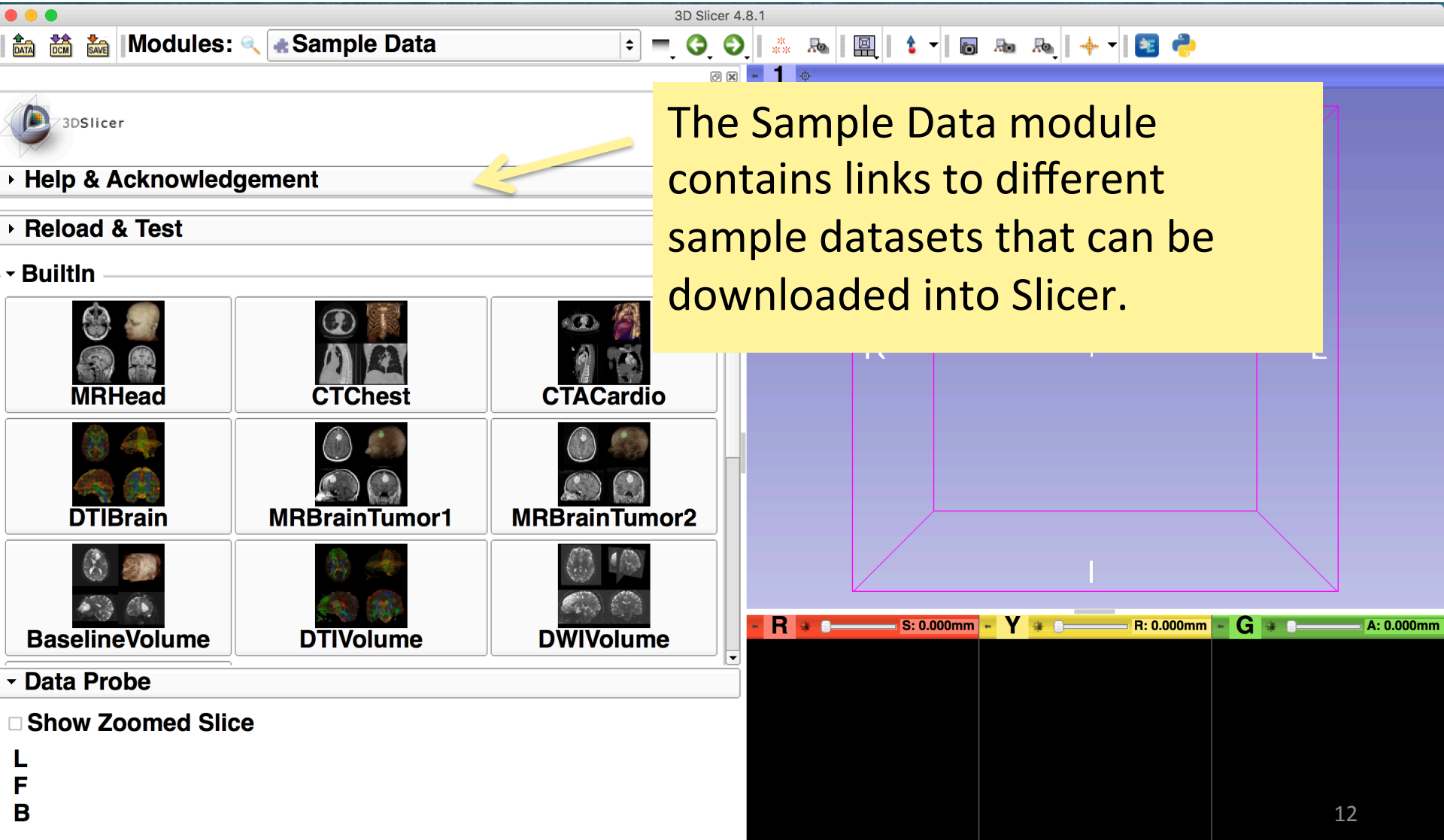
The right side of the interface shows a 3D model of a human head and a coronal MRI slice. The 3D model is labeled '1' and the MRI slice is labeled 'G' and 'A: -34.500mm'. The MRI slice is labeled '11' at the bottom.

