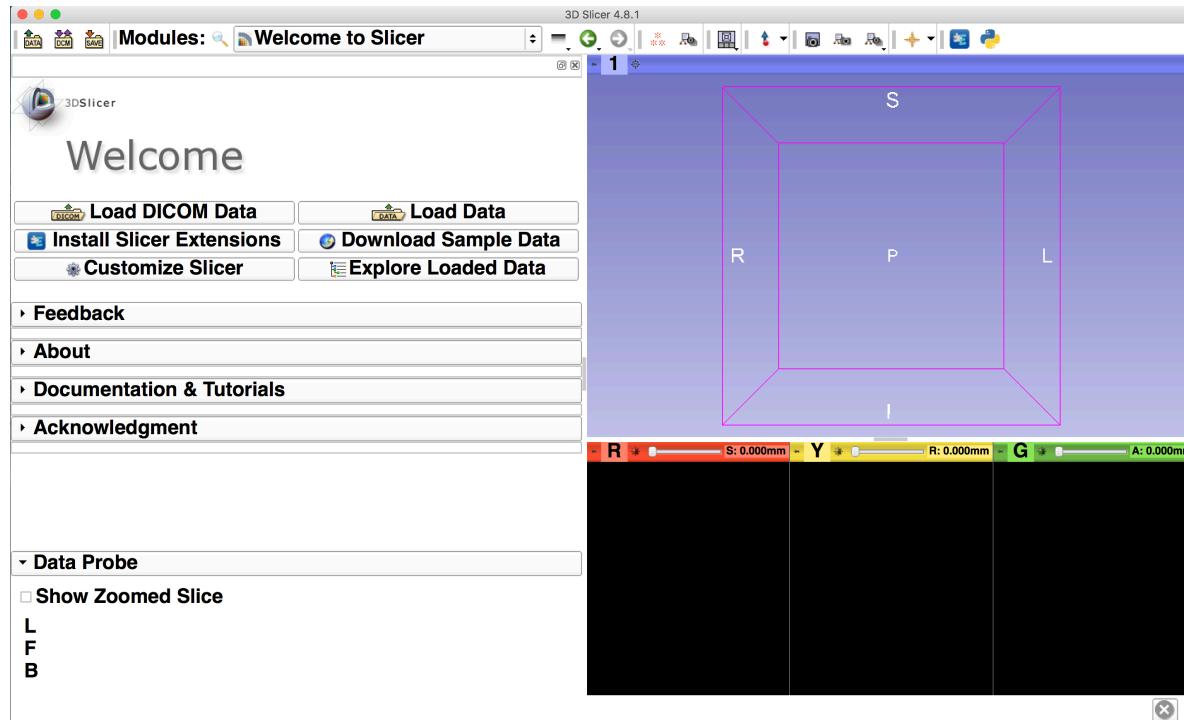


Slicer Welcome

Sonia Pujol, Ph.D.

