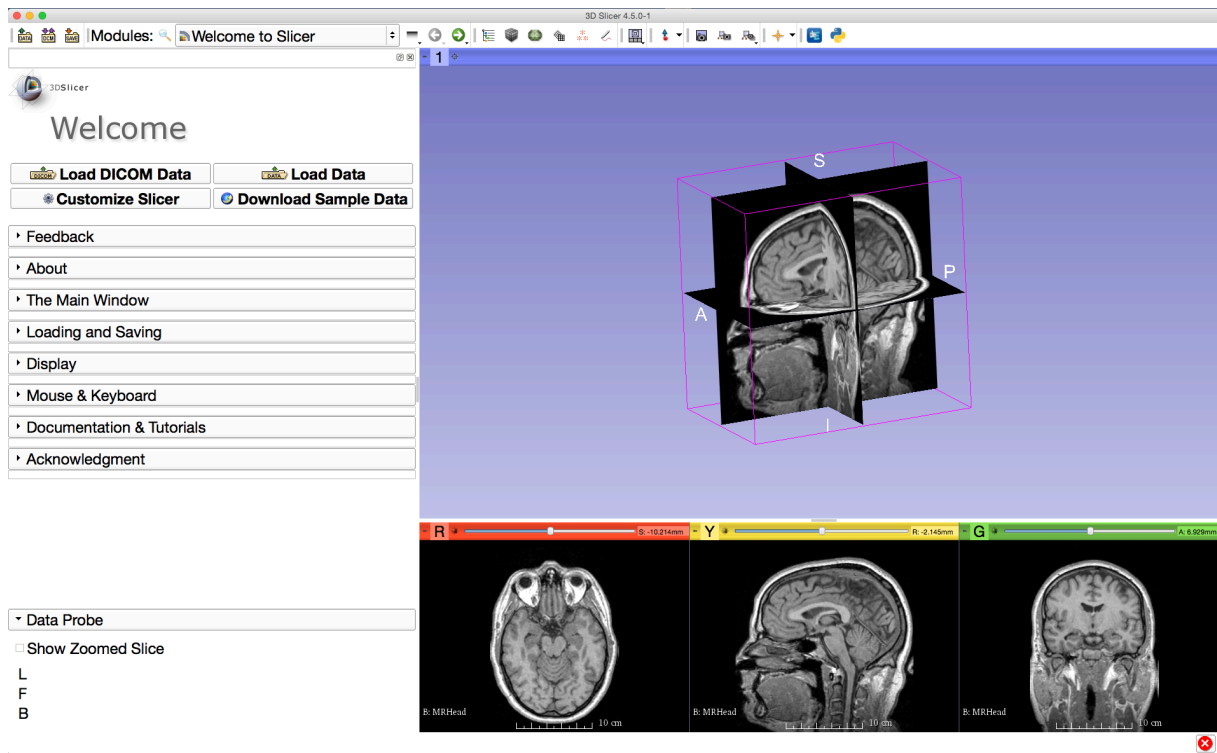


Slicer Welcome

Sonia Pujol, Ph.D.
Brigham and Women's Hospital
Harvard Medical School

Goal

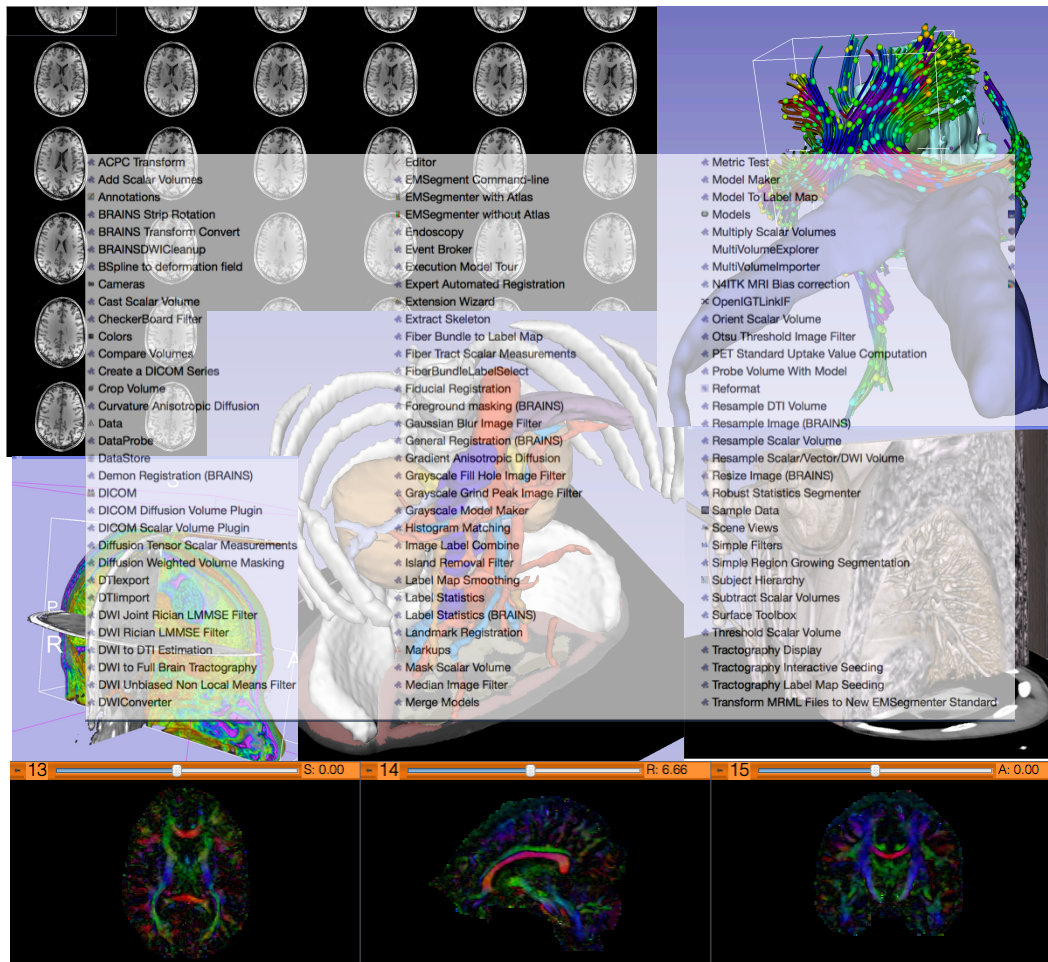


This tutorial is a short introduction to the Welcome module of the Slicer open-source software.

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



Slicer4 contains over 100 modules for image segmentation, registration and 3D visualization of medical imaging data.