The Welcome module panel contains shortcuts for loading different types of data. A series of **sample data** are also available

Click on **Download Sample Data** to access the Sample Data Module

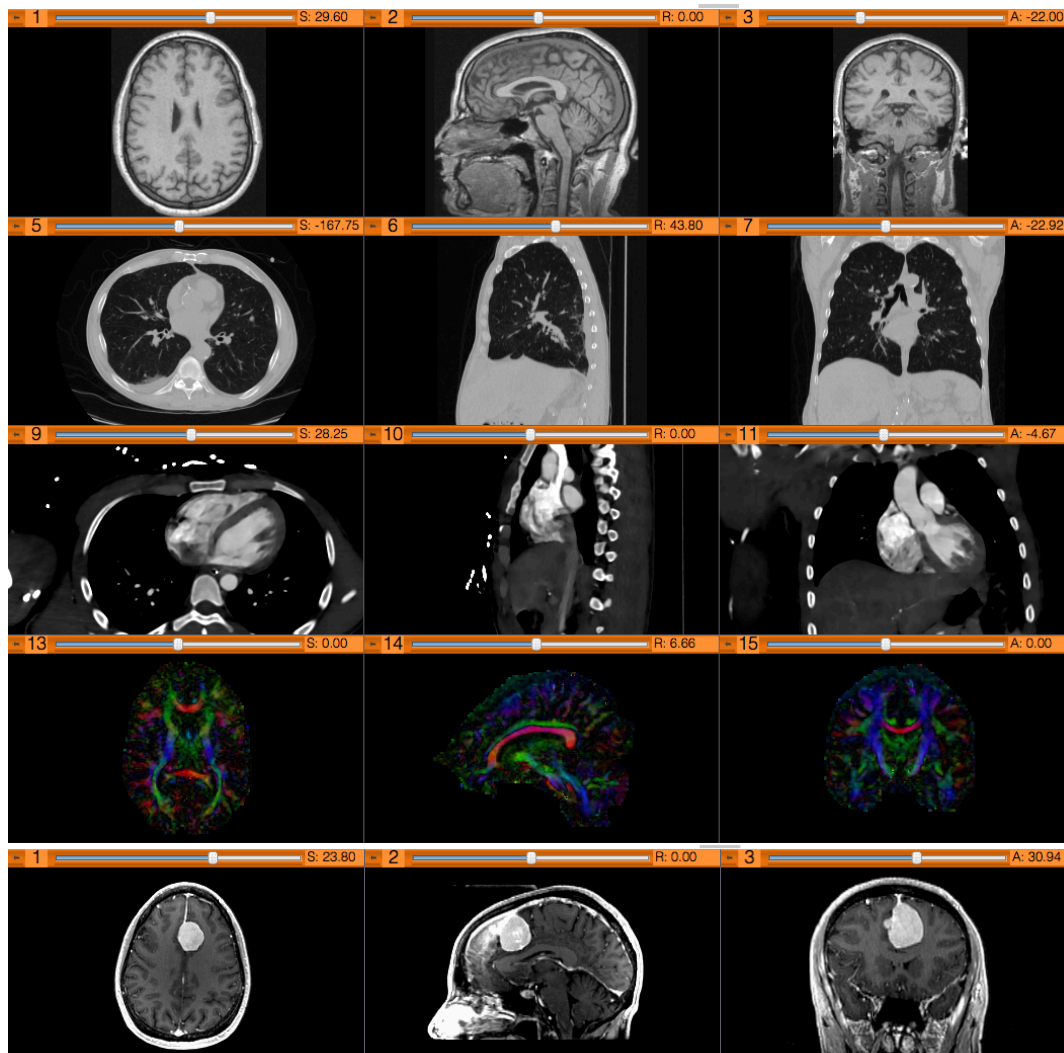


# Sample Data



The Sample Data module contains links to different sample datasets that can be downloaded into Slicer.

# Sample Data



Brain MRI

Chest CT

Cardiac CT

Diffusion Tensor  
Imaging (DTI) Dataset

Brain MRI  
(tumor patient)

# Sample Data

The screenshot displays the 3D Slicer 4.8.1 interface. The top toolbar shows the 'Sample Data' module selected. The left sidebar lists categories: 'Help & Acknowledgement', 'Reload & Test', and 'Builtin'. Under 'Builtin', there is a grid of data probes: MRHead, CT Chest, CT Cardio, DTI Brain, MR Brain Tumor 1, MR Brain Tumor 2, Baseline Volume, DTI Volume, and DWI Volume. A yellow callout box with an arrow points to the MRHead icon, containing the text: 'Click on MRHead to download the dataset in Slicer.' Below the grid is the 'Data Probe' section with a checkbox for 'Show Zoomed Slice'. The main 3D view shows a purple coordinate system with axes labeled R (Right), P (Posterior), L (Left), and I (Inferior). At the bottom, there are sliders for R (0.000mm), Y (0.000mm), G (0.000mm), and A (0.000mm).

