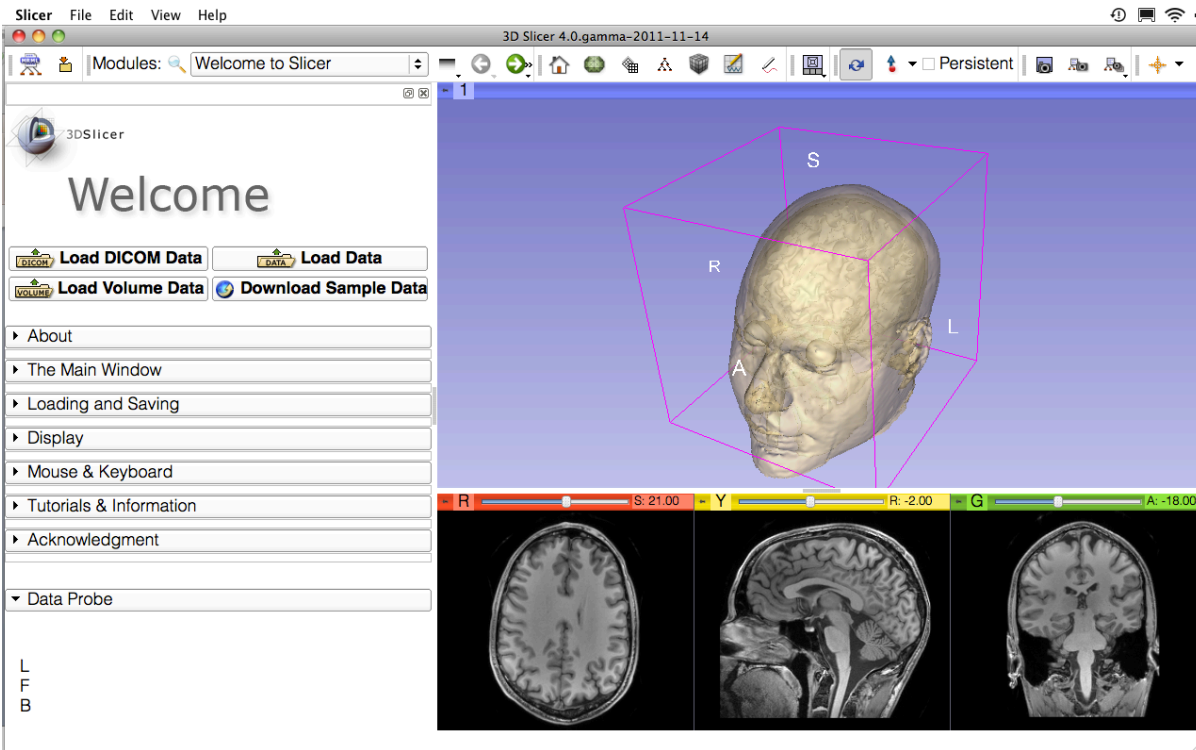


Slicer Welcome

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

Goal

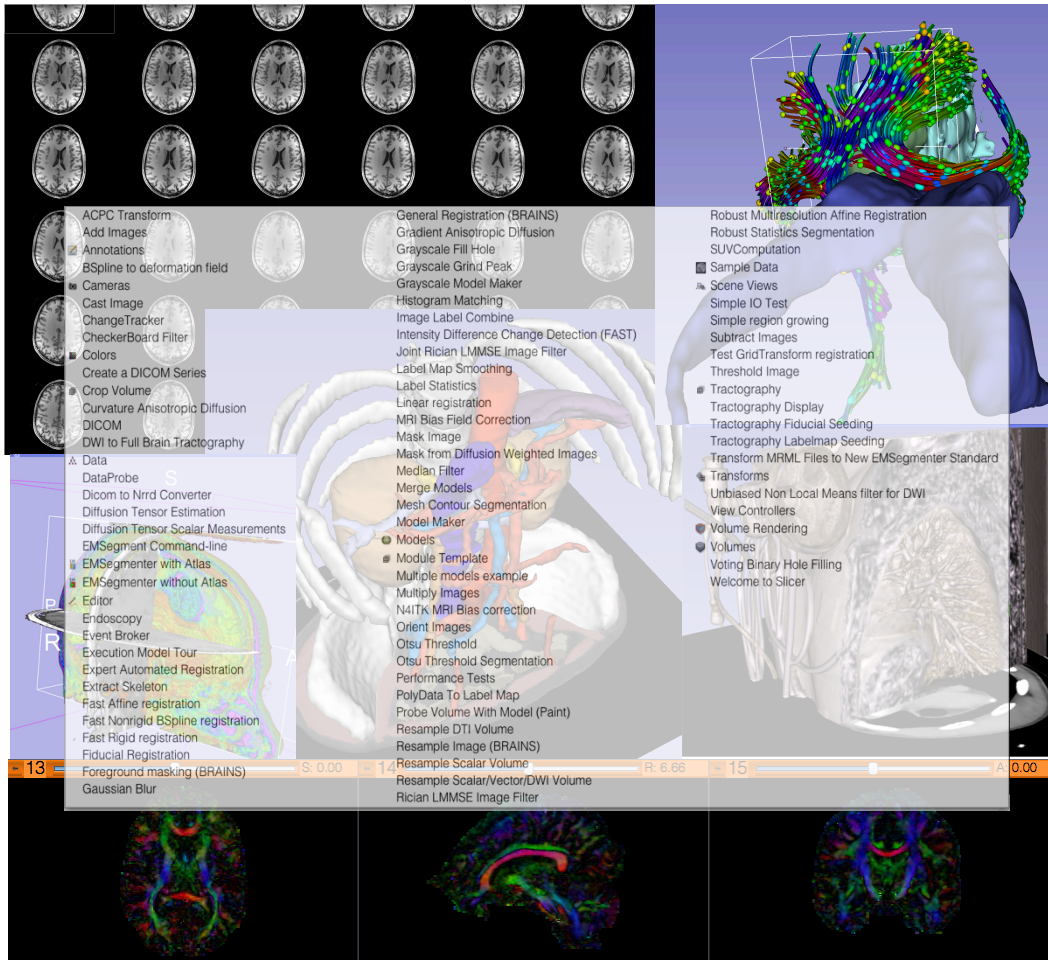
This tutorial is a short introduction to the Welcome module of the Slicer open-source software.



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 92 modules for image segmentation, registration and 3D visualization of medical imaging data.