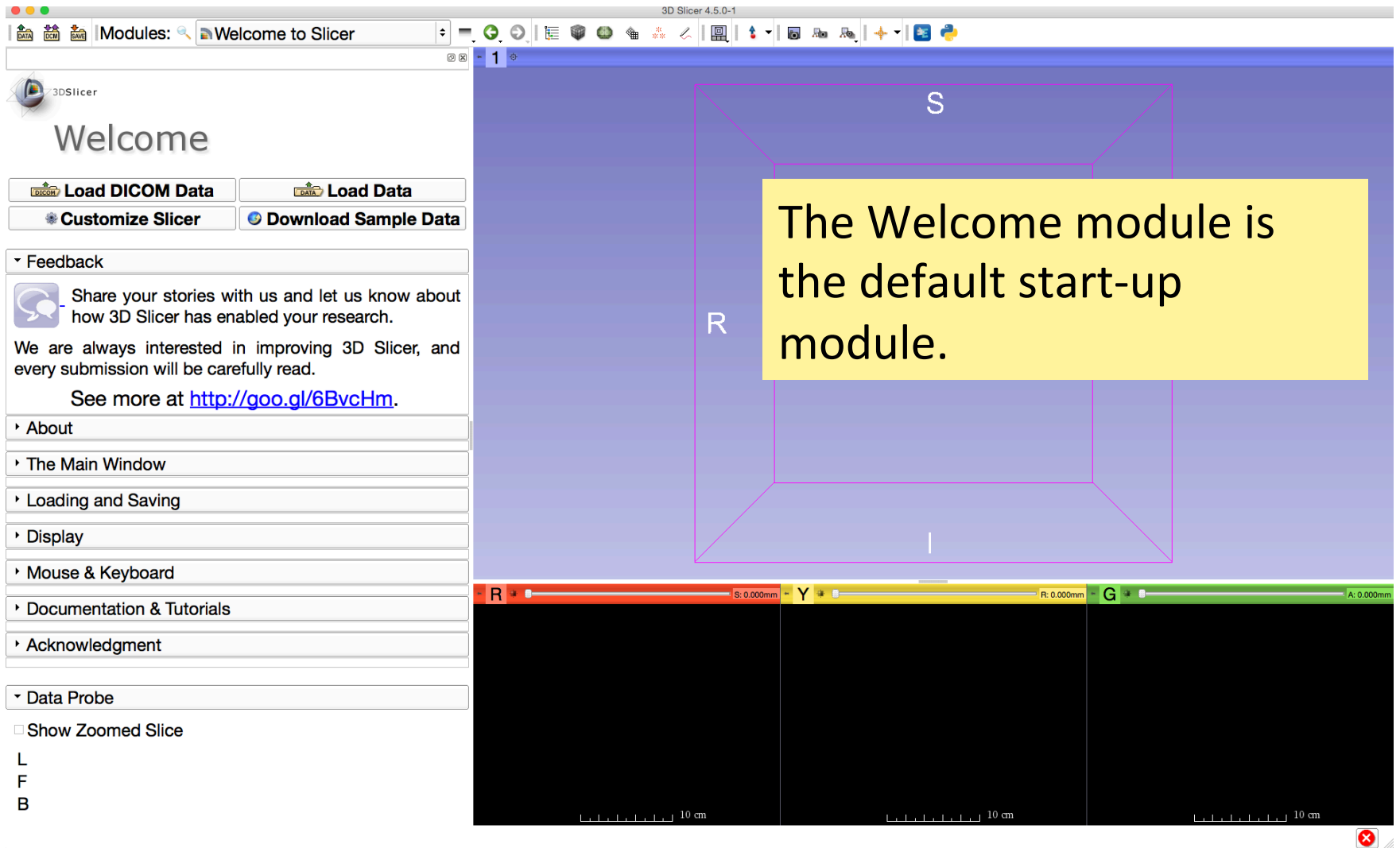
Images courtesy of Ron Kikinis, MD

Slicer Welcome - Sonia Pujol, Ph.D., NA-MIC
ARR 2011-2016

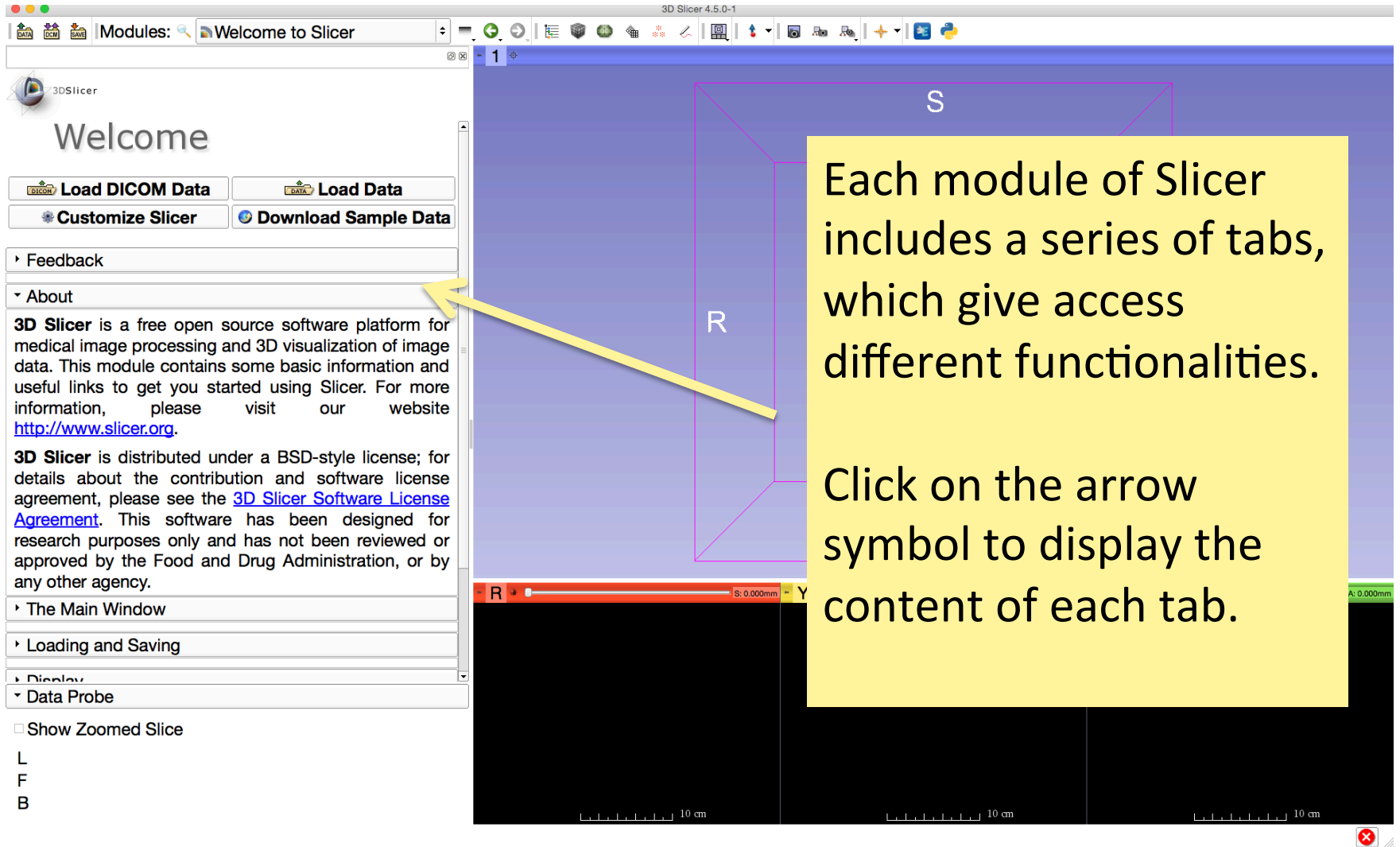
Supported Platforms

- Slicer is a multi-platform software developed and maintained on Mac OSX, Linux 64 & 32, and Windows 64.
- Slicer requires a minimum of 2 GB of RAM and a dedicated graphic accelerator with 64 MB of on-board graphic memory.

3DSlicer version 4.5



Welcome to Slicer



Slicer Welcome

3D Slicer 4.5.0-1

Modules: Welcome to Slicer

Welcome

Load DICOM Data Load Data

Customize Slicer Download Sample Data

Feedback

About

The Main Window

The basic organization of Slicer's user interface (UI) is shown above. This module's content will reference these following components, labeled in the figure:

File Menu:
Contains basic load and save functionality, access to application settings, Tcl and Python interfaces for developers, help and mechanisms for users to provide feedback.

Toolbar:
Contains tools for selecting and navigating among Slicer modules, layout and other utilities.

Data Probe

☐ Show Zoomed Slice

L
F
B

The Main Window tab contains information on the basic organization of Slicer's user interface.

