

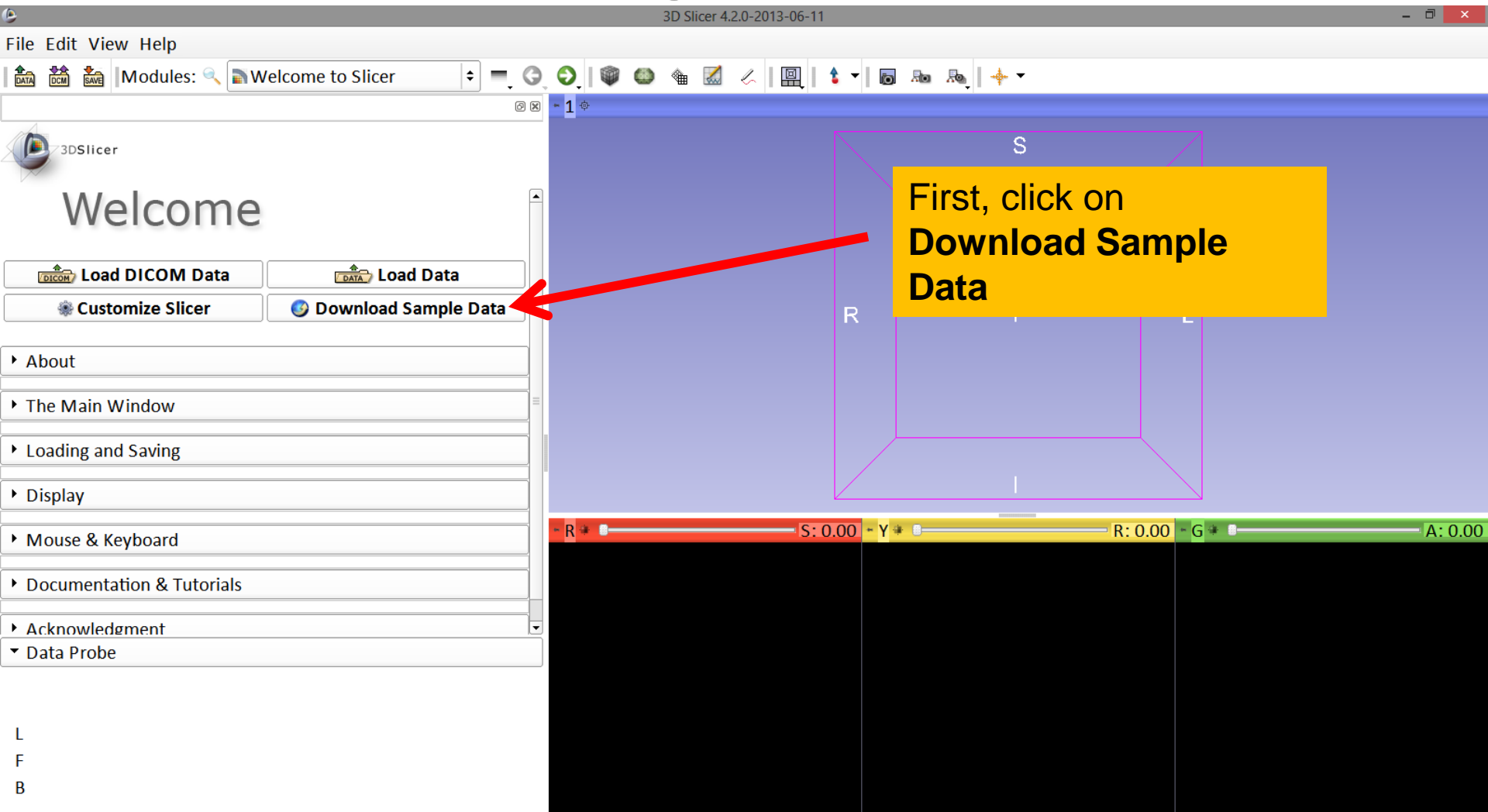


# 3D Data Loading and Visualization

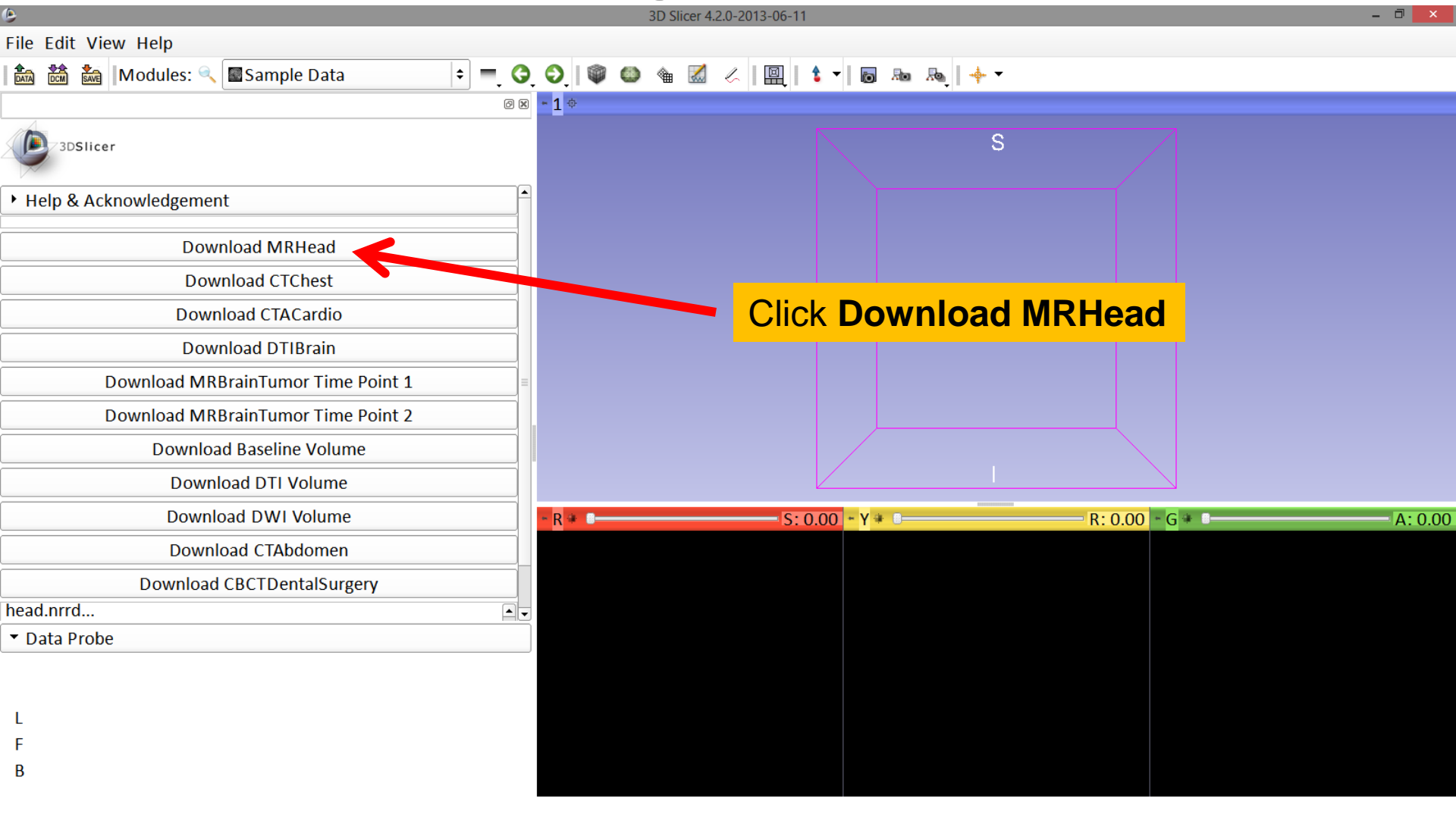
Sonia Pujol, Ph.D.

Surgical Planning Laboratory  
Harvard University

# Loading a volume



# Loading a volume



# Loading a volume

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Sample Data

3DSlicer

Help & Acknowledgement

- Download MRHead
- Download CTchest
- Download CTACardio
- Download DTIBrain
- Download MRBrainTumor Time Point 1
- Download MRBrainTumor Time Point 2
- Download Baseline Volume
- Download DTI Volume
- Download DWI Volume
- Download CTAbdomen
- Download CBCTDentalSurgery