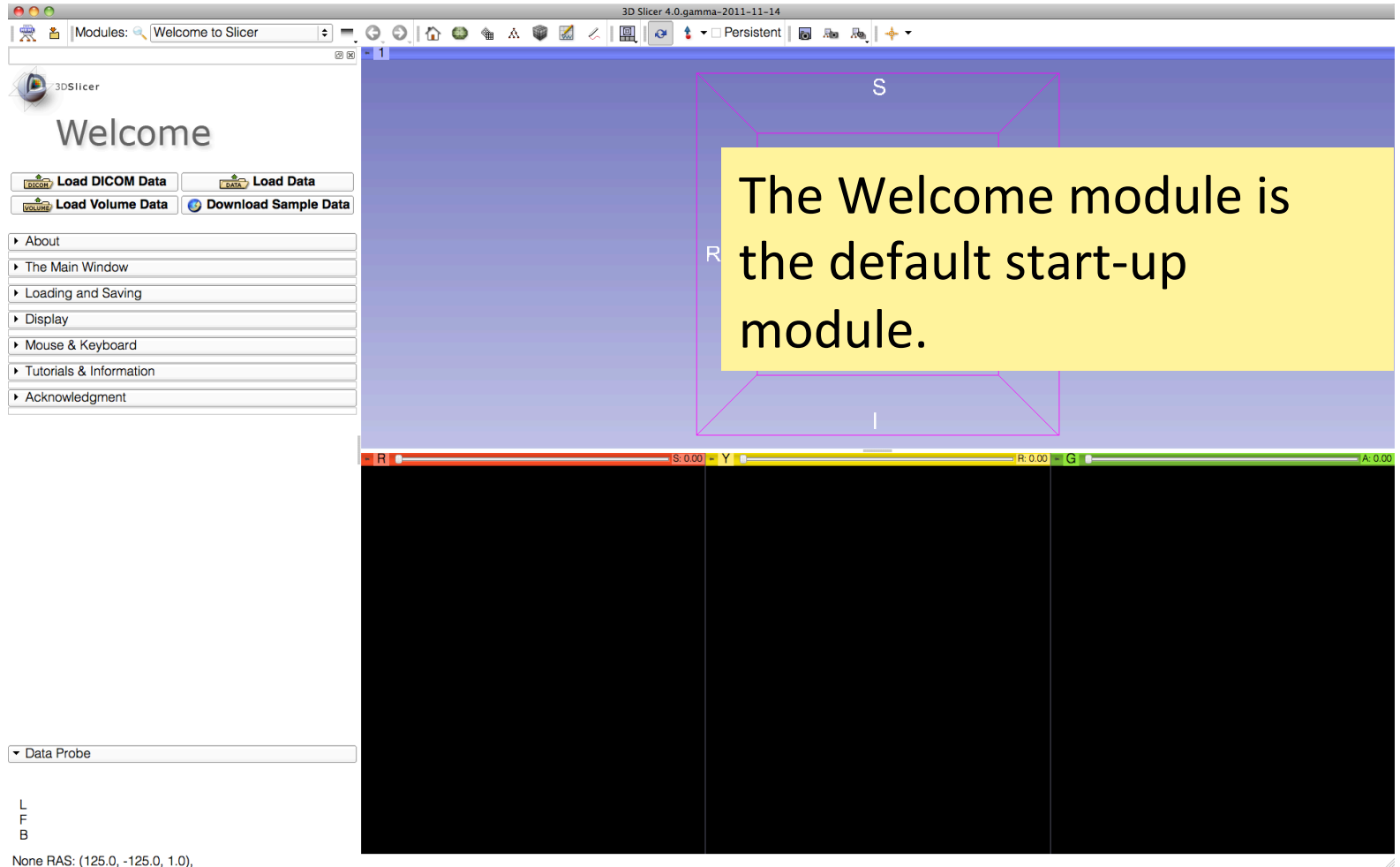
Images courtesy of Ron Kikinis, MD

Slicer Welcome - Sonia Pujol, Ph.D., NA-MIC
ARR 2011-2012

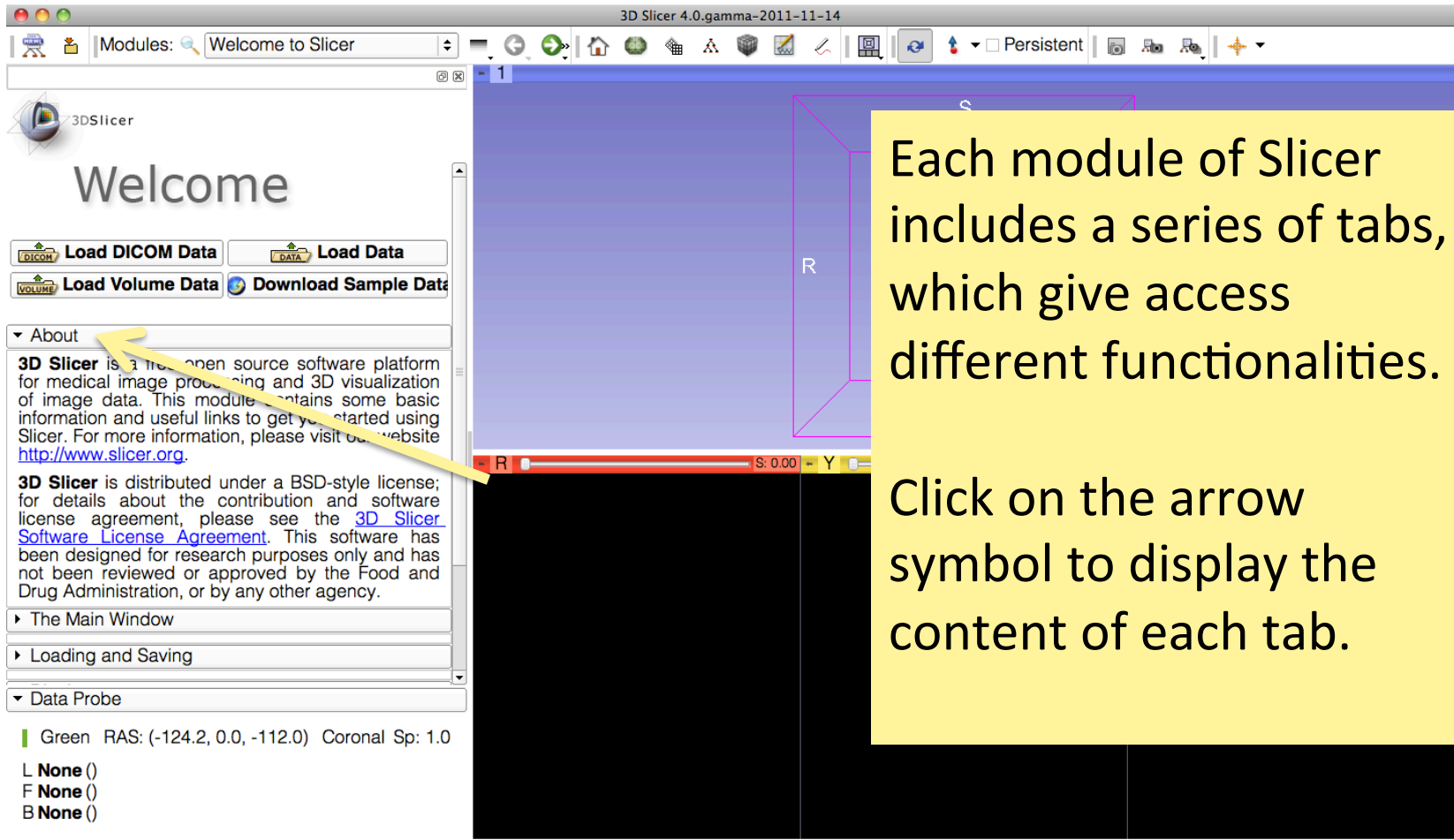
Supported Platforms

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

3DSlicer version 4.0



Welcome to Slicer



Slicer Welcome

3D Slicer 4.0.gamma-2011-11-14

Modules: Welcome to Slicer

3DSlicer

Welcome

Load DICOM Data **Load Data**

Load Volume Data **Download Sample Data**

▶ About

▼ The Main Window

File Menu GUI Panel Data Probe

Toolbar 3D Viewer Slice Viewers Message Bar

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.

▼ Data Probe

Green RAS: (-124.2, 0.0, -112.0) Coronal Sp: 1.0

L None ()
F None ()
B None ()