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

Goal

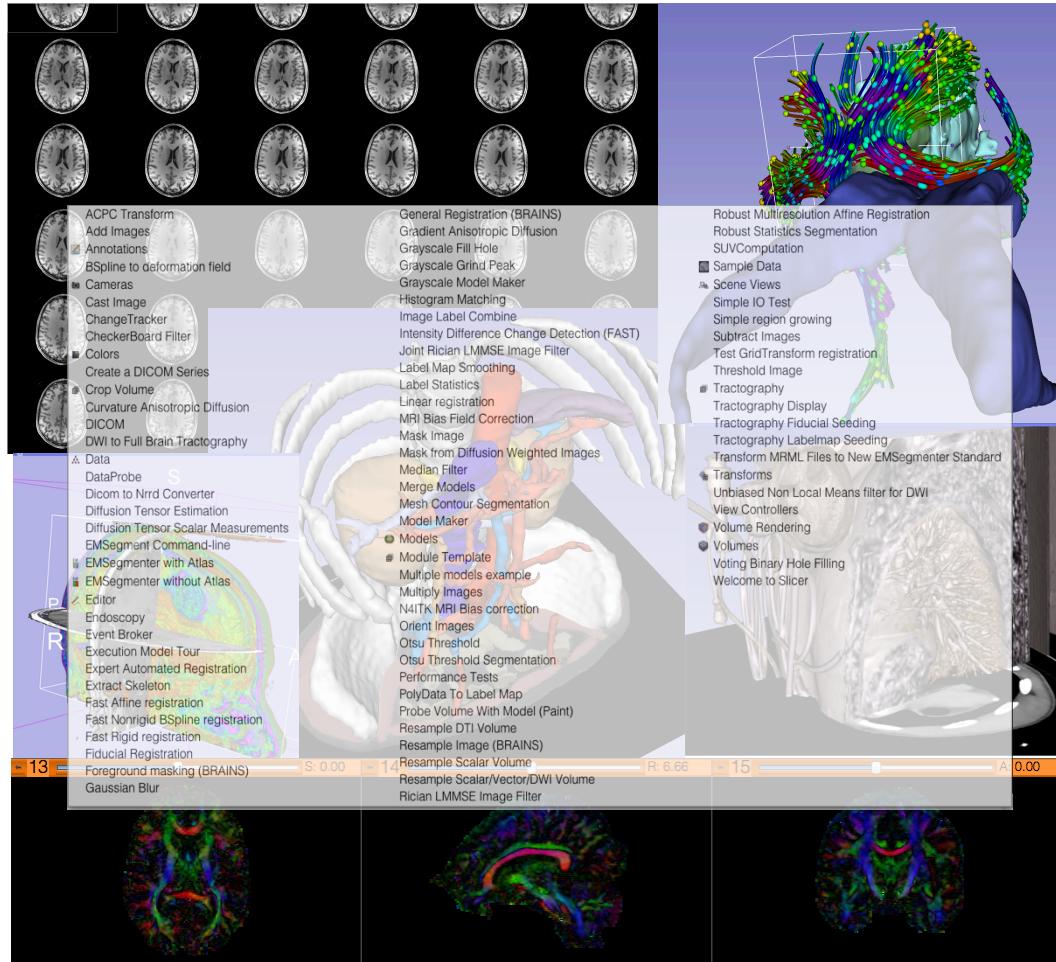


This tutorial is a short introduction to the Welcome module of the Slicer open-source software.

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



Images courtesy of Ron Kikinis, MD

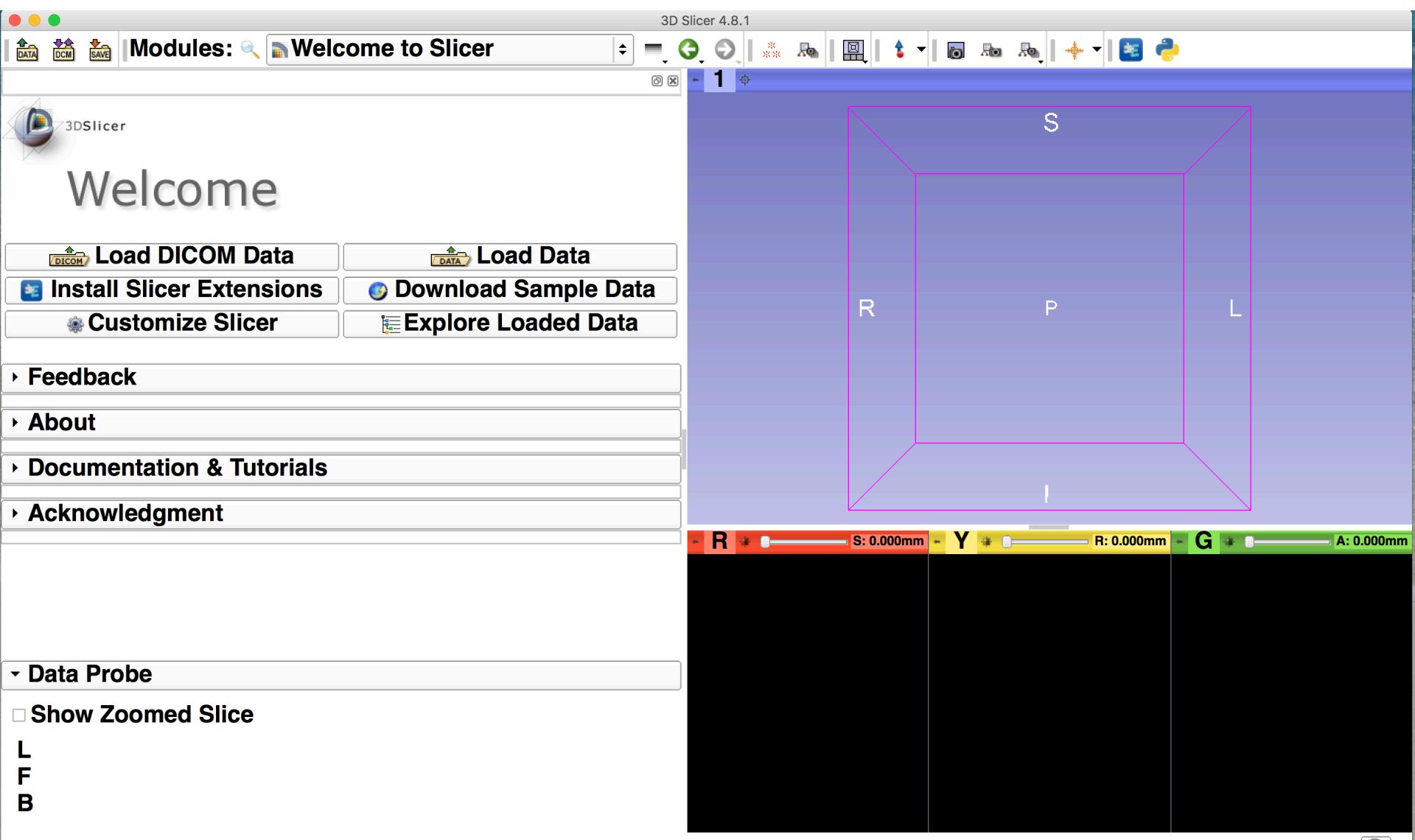
Slicer Welcome - Sonia Pujol, Ph.D., NA-MIC
ARR 2011-2018