Click on **MRHead** to download the dataset in Slicer.

L  
F  
B

# Welcome Module

The screenshot displays the 3D Slicer 4.8.1 software interface. At the top, the title bar reads '3D Slicer 4.8.1'. Below it, the 'Modules' dropdown menu is set to 'Sample Data'. The left sidebar contains a 'BuiltIn' section with a grid of data probe thumbnails: MRHead, CT Chest, CTACardio, DTIBrain, MRBrainTumor1, MRBrainTumor2, BaselineVolume, DTIVolume, and DWIVolume. Below this is a 'Data Probe' section with a 'Show Zoomed Slice' checkbox and orientation labels 'L', 'F', and 'B'. The main workspace is a large purple area with a yellow text box stating 'The MR scan of the brain appears in the 2D viewers.' Below the workspace, a control bar shows slice coordinates: 'R' (S: -10.214mm), 'Y' (R: -2.145mm), and 'G' (A: 6.929mm). At the bottom, three 2D viewers show axial, sagittal, and coronal slices of a brain MR scan.

The MR scan of the brain appears in the 2D viewers.

# MR Brain Sample Dataset

The screenshot displays the 3D Slicer 4.8.1 software interface. The top toolbar includes icons for DATA, DICOM, and SAVE. The 'Modules' dropdown is set to 'Sample Data'. The left sidebar shows the '3DSlicer' logo and a menu with 'Help & Acknowledgement', 'Reload & Test', and 'BuiltIn'. Under 'BuiltIn', there is a grid of dataset thumbnails with labels: MRHead, CT Chest, CTACardio, DTIBrain, MRBrainTumor1, MRBrainTumor2, BaselineVolume, DTIVolume, and DWIVolume. Below this is a 'Data Probe' section with a 'Show Zoomed Slice' checkbox and orientation indicators L, F, B. The main 3D viewer area shows a purple wireframe box with a white 'S' label. A yellow callout box with a yellow arrow points to a small pin icon in the top-left corner of the viewer. Below the viewer is a control bar with 'R', 'S: -10.214mm', 'Y', '5mm', 'G', and 'A: 6.929mm'. At the bottom, there is a 'Slicer Welcome - Soni' window and a '16' label in the bottom right corner of the viewer area.

3D Slicer 4.8.1

Modules: Sample Data

3DSlicer

- Help & Acknowledgement
- Reload & Test
- BuiltIn
  - MRHead
  - CT Chest
  - CTACardio
  - DTIBrain
  - MRBrainTumor1
  - MRBrainTumor2
  - BaselineVolume
  - DTIVolume
  - DWIVolume
- Data Probe
  - Show Zoomed Slice
  - L
  - F
  - B

Position the mouse on the little pin icon in the top left corner of the red viewer to display the viewer menu

R S: -10.214mm Y 5mm G A: 6.929mm

1.00 None

0.00 None

1.00 MRHead\_1

Slicer Welcome - Soni

ARR 201

16



# MR Brain Sample Dataset

The screenshot displays the 3D Slicer 4.8.1 software interface. The top toolbar includes icons for DATA, DCM, and SAVE. The 'Modules' dropdown is set to 'Sample Data'. The left sidebar contains a menu with 'Help & Acknowledgement', 'Reload & Test', and 'BuiltIn'. Under 'BuiltIn', there are nine data probe thumbnails: MRHead, CT Chest, CTACardio, DTIBrain, MRBrainTumor1, MRBrainTumor2, BaselineVolume, DTIVolume, and DWIVolume. Below these is a 'Data Probe' section with a 'Show Zoomed Slice' checkbox and orientation labels L, F, B. The main 3D view shows a purple brain slice with a white box labeled 'S'. A yellow callout box points to the 'MRHead' data probe, containing the text: 'Click on the link icon to link all three 2D viewers, and on the eye icon next to it to display the slices in the 3D viewer'. The bottom right shows a 2D view of the brain slice with a yellow arrow pointing to the 'MRHead\_1' data probe in the 'Axi' view, which has a checked eye icon. The bottom status bar shows 'R', 'S: -10.214mm', 'Y', '5mm', 'G', and 'A: 6.929mm'.