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

Slicer User Interface

Main Menu

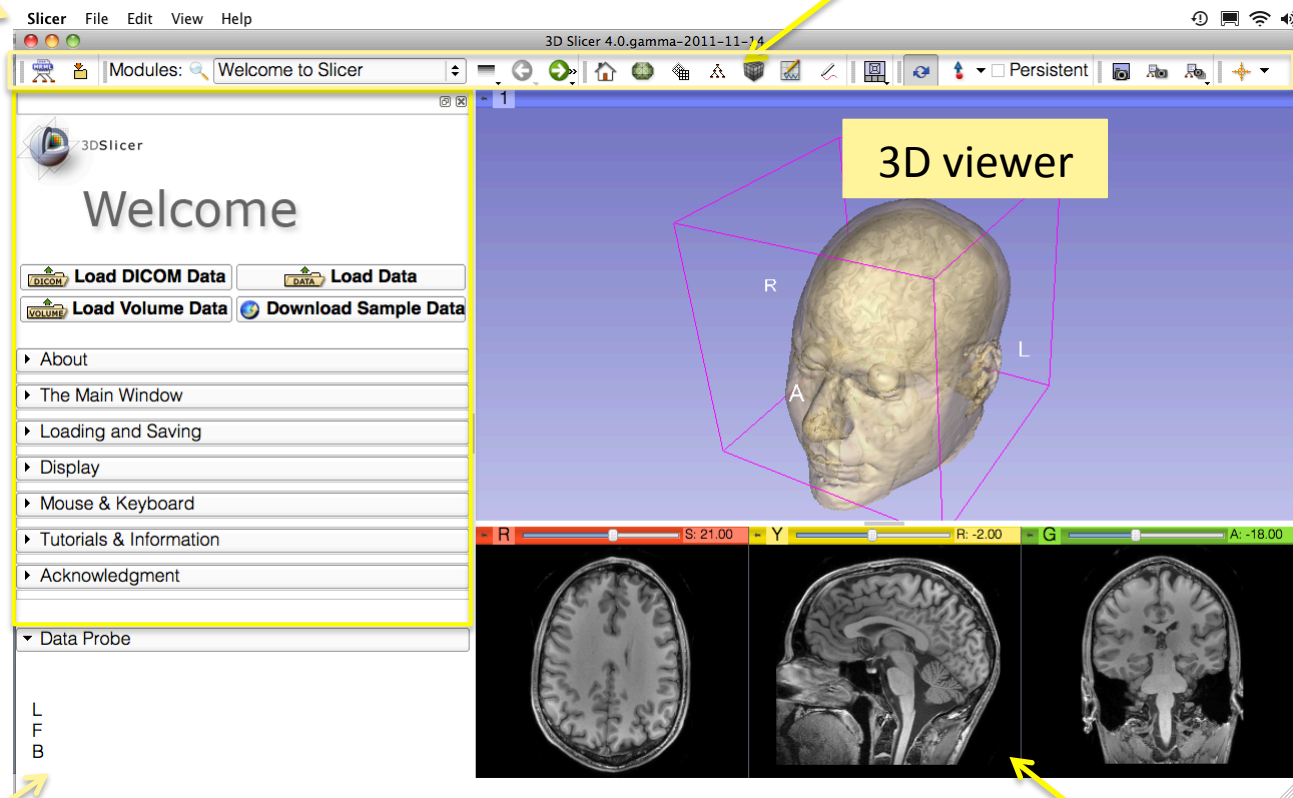
Toolbar

User Interface (UI) panel of the Slicer Welcome Module

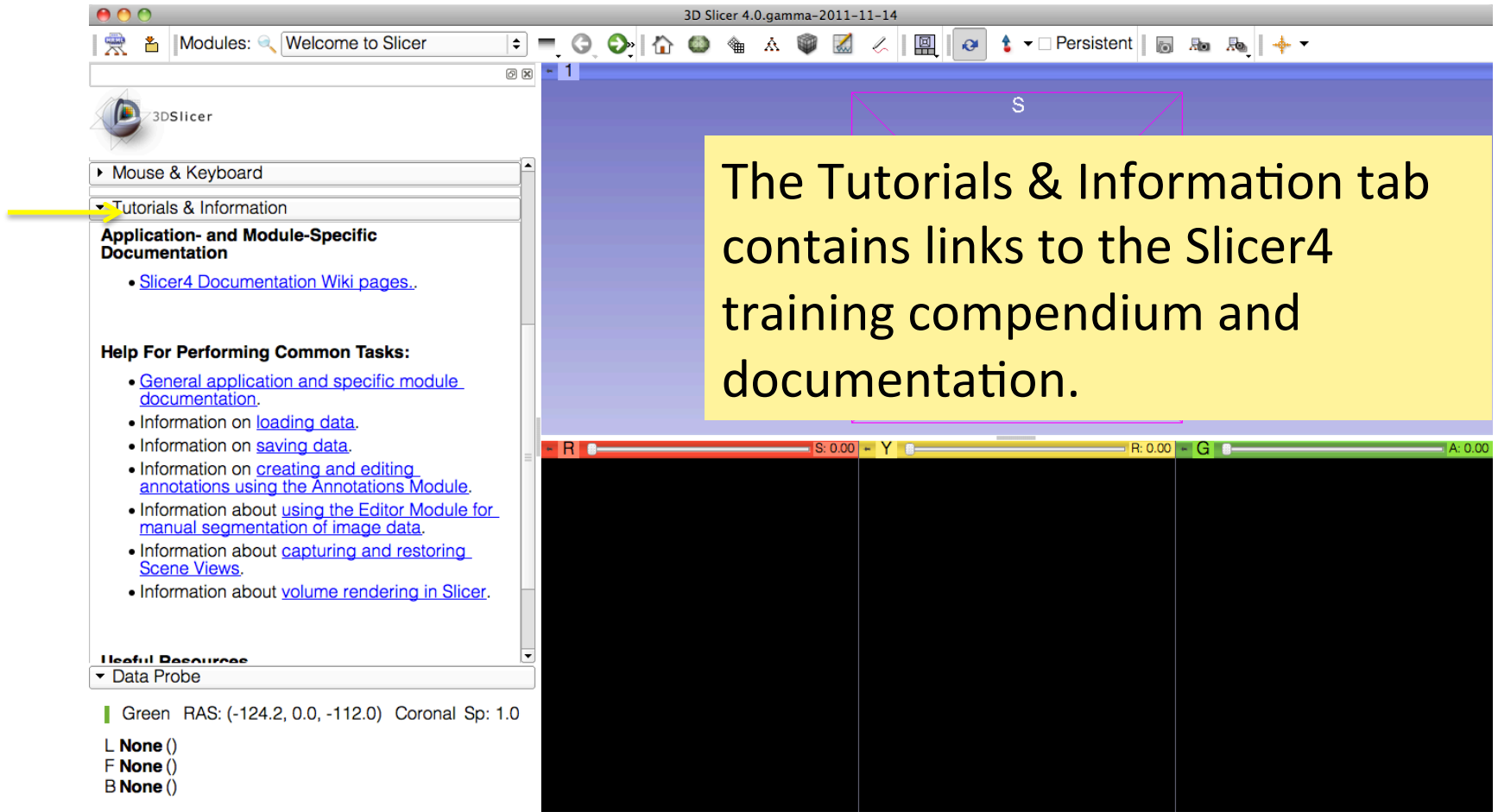
3D viewer

Data Probe

2D anatomical viewers



Welcome Module



Slicer4.0 Documentation & Training

The image displays two overlapping screenshots of the Slicer4.0 documentation and training website. The top screenshot shows the 'Documentation/4.0' page, which includes a search bar, a navigation menu, and a table of contents for the 'Slicer Application' and 'Module Categories'. The bottom screenshot shows the 'Training/4.0' page, which includes a search bar, a navigation menu, and a table of contents for 'Introduction: Slicer 4.0 Tutorials' and 'General Introduction'.

Documentation/4.0
Documentation/4.0
4.0 3.6 3.5 3.4 3.2 ALL VERSIONS

Slicer Application

- Main Application GUI (Wendy Plesniak)
- "Hot-keys" and Keyboard Shortcuts (Wendy Plesniak)
- Computer configurations (Steve Pieper)

Module Categories

- Core Modules
- Wizards
- Informatics
- Registration
- Segmentation

Miscellaneous

- Visual blog
Set of screenshots showing Slicer in action.
- Training pages
Information on how to use Slicer 4.0

3D Slicer