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

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

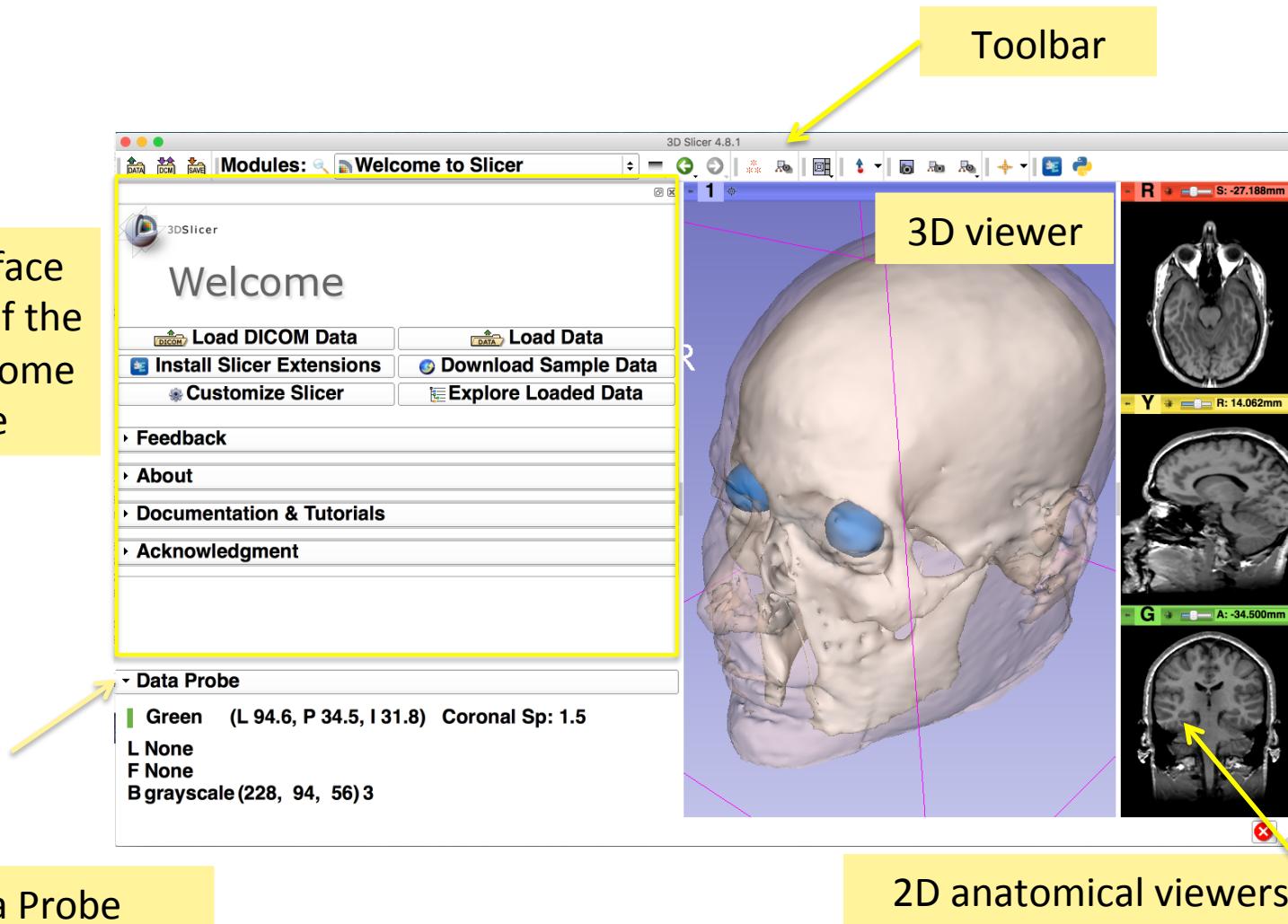
The screenshot shows the 3D Slicer 4.8.1 application window. The title bar reads "3D Slicer 4.8.1". The toolbar includes icons for DATA, DICOM, and SAVE, followed by a "Modules" dropdown set to "Welcome to Slicer". Below the toolbar is a menu bar with "File", "Edit", "View", "Module", "Help", and "Python". The main window has a "3DSlicer" icon and the title "Welcome". A sidebar on the left contains buttons for "Load DICOM Data", "Load Data", "Install Slicer Extensions", "Download Sample Data", and "Customize Slicer". It also has sections for "Feedback", "About", and "Data Probe". The "About" section is expanded, showing text about 3D Slicer being a free open source platform for medical image processing and visualization, along with a link to <http://www.slicer.org>. A yellow arrow points to the "About" section. At the bottom left, there are checkboxes for "Show Zoomed Slice" and letters L, F, B. The main workspace shows a 3D volume rendering with a red slice plane labeled "R". A yellow callout box on the right side of the screen contains the text: "Each module of Slicer includes a series of tabs, which give access to different functionalities." Another yellow callout box below it contains the text: "Click on the arrow symbol to display the content of each tab." A small red "X" icon is in the bottom right corner of the slide.