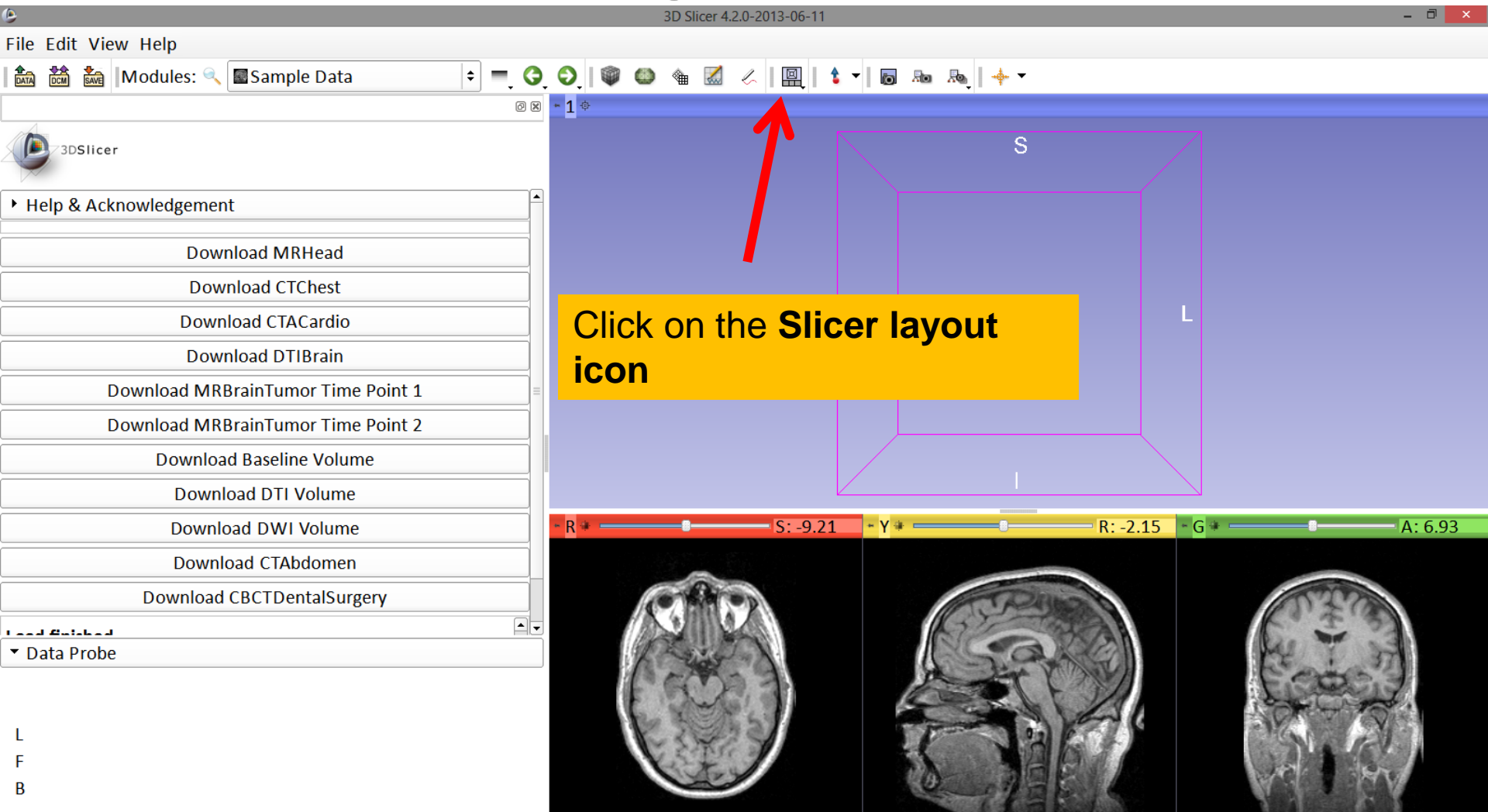
L  
F  
B

The axial, sagittal and coronal views appear in the 2D viewers

R P L

-R\* S: -9.21 -Y\* R: -2.15 -G\* A: 6.93

# Loading a volume



# Loading a volume

The screenshot shows the 3D Slicer interface with the 'View' menu open. The 'Red slice only' option is highlighted in blue. A red arrow points from a yellow callout box to this option. The interface includes a menu bar (File, Edit, View, Help), a toolbar, a left sidebar with 'Sample Data' and 'Help & Acknowledgement' sections, and a main 3D view area with a purple wireframe box and a red slice visible. Below the 3D view are three 2D slice views (axial, sagittal, coronal) and a status bar with coordinates R: -2.15, G, and A: 6.93.

File Edit View Help

Modules: Sample Data

3DSlicer

Help & Acknowledgement

- Download MRHead
- Download CTchest
- Download CTACardio
- Download DTIBrain
- Download MRBrainTumor Time Point 1
- Download MRBrainTumor Time Point 2
- Download Baseline Volume
- Download DTI Volume
- Download DWI Volume
- Download CTAbdomen
- Download CBCTDentalSurgery

Load finished

Data Probe

View

- Conventional
- Conventional Widescreen
- Conventional Quantitative
- Four-Up
- Four-Up Quantitative
- Dual 3D
- Triple 3D
- 3D only
- One-Up Quantitative
- Red slice only**
- Yellow slice only
- Green slice only
- Tabbed 3D
- Tabbed slice
- Compare
- Compare Widescreen
- Compare Grid
- Three over three
- Three Over Three Quantitative
- Four over four
- Two over Two

R: -2.15 G A: 6.93

**Click on the Red slice only option**

# Loading a volume

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Sample Data

- Download MRHead
- Download CTchest
- Download CTACardio
- Download DTIBrain
- Download MRBrainTumor Time Point 1
- Download MRBrainTumor Time Point 2
- Download Baseline Volume
- Download DTI Volume
- Download DWI Volume
- Download CTAbdomen
- Download CBCTDentalSurgery

Position your mouse over the pin icon to display the slice viewer toolbar

# Loading a volume

The screenshot shows the 3D Slicer interface. The top menu bar includes 'File', 'Edit', 'View', and 'Help'. Below it is the 'Sample Data' module toolbar. The main window displays an axial MRI slice of a brain. The slice viewer toolbar at the top of the main window shows the 'MRHead' volume selected and the 'Axial' slice type. A red arrow points from the '>>' button in the slice viewer toolbar to the 'Download MRHead' button in the 'Sample Data' module's 'Help & Acknowledgement' section.