Version 4.0

Training/4.0
Training/4.0

This is a place holder

CONTENTS [hide]

- 1 Introduction: Slicer 4.0 Tutorials
- 2 General Introduction
 - 2.1 Slicer4Minute Tutorial
 - 2.2 Slicer4Visualization tutorial
- 3 Specific Functions
- 4 Introduction for software developers

Introduction: Slicer 4.0 Tutorials

- This page contains "How to" tutorials with matched sample data sets. They demonstrate how to use the 3D Slicer environment (version 4.0 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 4.0 documentation page](#)
- For questions related to the Slicer3 Compendium, please send an e-mail to [Sonia Pujol, Ph.D.](#)

General Introduction

SLICER4MINUTE TUTORIAL

- The [Slicer4Minute tutorial](#) is a brief introduction to the advanced 3D visualization capabilities of Slicer4.0.
- Audience: First time users who just want to get going.
- The [Slicer4Minute dataset](#) contains an MR scan of the brain and 3D reconstructions of the anatomy

SLICER3VISUALIZATION TUTORIAL

- The [Slicer3Visualization tutorial](#) guides through 3D data loading and visualization in Slicer3.6. It is an extended version of the Slicer4Minute tutorial
- Audience: Users of Slicer who need a more comprehensive overview over Slicer4 visualization capabilities.