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

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

Slicer User Interface

User Interface (UI) panel of the Slicer Welcome Module



Data Probe

2D anatomical viewers

Welcome Module

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

3D Slicer 4.8.1

Modules: Welcome to Slicer

DATA DCM SAVE

3DSlicer

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

Slicer Welcome - Sonia Pujol, Ph.D., NA-MIC
ARR 2011-2018

R S: -27.188mm

G A: -34.500mm

9

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 (or how not 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 Pujo](#)
- 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
- ### 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 | Transforms | View Controllers | Volume Rendering | Volumes | Welcome to Slicer |
| <ul style="list-style-type: none">Modules by categoryModules by nameModules by contributing organizationModules by contributing individualModules by typeModules by extensionExtensions by categoryExtensions by nameExtensions by contributing organizationExtensions by contributing individual | <ul style="list-style-type: none">Modules by categoryModules by nameModules by contributing organizationModules by contributing individualModules by typeModules by extensionExtensions by categoryExtensions by nameExtensions by contributing organizationExtensions by contributing individual | <ul style="list-style-type: none">Source code, contribute patch, develop modules | <ul style="list-style-type: none">Documentation guidelinesVisual blogRelease NotesAnnouncements & AcknowledgmentsRegistration Library Real-life example cases of using the Slicer registration tools, incl. datasets and step-by-step instructions to follow and try yourself. | | | | | | | | | | |

Developers Corner

- Information for Software Developers

Source code, contribute patch, develop modules

Miscellaneous

- Documentation guidelines
- Visual blog
- Release Notes
- 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 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

The screenshot shows the 3D Slicer 4.8.1 interface. The title bar says "3D Slicer 4.8.1". The toolbar has icons for file operations (New, Open, Save, Print, etc.). The "Modules" dropdown is set to "Welcome to Slicer". The main window has a yellow background with the text above. On the left, there's a sidebar with "Welcome" and several buttons: "Load DICOM Data" (DICOM icon), "Load Data" (DATA icon), "Install Slicer Extensions" (extension icon), "Download Sample Data" (globe icon), "Customize Slicer" (gear icon). Below the sidebar are links for "Feedback", "About", and "Documentation & Tutorials". Under "Documentation & Tutorials", there's a section for "Application- and Module-Specific Documentation" with links to "Slicer Documentation Wiki pages.", "General application and specific module documentation.", "Mouse Buttons, "Hot-keys" and Keyboard Shortcuts.", and "Supported data formats.". There's also a "Data Probe" section and a "Show Zoomed Slice" checkbox. On the right, there's a 3D rendering of a skull and a 2D grayscale brain slice. The bottom status bar says "Slicer Welcome - Sonia Pujol, Ph.D., NA-MIC ARR 2011-2018" and "A: -34.500mm". The page number "11" is in the bottom right corner.