File Edit View Help  
Sample Data  
3DSlicer  
Help & Acknowledgement  
Download MRHead  
Download CTchest  
Download CTACardio  
Download DTIBrain  
Download MRBrainTumor Time Point 1  
Download MRBrainTumor Time Point 2  
Download Baseline Volume  
Download DTI Volume  
Download DWI Volume  
Download CTAbdomen  
Download CBCTDentalSurgery  
Data Probe

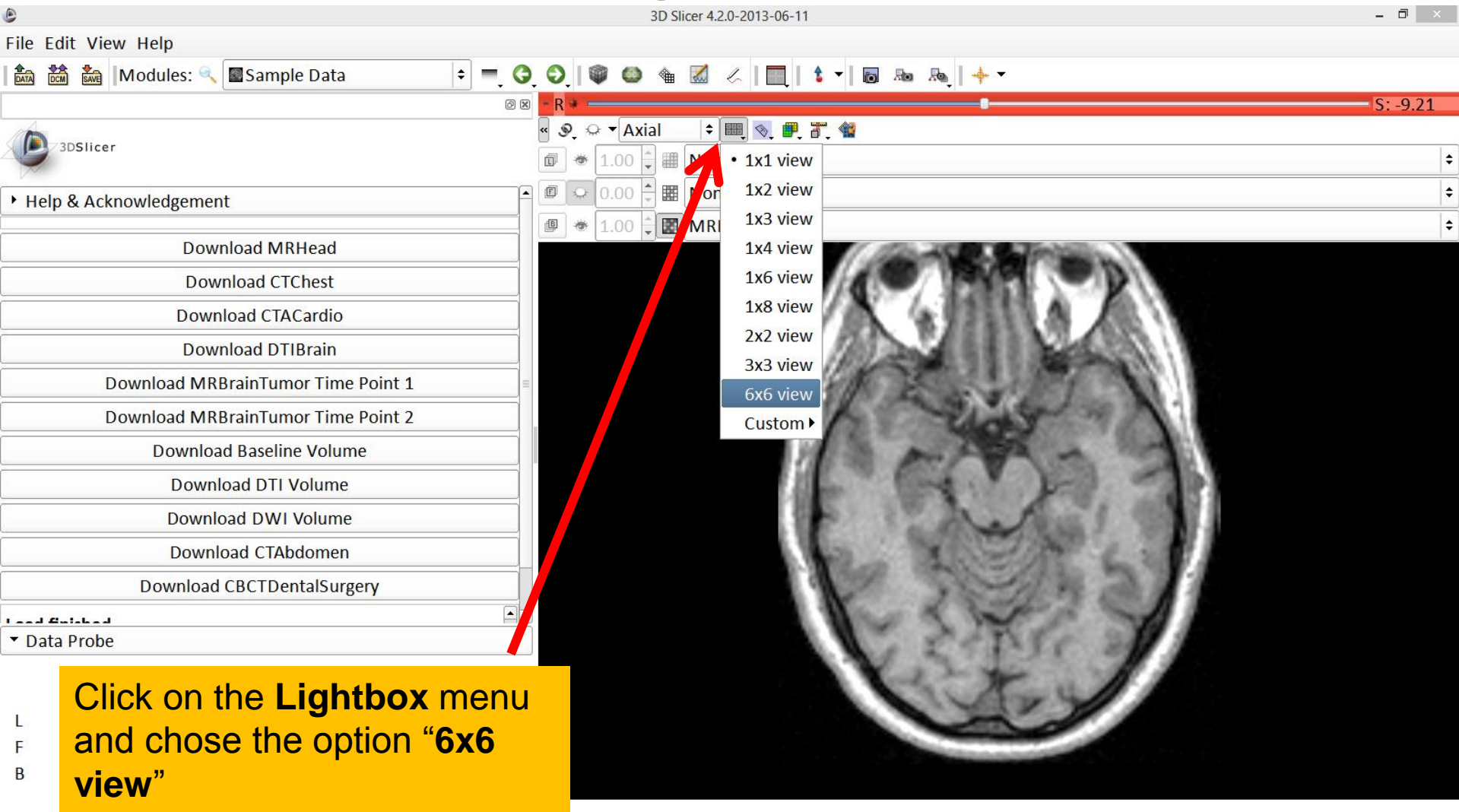
Once the slice viewer toolbar is displayed, click on the ">>"