SLICER3VISUALIZATION DATA

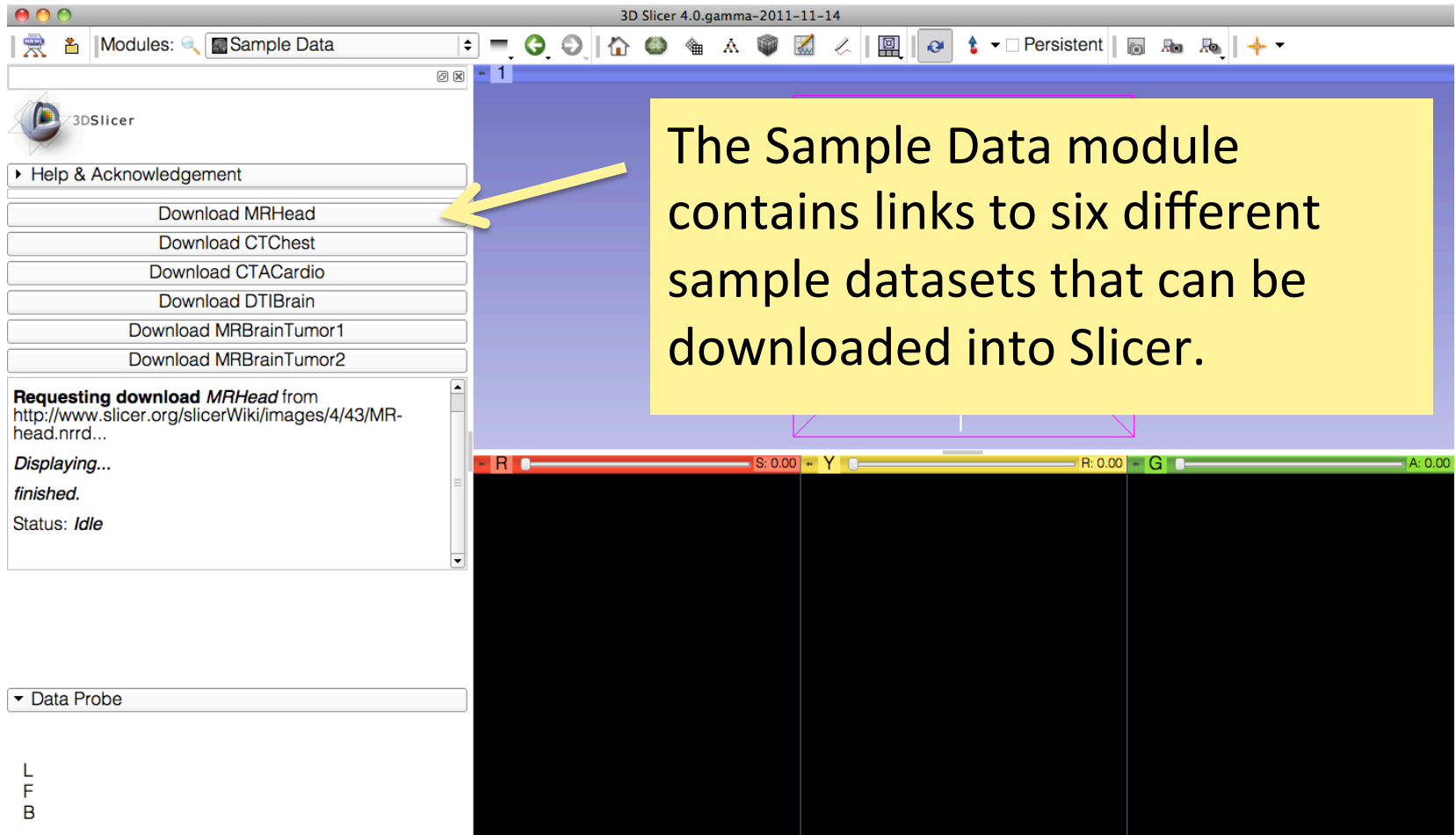
- The [Slicer3Visualization dataset](#) contains two MR scans of the brain, a pre-computed labelmap and 3D reconstructions of the anatomy.

Welcome Module

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

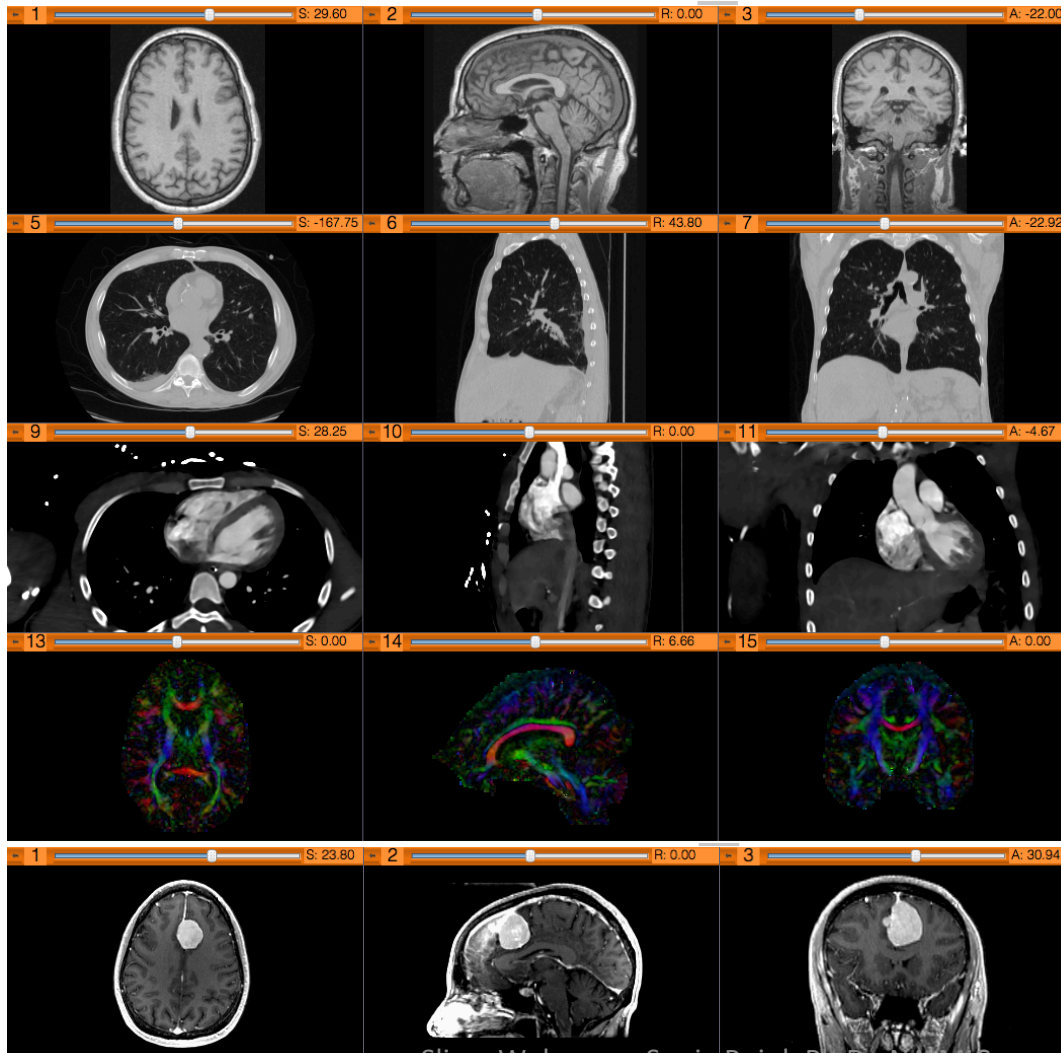
Click on **Download Sample Data** to access the Sample Data Module