Sample Data

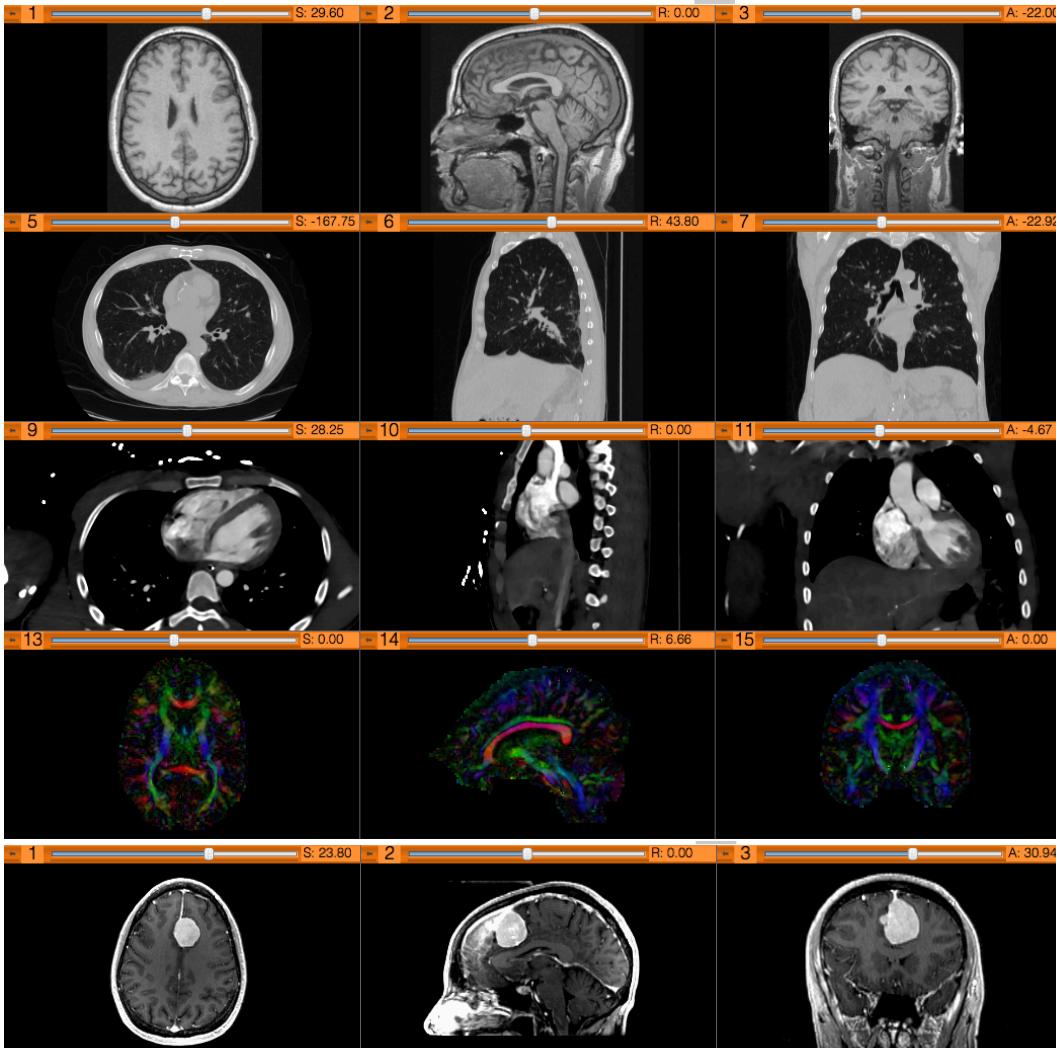
The Sample Data module contains links to different sample datasets that can be downloaded into Slicer.

The screenshot shows the 3D Slicer application window. At the top, the title bar reads "3D Slicer 4.8.1". Below it, the "Modules" dropdown menu is set to "Sample Data". The main interface features a grid of thumbnail images representing various medical datasets. A yellow callout box with an arrow points from the text above to the "Sample Data" menu item in the top bar. The datasets shown include:

- MRHead
- CTChest
- CTACardio
- DTIBrain
- MRBrainTumor1
- MRBrainTumor2
- BaselineVolume
- DTIVolume
- DWIVolume

Below the grid, there is a section titled "Data Probe" with a checkbox labeled "Show Zoomed Slice". The bottom of the interface shows a 3D coordinate system with sliders for R, Y, and G axes, all currently set to 0.000mm. The background of the main workspace is a light purple color.

Sample Data



Brain MRI

Chest CT

Cardiac CT

Diffusion Tensor
Imaging (DTI) Dataset

Brain MRI
(tumor patient)