# Loading a volume

The screenshot shows the 3D Slicer software interface. The main window displays an axial MRI slice of a brain. A red rectangular box highlights the volume control menu at the top of the slice view, which includes a scroll bar, a view selector (set to 'Axial'), and three volume entries: 'None' (opacity 1.00), 'None' (opacity 0.00), and 'MRHead' (opacity 1.00). A green text box on the left side of the interface contains the text: "This menu will appear once the '>>' button is pressed". The left sidebar shows a 'Sample Data' module with various download buttons for MRHead, CTchest, MRBrainTumor Time Point 2, Baseline Volume, DTI Volume, DWI Volume, CTAbdomen, and CBCTDentalSurgery. The bottom left corner has 'L', 'F', and 'B' labels for the slice view.

# Loading a volume



The screenshot shows the 3D Slicer interface. The top menu bar includes File, Edit, View, and Help. The main toolbar contains various icons for file operations and viewing. The left sidebar shows the 'Sample Data' module with a list of download options. The central view displays an axial MRI slice of a brain. A red arrow points from the 'Lightbox' icon in the toolbar to the '6x6 view' option in the dropdown menu.

Click on the **Lightbox** menu and chose the option “**6x6 view**”

# Loading a volume

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Sample Data

3DSlicer

Help & Acknowledgement

Download MRHead

Download CTchest

Slicer displays 36 consecutive images of the dicom volume. Use the red slice slider to browse through the data

Download CTAbdomen

Download CBCTDentalSurgery

Data Probe

Red RAS: (22.4, -86.3, -1.2) Axial Sp: 1.0

L None ()

F None ()

B MRHead (220, 118, 84) 66

S: -9.21

# Loading a volume

File Edit View Help

DATA DCM SAVE Modules: Sample Data

3DSlicer

Help & Acknowledgement

- Download MRHead
- Download CTchest
- Download CTACardio
- Download DTIBrain
- Download MRBrainTumor Time Point 1
- Download MRBrainTumor Time Point 2
- Download Baseline Volume
- Download DTI Volume
- Download DWI Volume
- Download CTAbdomen
- Download CBCTDentalSurgery

Load finished

Data Probe

Conventional

- Conventional Widescreen
- Conventional Quantitative
- Four-Up
- Four-Up Quantitative
- Dual 3D
- Triple 3D
- 3D only
- One-Up Quantitative
- Red slice only
- Yellow slice only
- Green slice only
- Tabbed 3D
- Tabbed slice
- Compare
- Compare Widescreen
- Compare Grid
- Three over three
- Three Over Three Quantitative
- Four over four
- Two over Two

S: -9.21

Click on the **Slicer layout icon** and select **Conventional**

# Loading a volume

File Edit View Help

Modules: Sample Data

3DSlicer

Help & Acknowledgement

- Download MRHead
- Download CTchest
- Download CTACardio
- Download DTIBrain
- Download MRBrainTumor Time Point 1

Position your arrow again on the **pin icon** of the red viewer, select the **Lightbox** menu and change it back to **"1x1 view"**

1x1 view  
1x2 view  
1x3 view  
1x4 view  
1x6 view  
1x8 view  
2x2 view  
3x3 view  
6x6 view  
Custom ▶

R

Axial

None

None

MRHead

L  
F  
B

R: -2.15 G A: 6.93

# Loading a volume

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Sample Data

3DSlicer

Help & Acknowledgement

Position your arrow again on the **pin icon** of the red viewer and click on the links icon to link all three viewers

- Download MRBrainTumor Time Point 2
- Download Baseline Volume
- Download DTI Volume
- Download DWI Volume
- Download CTAbdomen
- Download CBCTDentalSurgery

Load finished

Data Probe

S: -18.71 Y R: -2.15 G A: 6.93

Axial

1.00 None

0.00 None

1.00 MRHead

L F B

# Loading a volume

File Edit View Help

Modules: Sample Data

3DSlicer

Help & Acknowledgement

- Download MRHead
- Download CTchest
- Download CTACardio
- Download DTIBrain
- Download MRBrainTumor Time Point 1
- Download MRBrainTumor Time Point 2
- Download Baseline Volume
- Download DTI Volume
- Download DWI Volume

Once the icons are linked, click on the **eye icon** to display all 3 anatomical slices in the 3D viewer