Sample Data



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

Sample Data



Brain MRI

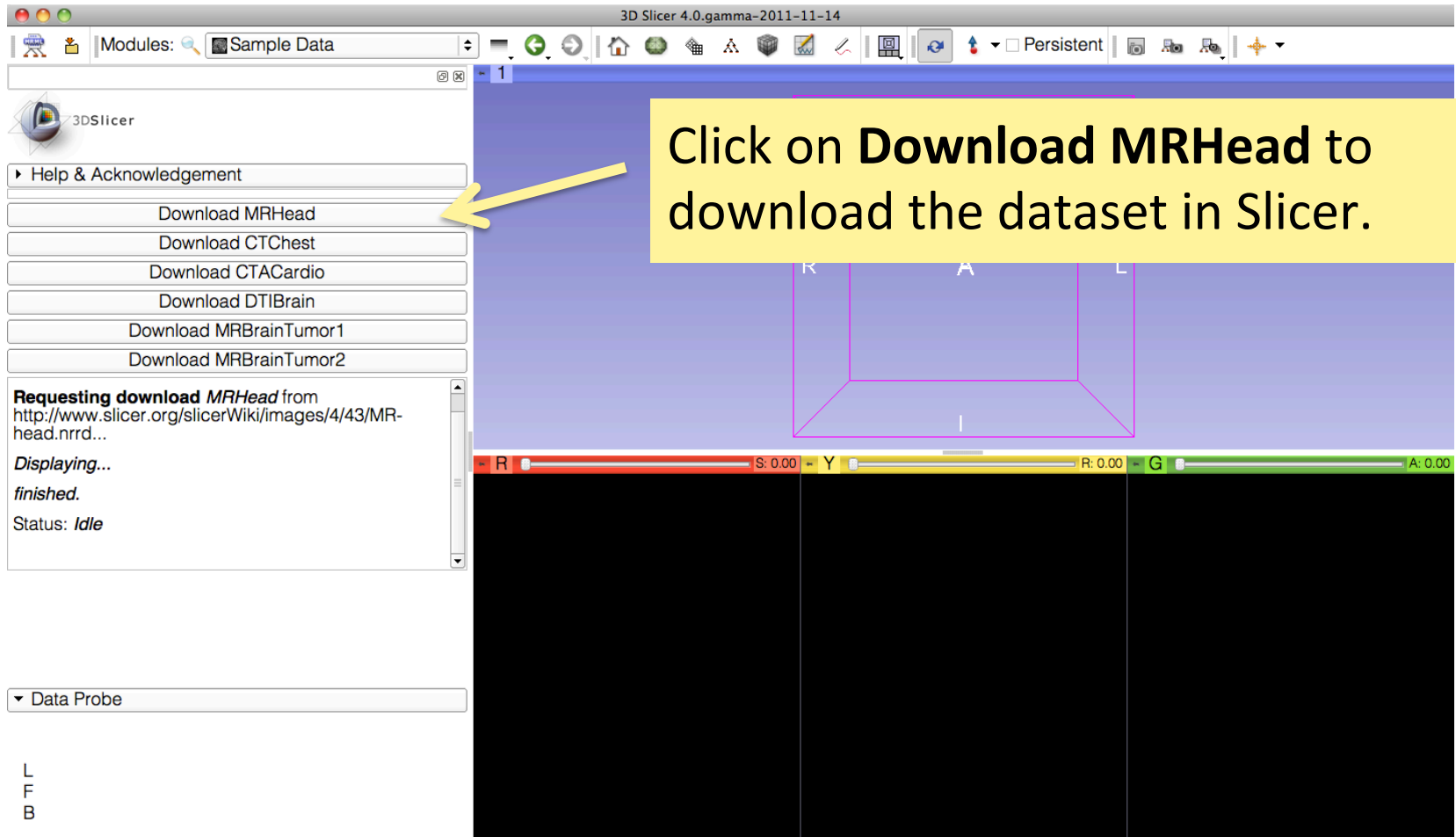
Chest CT

Cardiac CT

Diffusion Tensor Imaging (DTI) Dataset

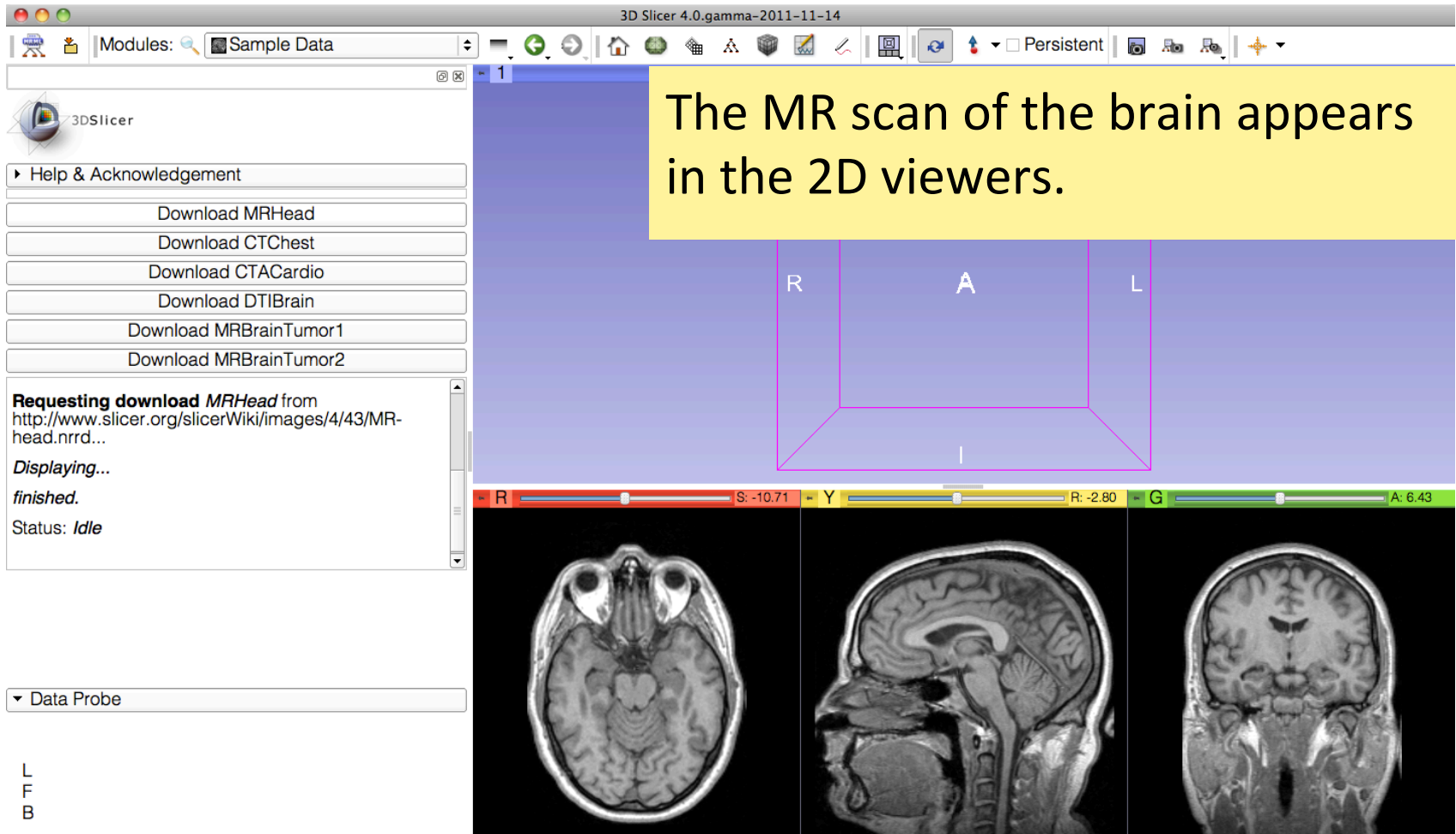
Brain MRI (tumor patient)