Sample Data

3D Slicer 4.8.1

Modules: Sample Data

3DSlicer

Help & Acknowledgement

Reload & Test

BuiltIn

MRHead

CTChest

CTACardio

DTIBrain

MRBrainTumor1

MRBrainTumor2

BaselineVolume

DTIVolume

DWIVolume

Show Zoomed Slice

L
F
B

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

R S: 0.000mm Y R: 0.000mm G A: 0.000mm

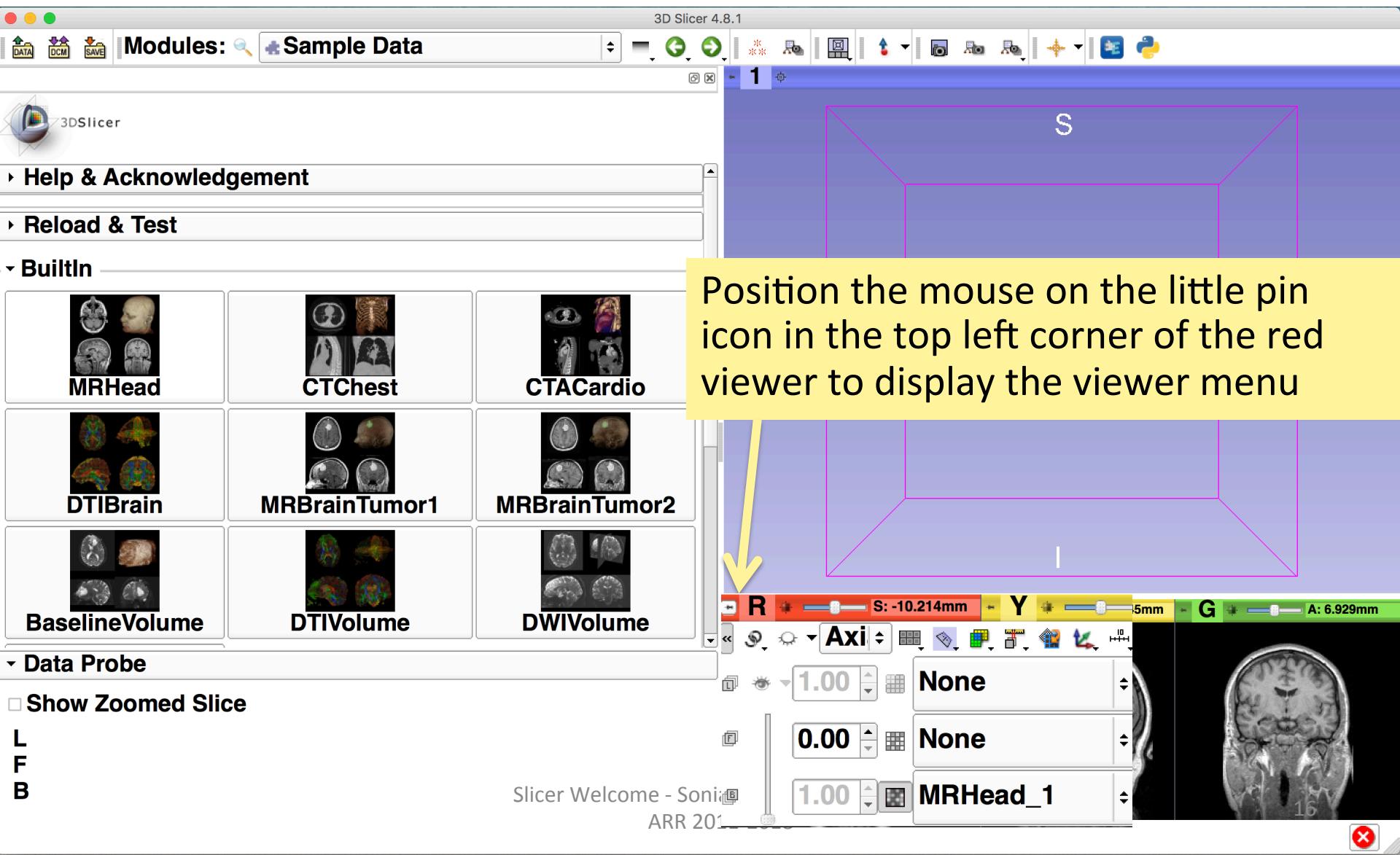
14

Welcome Module

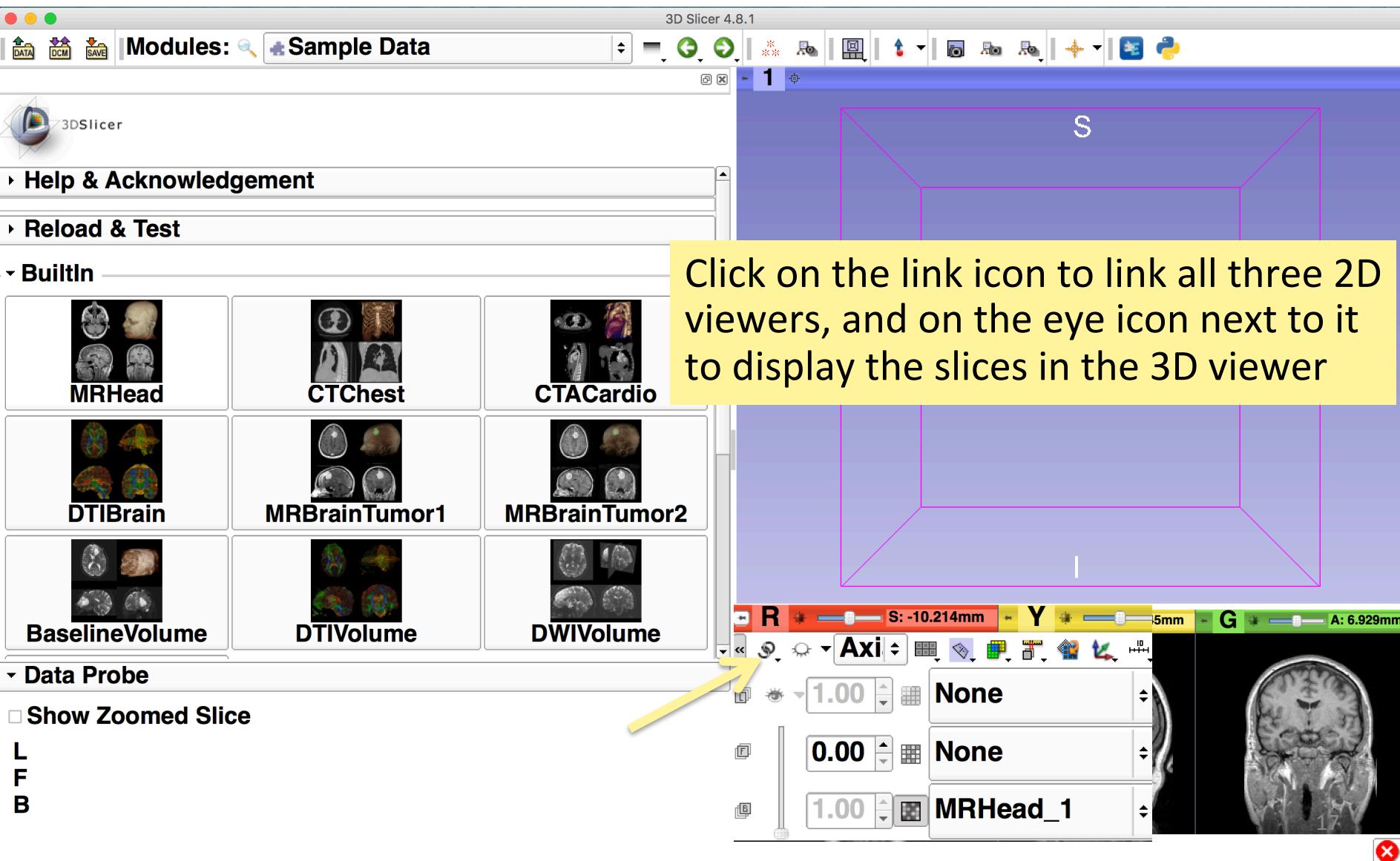
The MR scan of the brain appears in the 2D viewers.