R: 0.000mm Y: 0.000mm G: 0.000mm

10 cm 10 cm 10 cm

Slicer User Interface

Main Menu

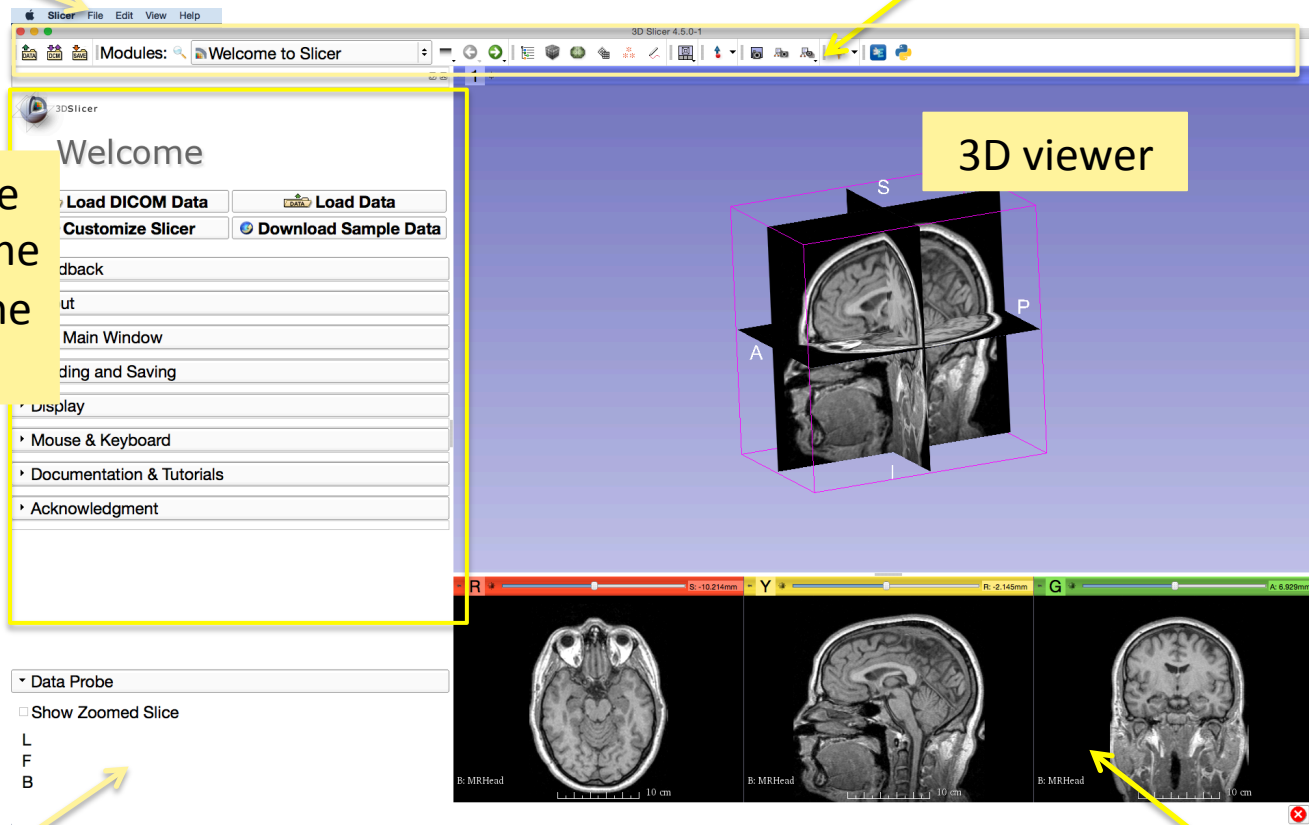
Toolbar

User Interface (UI) panel of the Slicer Welcome Module

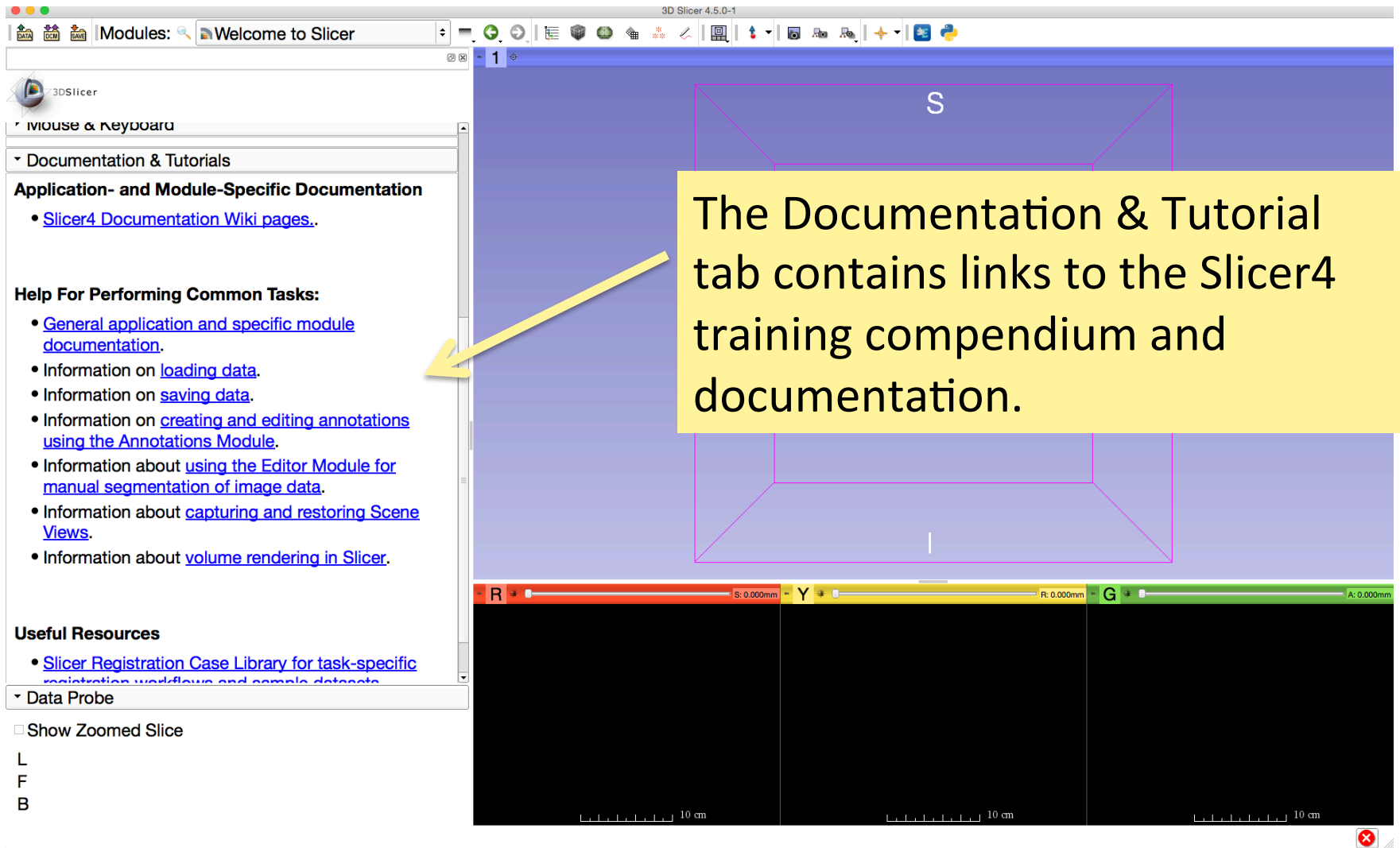
3D viewer

Data Probe

2D anatomical viewers



Welcome Module



Slicer4.5 Documentation & Training

The screenshot displays the Slicer4.5 Documentation & Training website. The page is titled "Documentation/4.5" and includes a sidebar on the left with navigation links. The main content area is divided into several sections:

- Where to start ?**
 - Training pages
 - Information on how to use Slicer 4.5
 - FAQ
 - Set of common questions/answers
 - Users mailing list / Sign-up / Browse archives
- How to**
 - Report a problem / Create a feature request
- Slicer Application**
 - Main Application GUI
 - 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
 - Setting up and using stereoscopic viewing
 - QITesting - Easy way to record and play macros