Sample Data

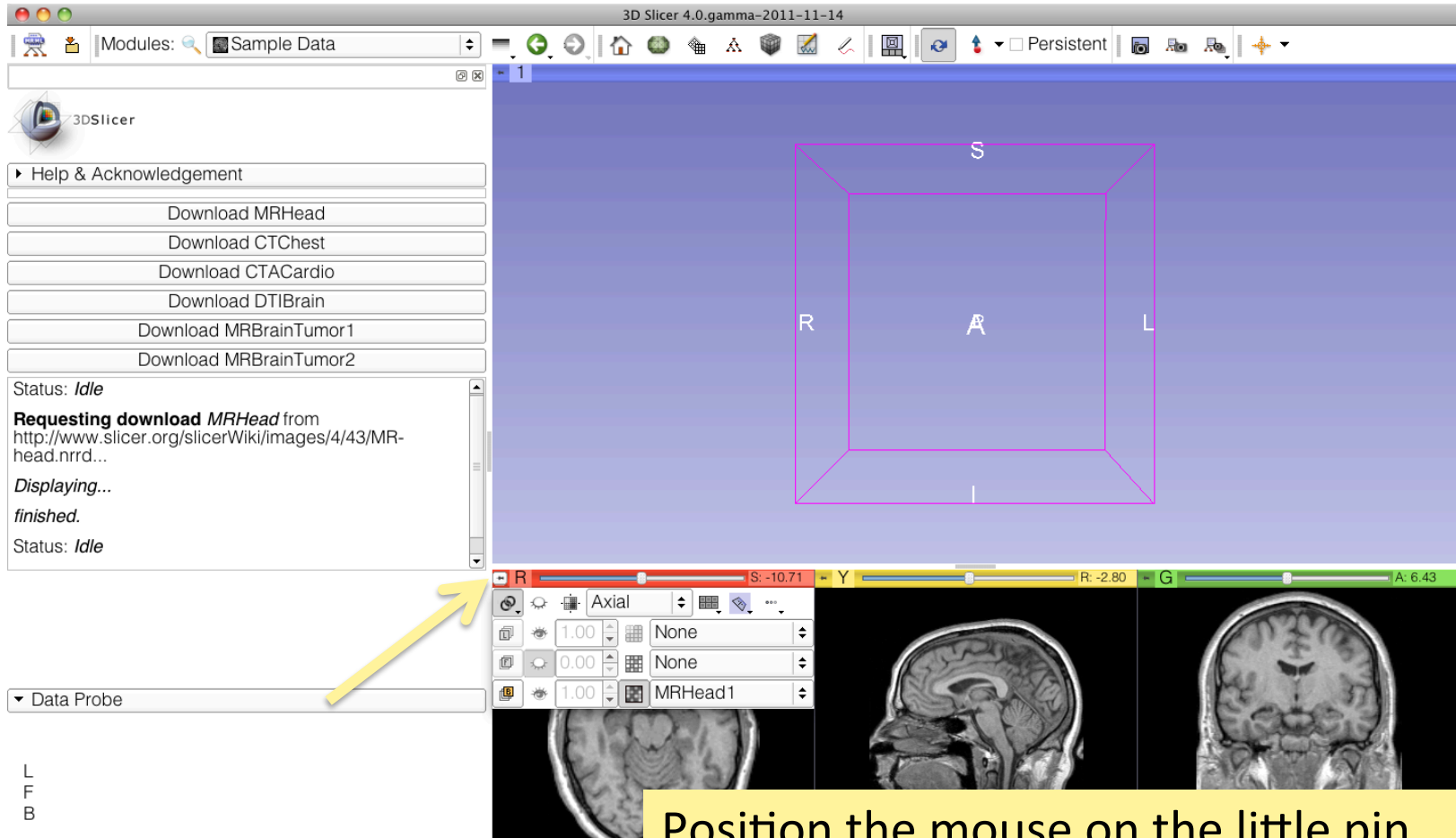


Click on **Download MRHead** to download the dataset in Slicer.

Welcome Module



MR Brain Sample Dataset



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

MR Brain Sample Dataset

3D Slicer 4.0.gamma-2011-11-14

Modules: Sample Data

3DSlicer

- Help & Acknowledgement
- Download MRHead
- Download CTchest
- Download CTACardio
- Download DTIBrain
- Download MRBrainTumor1
- Download MRBrainTumor2

Status: *Idle*

Requesting download MRHead from <http://www.slicer.org/slicerWiki/images/4/43/MR-head.nrrd...>

Displaying...

finished.