3D Slicer 4.8.1

Modules: Sample Data

3DSlicer

Help & Acknowledgement

Reload & Test

BuiltIn

MRHead

CT Chest

CTACardio

DTIBrain

MRBrainTumor1

MRBrainTumor2

BaselineVolume

DTIVolume

DWIVolume

Data Probe

Show Zoomed Slice

L

F

B

Click on the link icon to link all three 2D viewers, and on the eye icon next to it to display the slices in the 3D viewer

R S: -10.214mm Y 5mm G A: 6.929mm

Axi

1.00 None

0.00 None

1.00 MRHead\_1

# MR Brain Sample Dataset

3DSlicer 4.8.1

Modules: Sample Data

Help & Acknowledgement

Reload & Test

BuiltIn

MRHead

CTChest

CTACardio

DTI

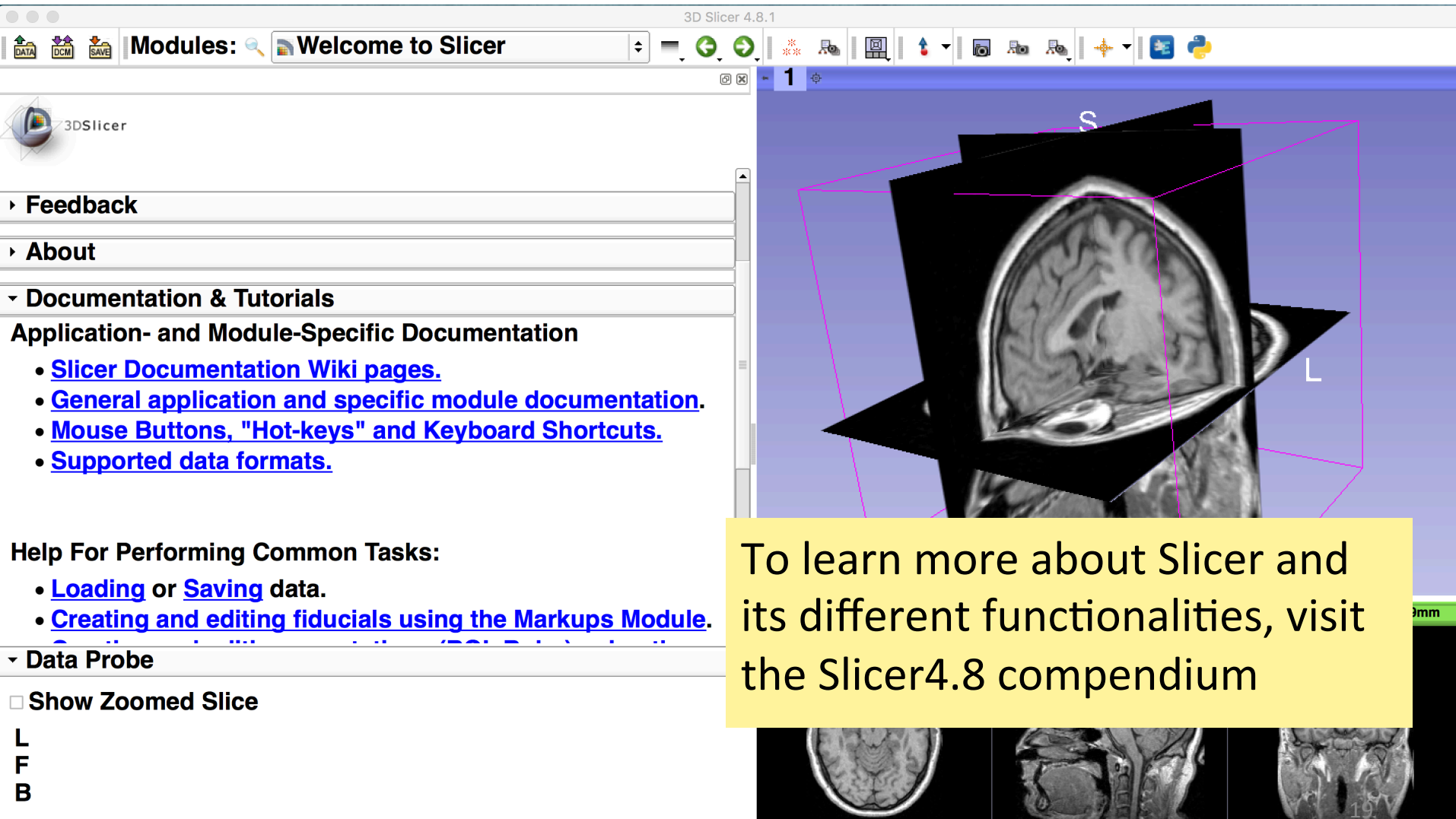
The axial, coronal and sagittal slices appear in the 3D viewer.  
Go back to the Welcome module using the green arrow in the toolbar