The screenshot shows the 3D Slicer interface. On the left, there's a sidebar with various data sets: MRHead, CT Chest, CTACardio, DTIBrain, MRBrainTumor1, MRBrainTumor2, BaselineVolume, DTIVolume, and DWIVolume. A yellow callout box highlights the text "The MR scan of the brain appears in the 2D viewers." In the center, a 3D rendering of a brain volume is shown with orientation markers R (Right), P (Posterior), and L (Left). Below it, three 2D axial MRI slices are displayed, each with its own set of orientation sliders (R, Y, G) at the bottom. The top menu bar shows "Modules: Sample Data" and the version "3D Slicer 4.8.1".

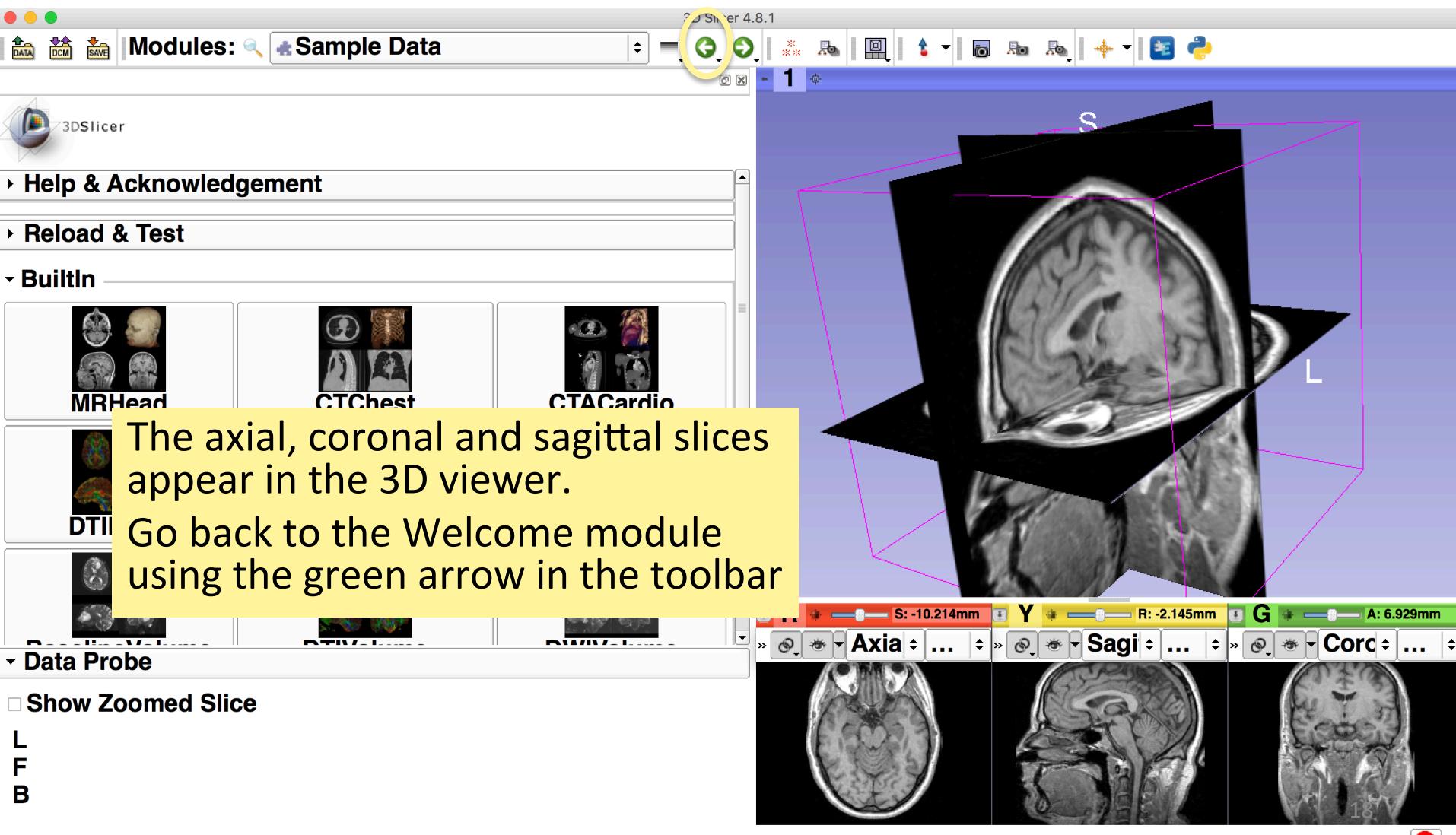
MR Brain Sample Dataset



MR Brain Sample Dataset



MR Brain Sample Dataset



Going Further

The screenshot shows the 3D Slicer 4.8.1 interface. The top bar displays the title "3D Slicer 4.8.1" and various tool icons. The main window shows a grayscale 3D volume rendering of a brain, with a pink wireframe cube highlighting a specific region. The letters "S" (Superior) and "L" (Lateral) are labeled on the cube. To the left of the main window is a vertical sidebar with the "3DSlicer" logo at the