Status: *Idle*

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

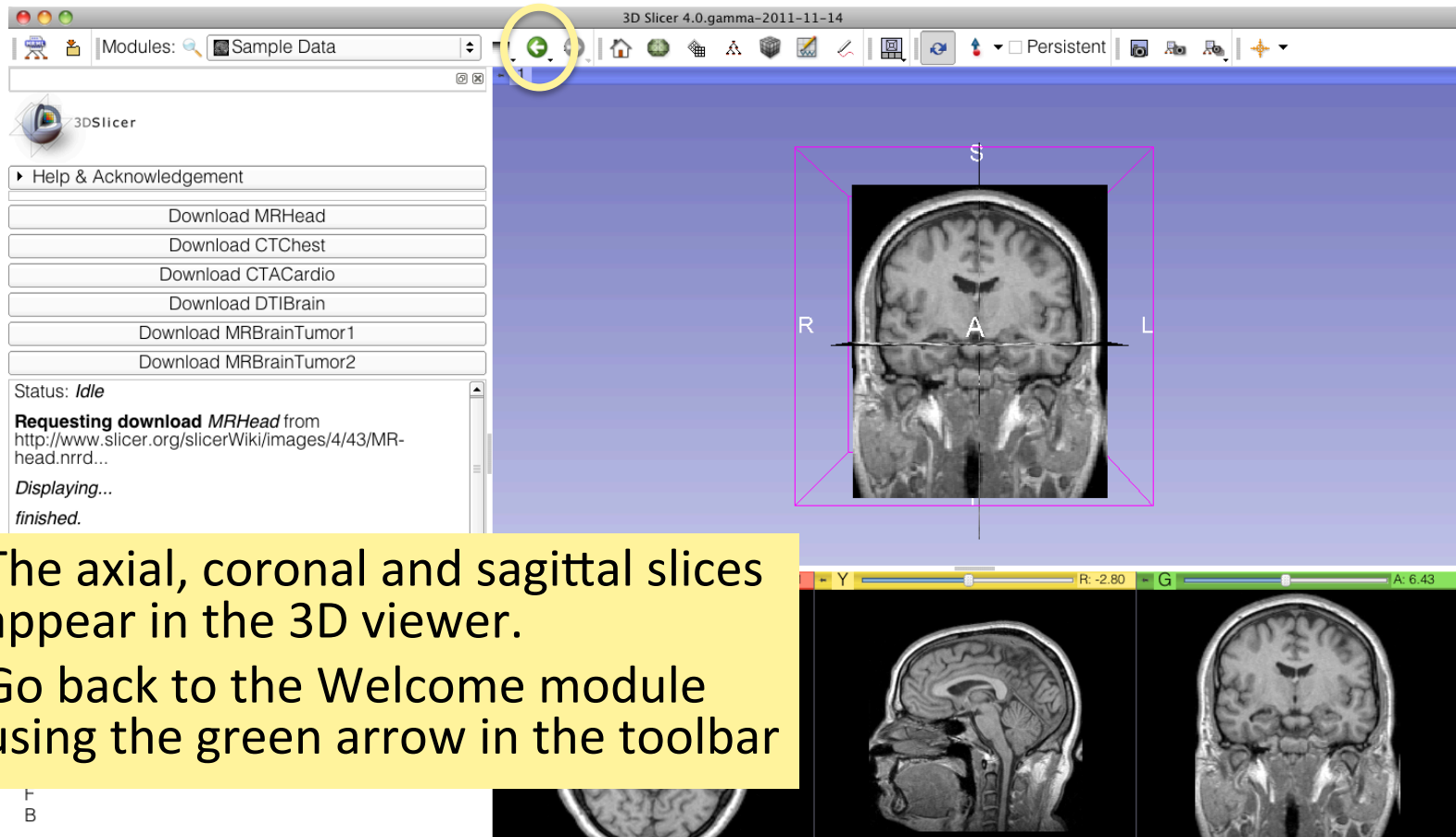
R S: -10.71 Y R: -2.80 G A: 6.43

Axial

		1.00	None
		0.00	None
		1.00	MRHead 1

L
F
B

MR Brain Sample Dataset



MR Brain Sample Dataset

The screenshot displays the 3D Slicer 4.0 software interface. The main window shows a sagittal view of an MR brain scan with a semi-transparent volume overlay. The interface includes a top toolbar with various icons, a left sidebar with a 'Mouse & Keyboard' help panel, and a bottom status bar with color-coded sliders for R, S, Y, G, and A. A yellow callout box is overlaid on the bottom right of the main window.

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:

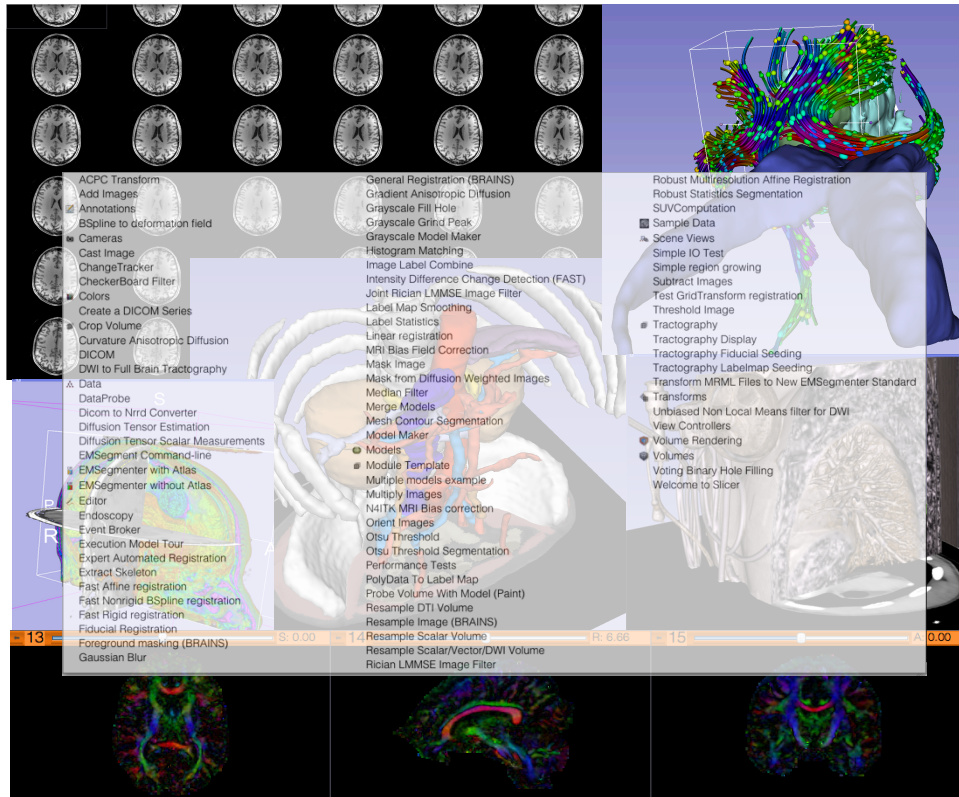
Adjusting Window & Level on All Platforms: Left-clicking and dragging the mouse in any Slice viewer is a quick way to adjust Window and Level. Adjust the middle value (level) of the greyscale window by moving the mouse up (increase level) or down (decrease level), and adjust the greyscale window size 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 over any "pickable" object in any of Slicer's viewers will cause the cursor to change from a "pointer" into a "picking hand". When the cursor shows a picking hand, left-clicking and dragging the mouse will pick and manipulate the object. Releasing

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 Slicer4.0 compendium

<http://www.slicer.org/slicerWiki/index.php/Documentation/4.0/Training>

Acknowledgments



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NIH U54EB005149



Neuroimage Analysis Center

NIH P41RR013218