Y S: -10.214mm R: -2.145mm G A: 6.929mm

Axia Sagi Corc

L  
F  
B

# Going Further



3D Slicer 4.8.1

Modules: Welcome to Slicer

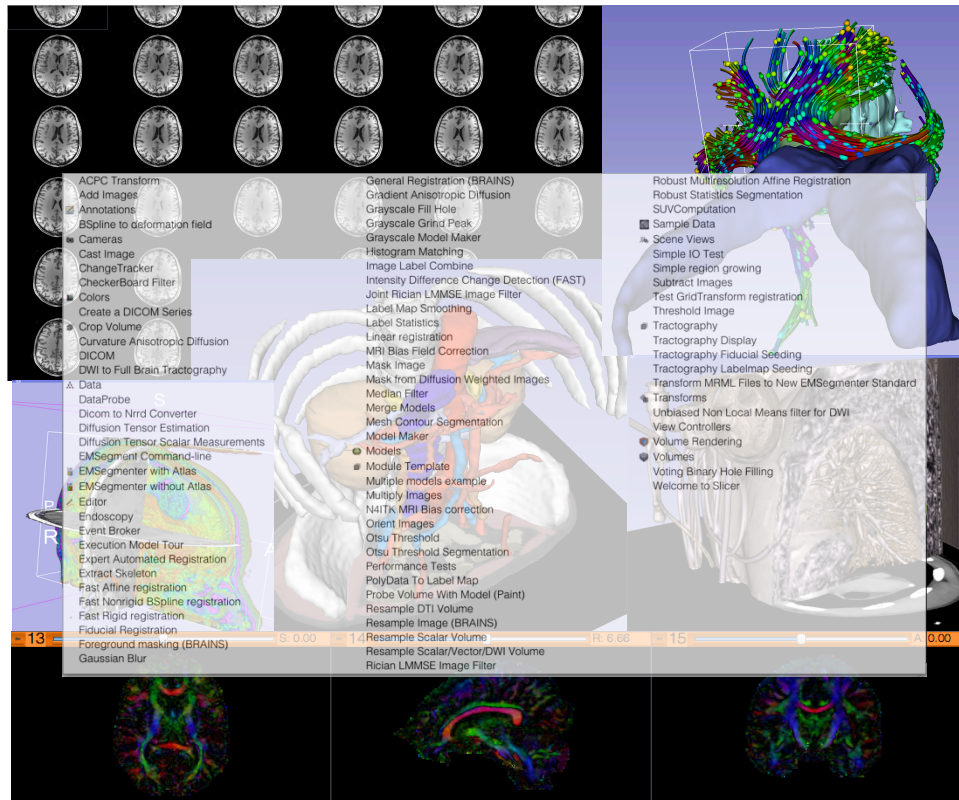
3DSlicer

- Feedback
- About
- Documentation & Tutorials
  - Application- and Module-Specific Documentation
    - [Slicer Documentation Wiki pages.](#)
    - [General application and specific module documentation.](#)
    - [Mouse Buttons, "Hot-keys" and Keyboard Shortcuts.](#)
    - [Supported data formats.](#)
- Help For Performing Common Tasks:
  - [Loading or Saving data.](#)
  - [Creating and editing fiducials using the Markups Module.](#)
- Data Probe
  - Show Zoomed Slice

L  
F  
B

To learn more about Slicer and its different functionalities, visit the Slicer4.8 compendium

# Going Further



<http://www.slicer.org/slicerWiki/index.php/Documentation/4.8/Training>

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**Neuroimage Analysis Center**

NIH P41EB015902