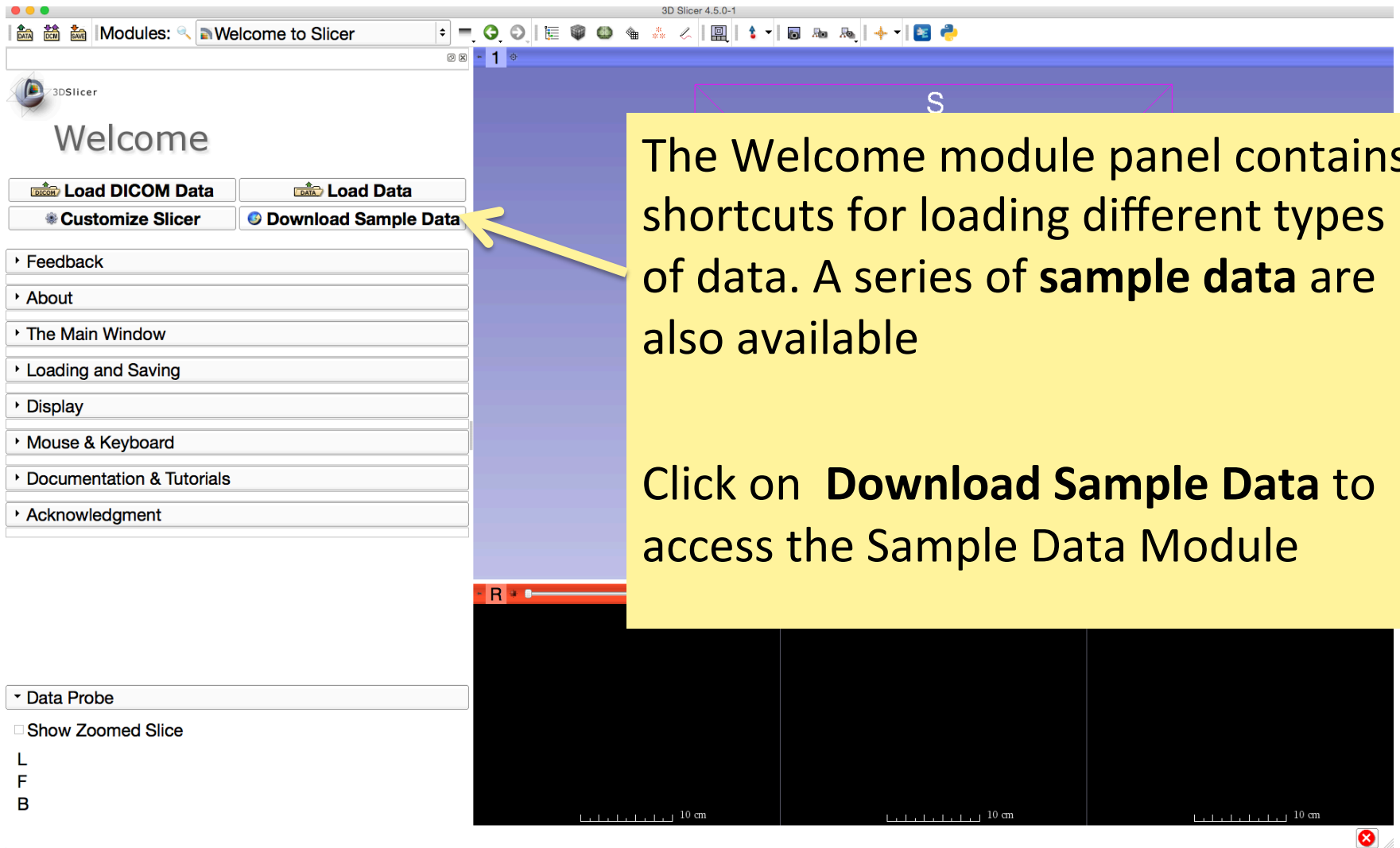
The right sidebar contains sections like "Developers Corner" and "Miscellaneous". The "Developers Corner" section includes links for "Information for Software Developers", "Source code, contribute patch, develop modules", "Developers mailing list", and "Browse archives". The "Miscellaneous" section includes links for "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", and "Registration Library".

The "Documentación en Español" section includes links for "Introducción a 3D Slicer en Español", "Breve descripción de proyecto y un breve viaje por sus principales herramientas y funcionalidades.", "Reconstrucciones volumétricas con 3D Slicer", "Guía de uso para la herramienta de creación de reconstrucciones volumétricas de 3D Slicer.", "Crear modelos/contornos de órganos con 3D Slicer", "Guía rápida introductoria para la creación de contornos de órganos para generar vistas volumétricas.", and "Endoscopías virtuales con 3D Slicer".

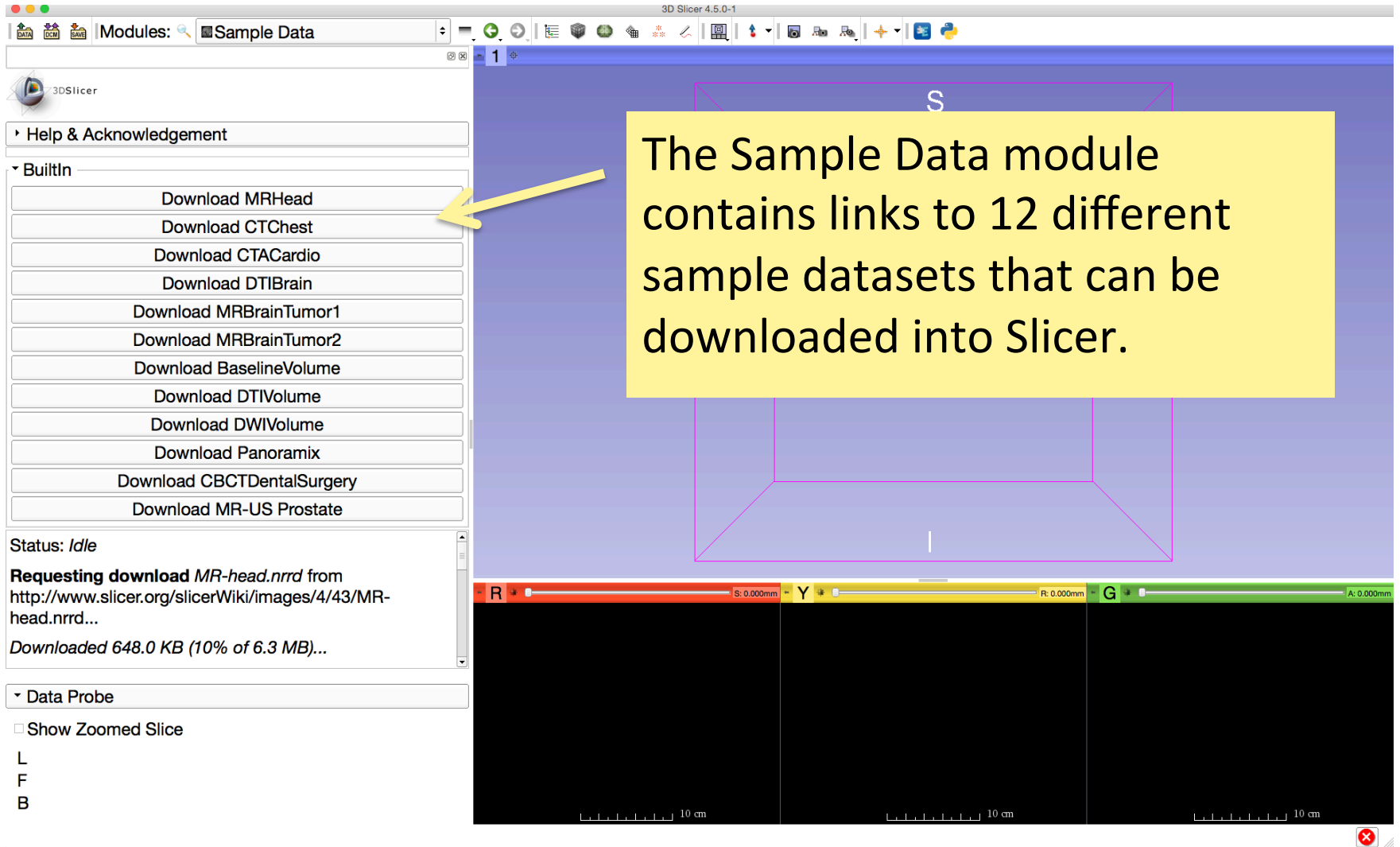
The bottom section of the page features a "SLICERMINUTE TUTORIAL" section with the following details:

- Author: Sonia Pujol, Ph.D.
- Audience: First time users who want a general introduction to the software.
- Modules: Welcome to Slicer, Sample Data
- Based on: 3D Slicer version 4.0

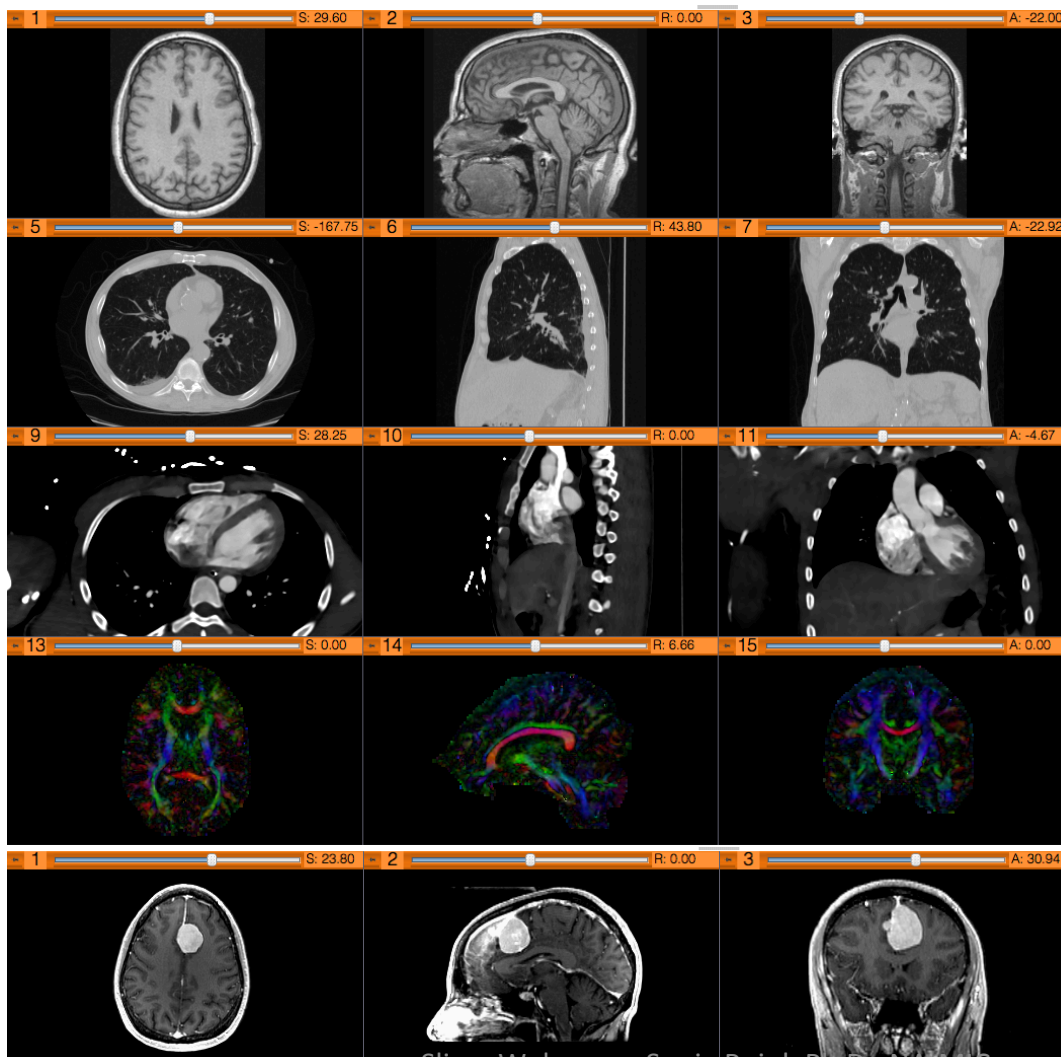
Welcome Module



Sample Data



Sample Data



Brain MRI

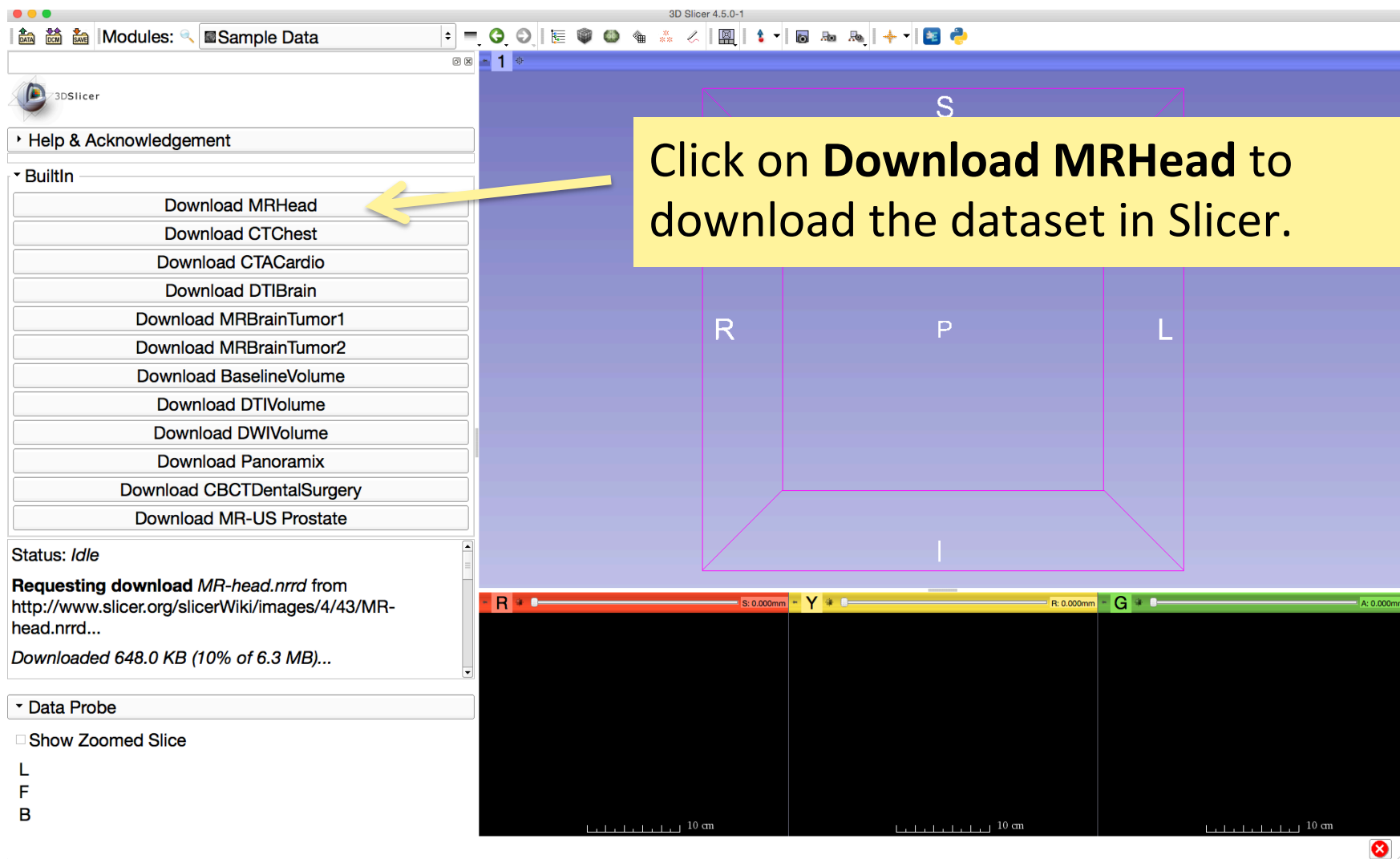
Chest CT

Cardiac CT

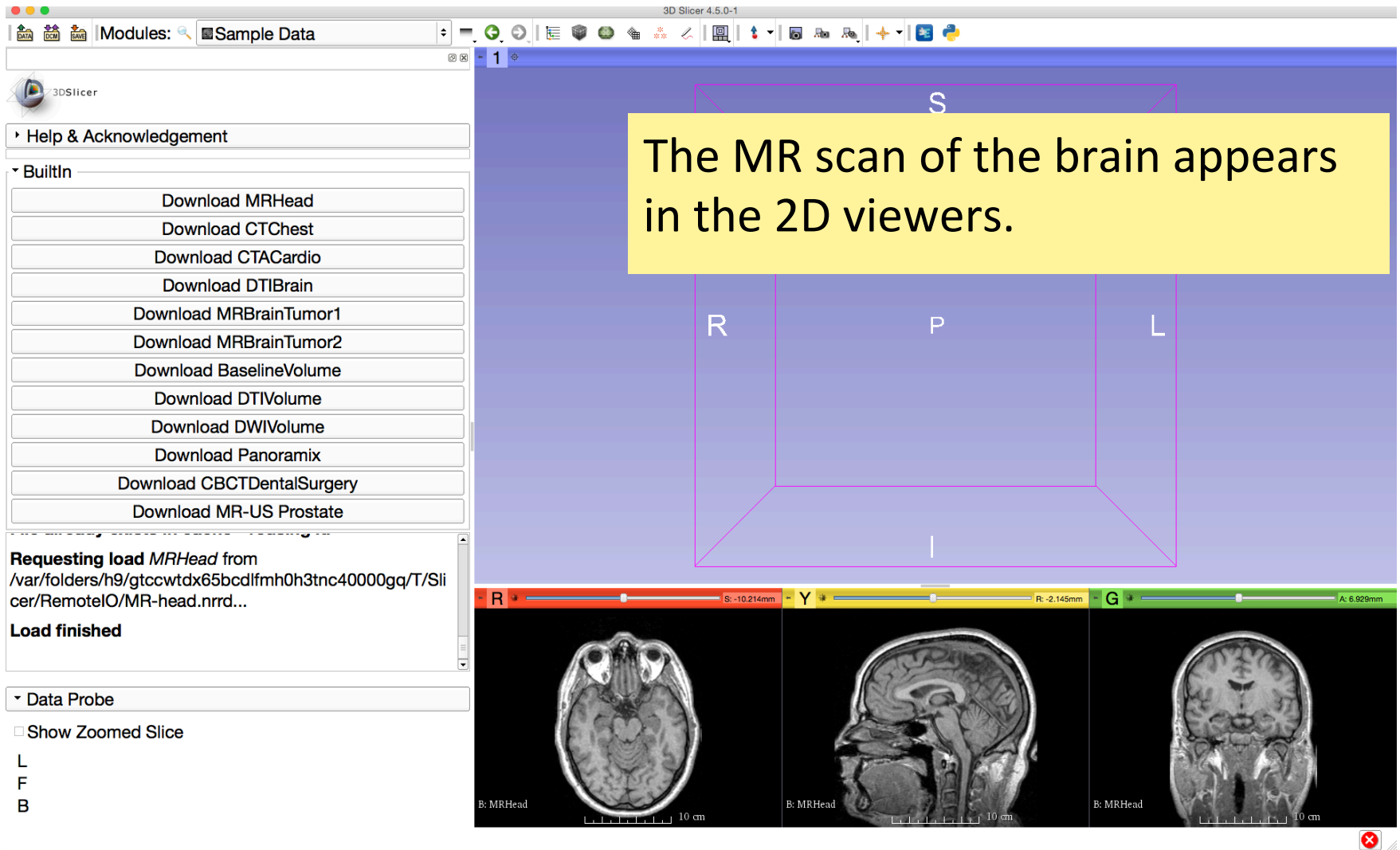
Diffusion Tensor
Imaging (DTI) Dataset

Brain MRI
(tumor patient)