top. Below it are several sections: "Feedback", "About", and "Documentation & Tutorials". Under "Documentation & Tutorials", there is a section titled "Application- and Module-Specific Documentation" containing links to "Slicer Documentation Wiki pages.", "General application and specific module documentation.", "Mouse Buttons, "Hot-keys" and Keyboard Shortcuts.", and "Supported data formats.". At the bottom of the sidebar, there is a section titled "Help For Performing Common Tasks:" with links to "Loading or Saving data." and "Creating and editing fiducials using the Markups Module.". A yellow callout box in the lower right corner contains the text: "To learn more about Slicer and its different functionalities, visit the Slicer4.8 compendium".

3D Slicer 4.8.1

Modules: Welcome to Slicer

1

S

L

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

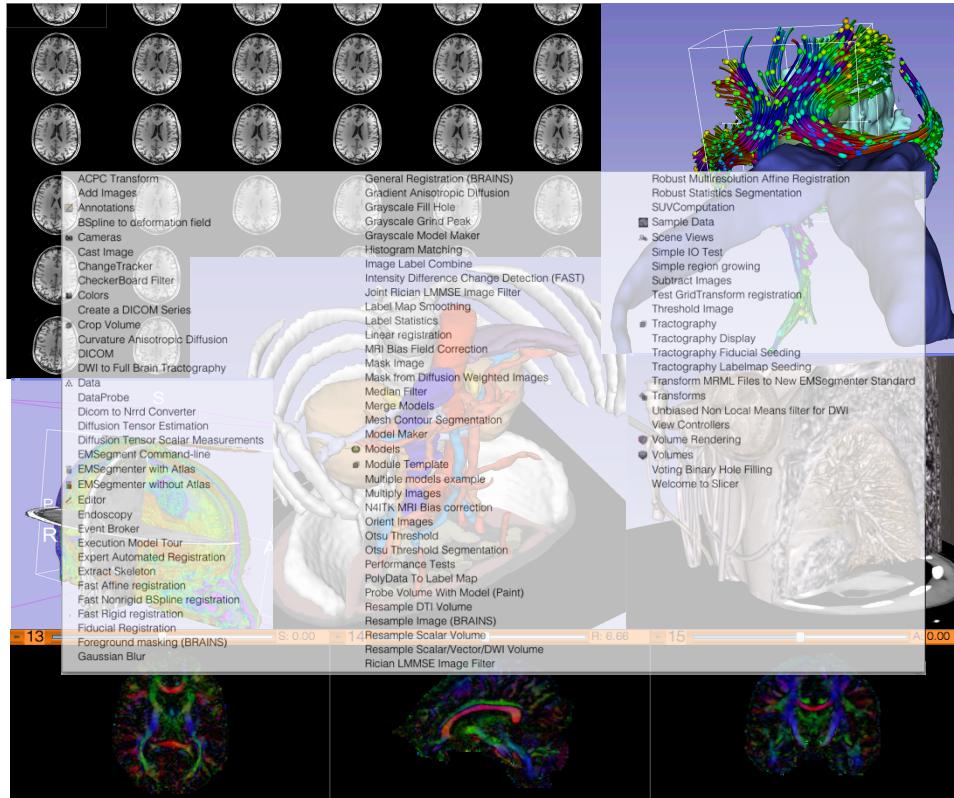
B

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

19mm

19mm

Going Further



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

Acknowledgments



National Alliance for Medical Image Computing

NIH U54EB005149



Neuroimage Analysis Center

NIH P41EB015902