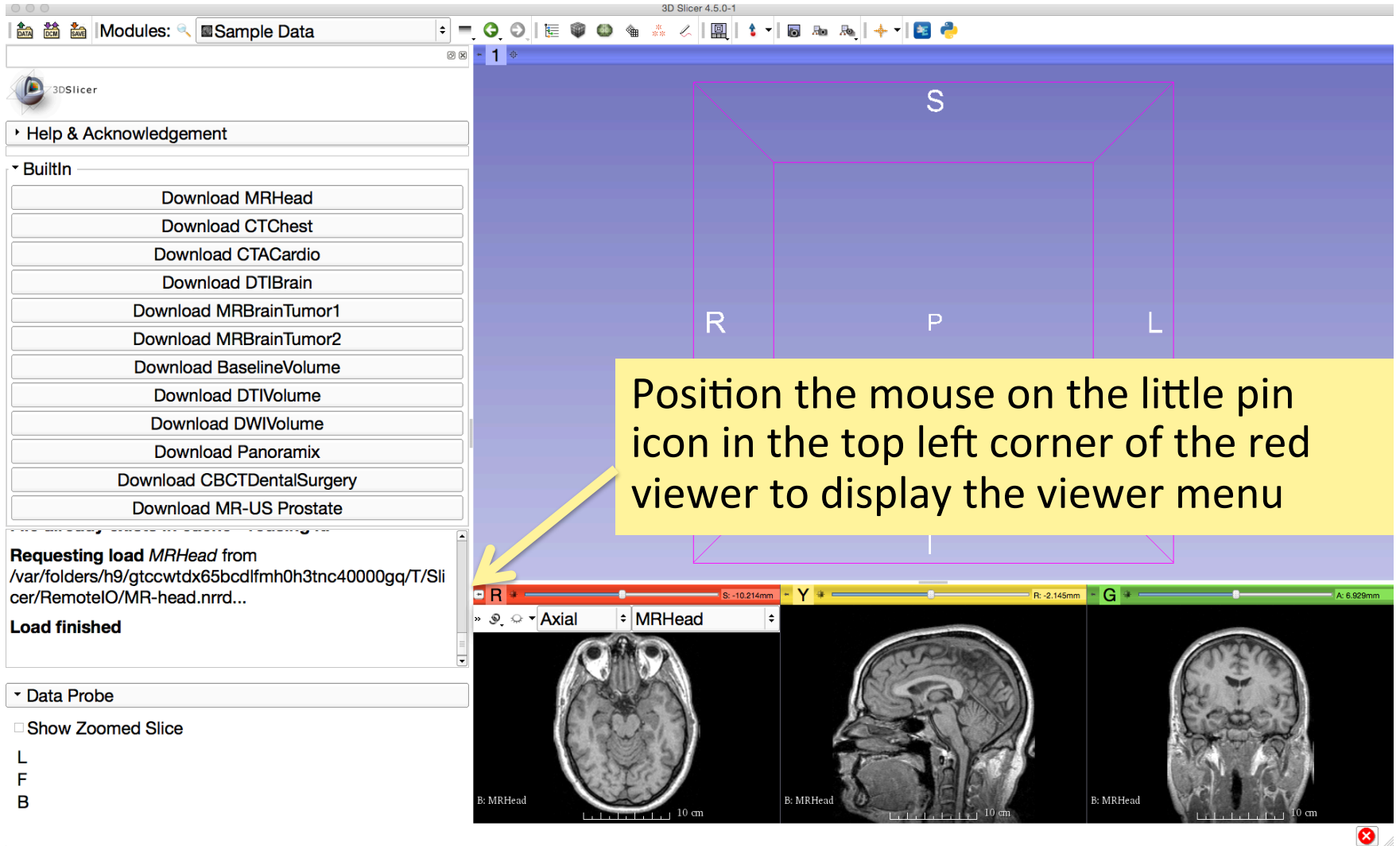
Sample Data



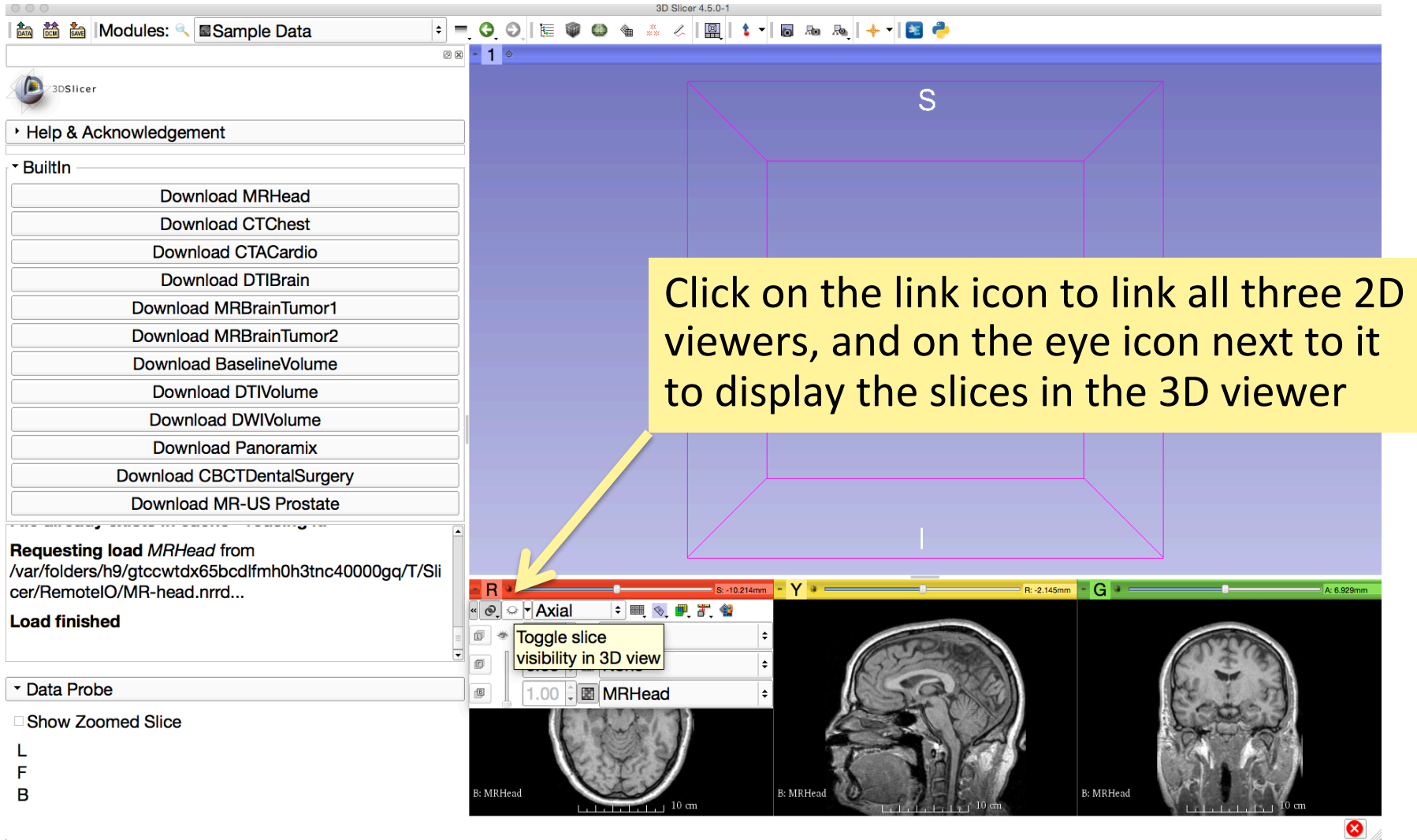
Welcome Module



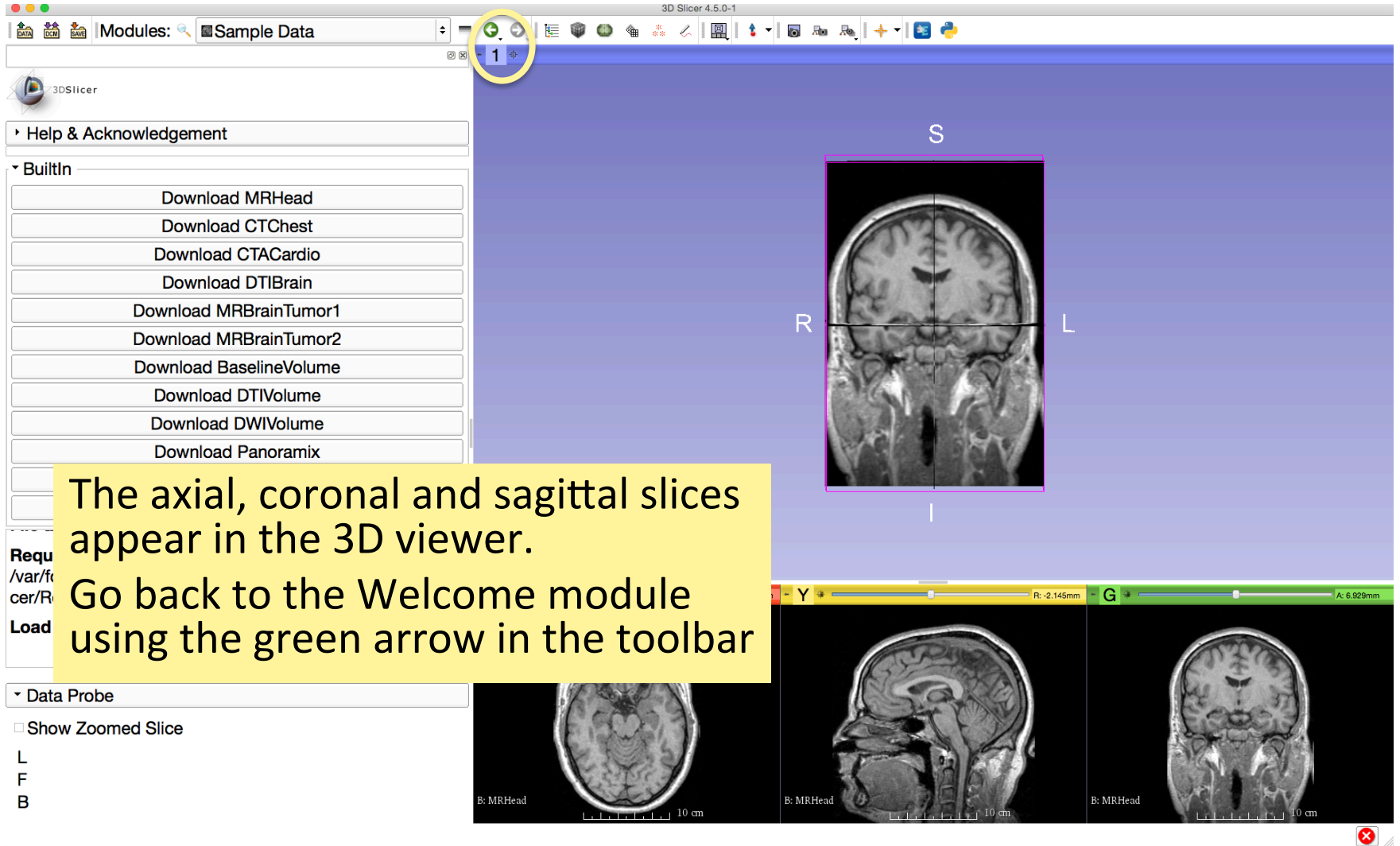
MR Brain Sample Dataset



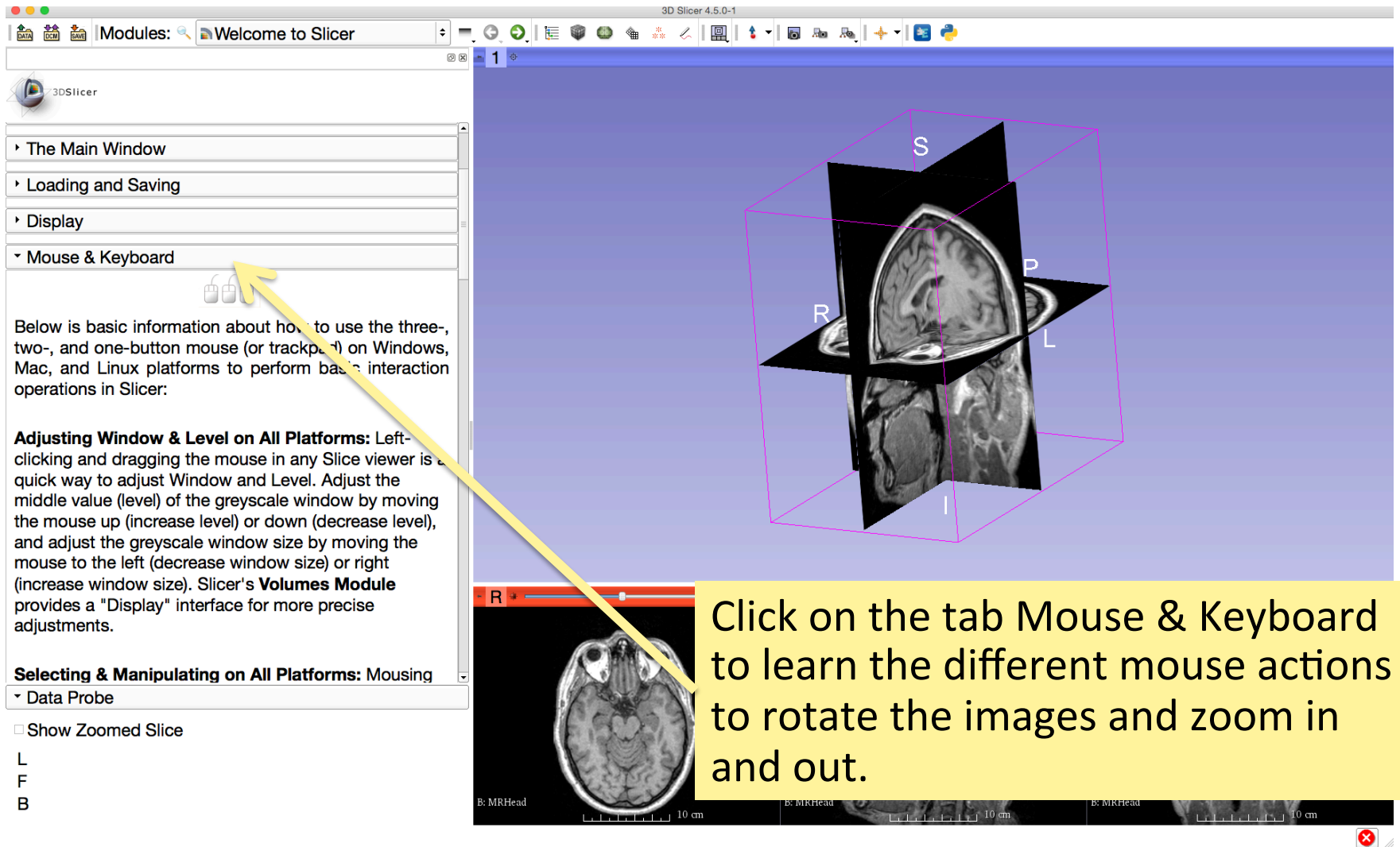
MR Brain Sample Dataset



MR Brain Sample Dataset



MR Brain Sample Dataset



The screenshot displays the 3D Slicer 4.5.0-1 software interface. The main window shows a 3D visualization of a brain MRI dataset with three orthogonal planes (Sagittal, Coronal, and Axial) intersecting at a central point. The planes are labeled with 'S' for Sagittal, 'P' for Coronal, and 'R' for Axial. A yellow arrow points from the 'Mouse & Keyboard' tab in the left sidebar to the main 3D view. The sidebar contains a tree view with the following sections: 'The Main Window', 'Loading and Saving', 'Display', and 'Mouse & Keyboard'. The 'Mouse & Keyboard' section is expanded, showing a list of mouse actions and a 'Data Probe' section. A yellow callout box is overlaid on the bottom right of the interface, containing the text: 'Click on the tab Mouse & Keyboard to learn the different mouse actions to rotate the images and zoom in and out.'

3D Slicer 4.5.0-1

Modules: Welcome to Slicer

3DSlicer

- The Main Window
- Loading and Saving
- Display
- ▾ Mouse & Keyboard

Below is basic information about how to use the three-, two-, and one-button mouse (or trackpad) on Windows, Mac, and Linux platforms to perform basic interaction operations in Slicer:

Adjusting Window & Level on All Platforms: Left-clicking and dragging the mouse in any Slice viewer is a quick way to adjust Window and Level. Adjust the middle value (level) of the greyscale window by moving the mouse up (increase level) or down (decrease level), and adjust the greyscale window size by moving the mouse to the left (decrease window size) or right (increase window size). Slicer's **Volumes Module** provides a "Display" interface for more precise adjustments.

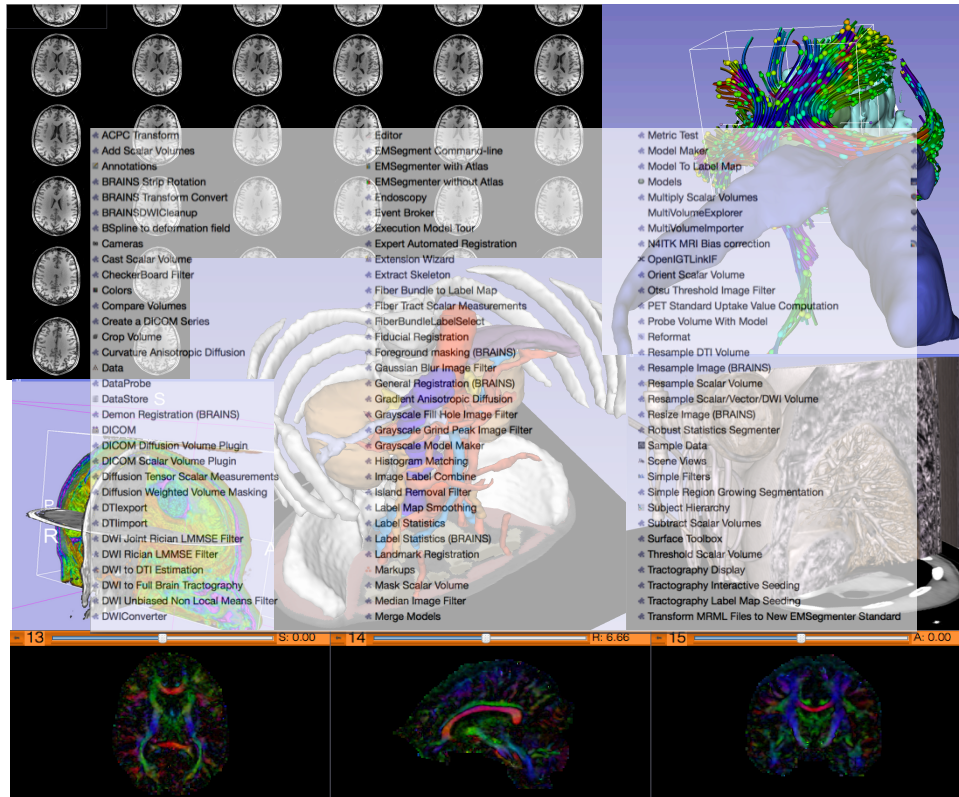
Selecting & Manipulating on All Platforms: Mousing

- ▾ Data Probe
- ☐ Show Zoomed Slice

L
F
B

Click on the tab Mouse & Keyboard to learn the different mouse actions to rotate the images and zoom in and out.

Going Further



To learn more about Slicer and its different functionalities, please visit the Slicer4.5 compendium

<http://www.slicer.org/slicerWiki/index.php?title=Documentation/4.5>

Acknowledgments



National Alliance for Medical Image Computing

NIH U54EB005149



Neuroimage Analysis Center

NIH P41RR013218

Fan Zhang, MSc, University of Sydney