-R S: -18.71 -Y R: -2.15 -G A: 6.93

Axial

1.00 None

0.00 None

1.00 MRHead

# Loading a volume

File Edit View Help

3D Slicer 4.2.0-2013-06-11

Modules: Sample Data

3DSlicer

Help & Acknowledgement

- Download MRHead
- Download CTChes
- Download CTACard
- Download DTIBrain
- Download MRBrainTumor Time Point 1
- Download MRBrainTumor Time Point 2
- Download Baseline Volume
- Download DTI Volume
- Download DWI Volume
- Download CTAbdomen
- Download CBCTDentalSurgery

All three anatomical slices are shown in the 3D viewer

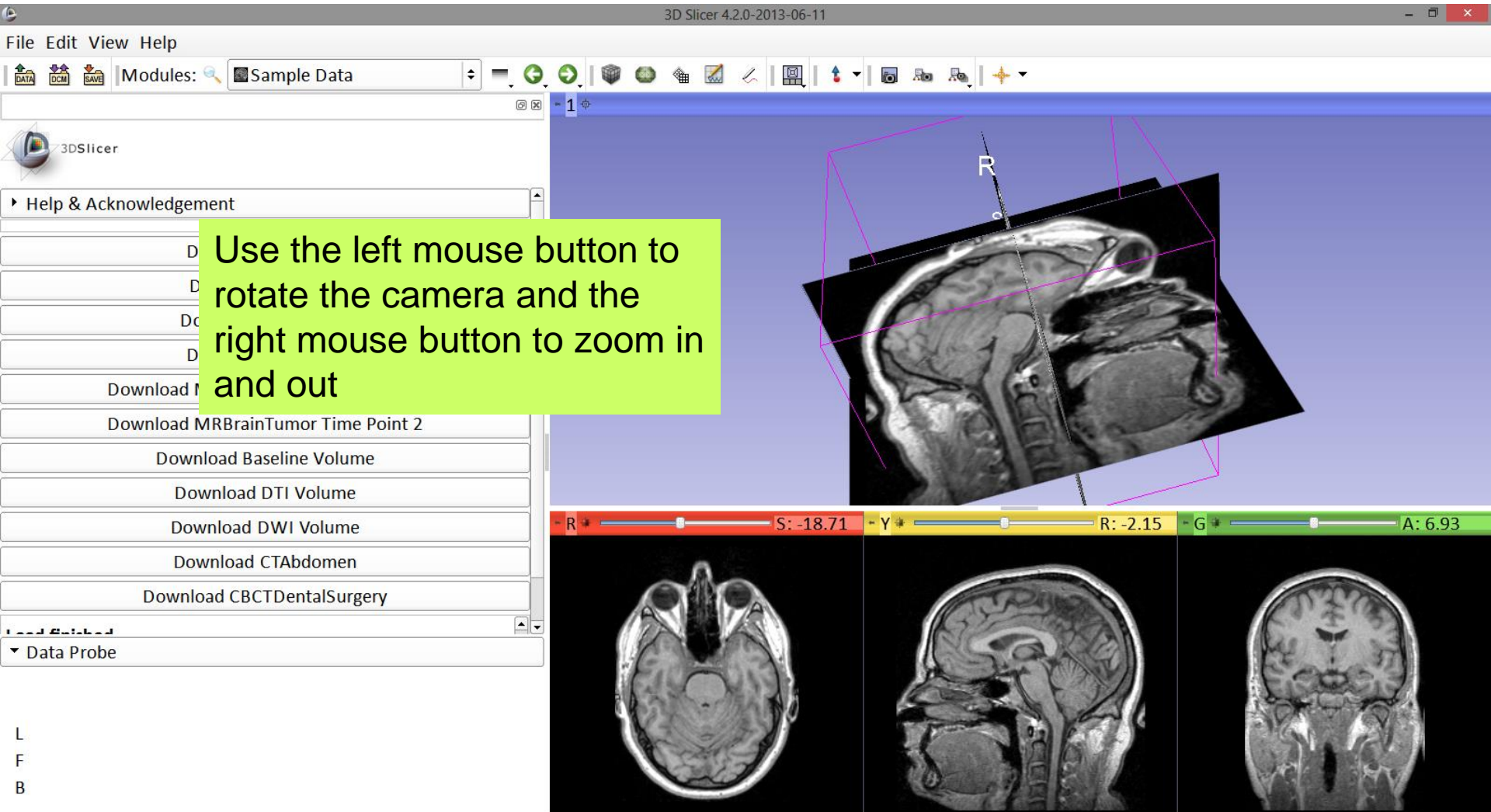
R L

-R S: -18.71 -Y R: -2.15 -G A: 6.93

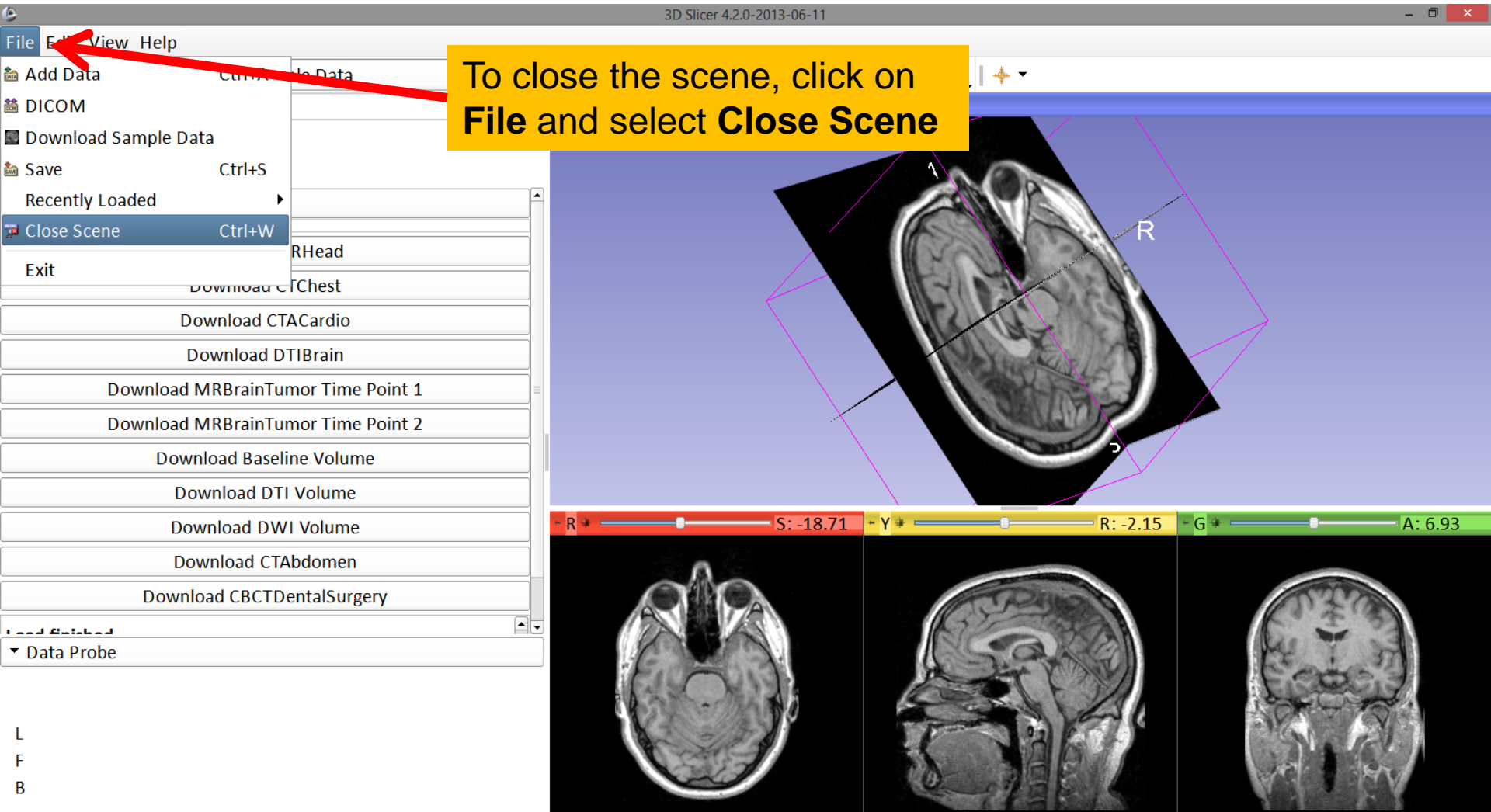
L  
F  
B



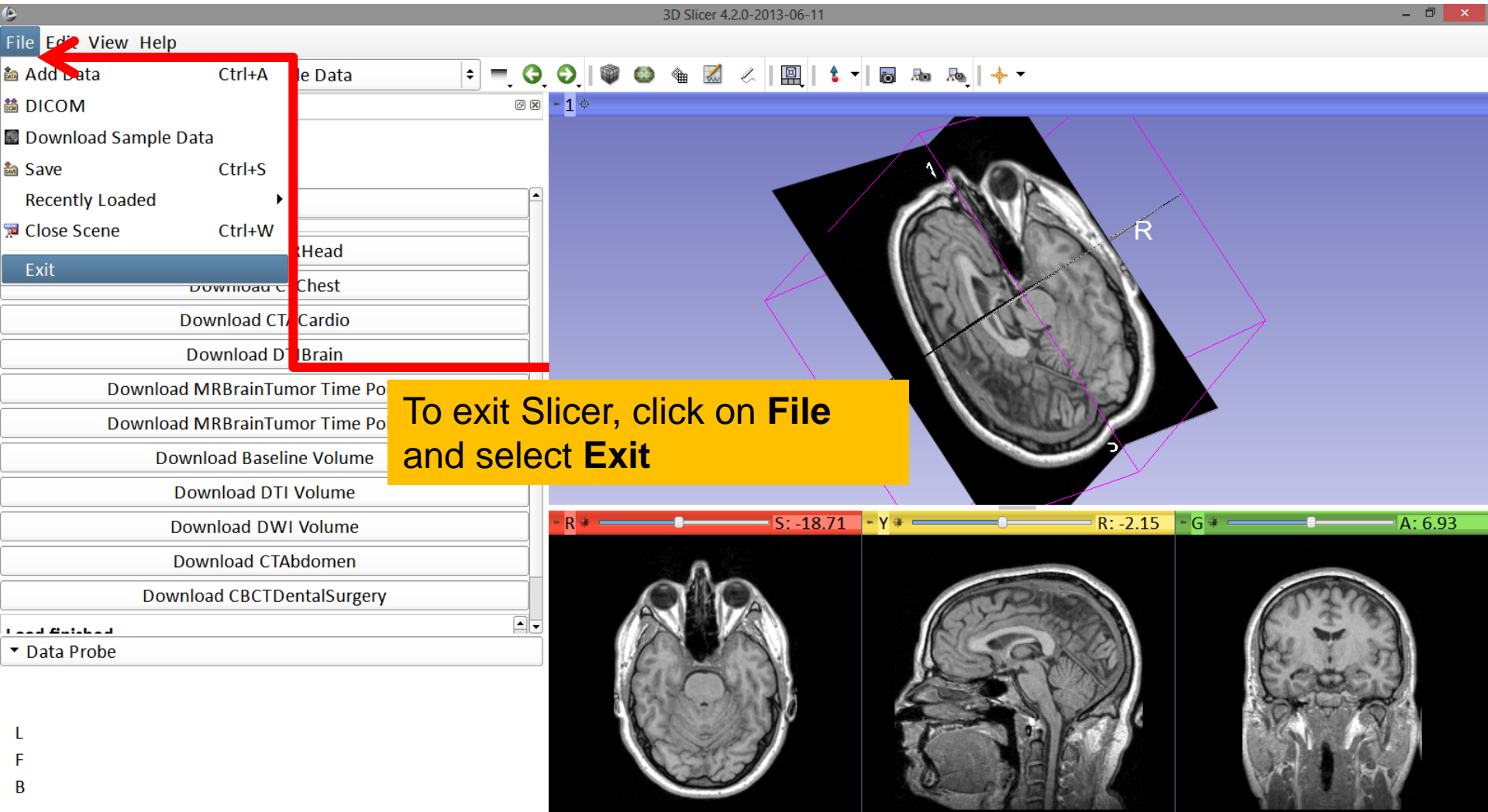
# Loading a DICOM volume

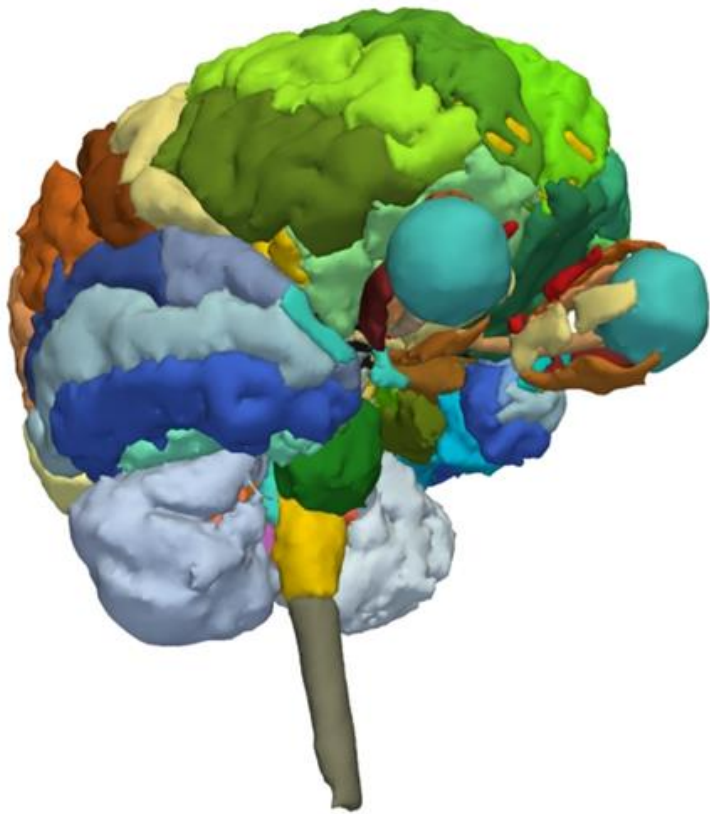


# Close the scene



# Exit Slicer

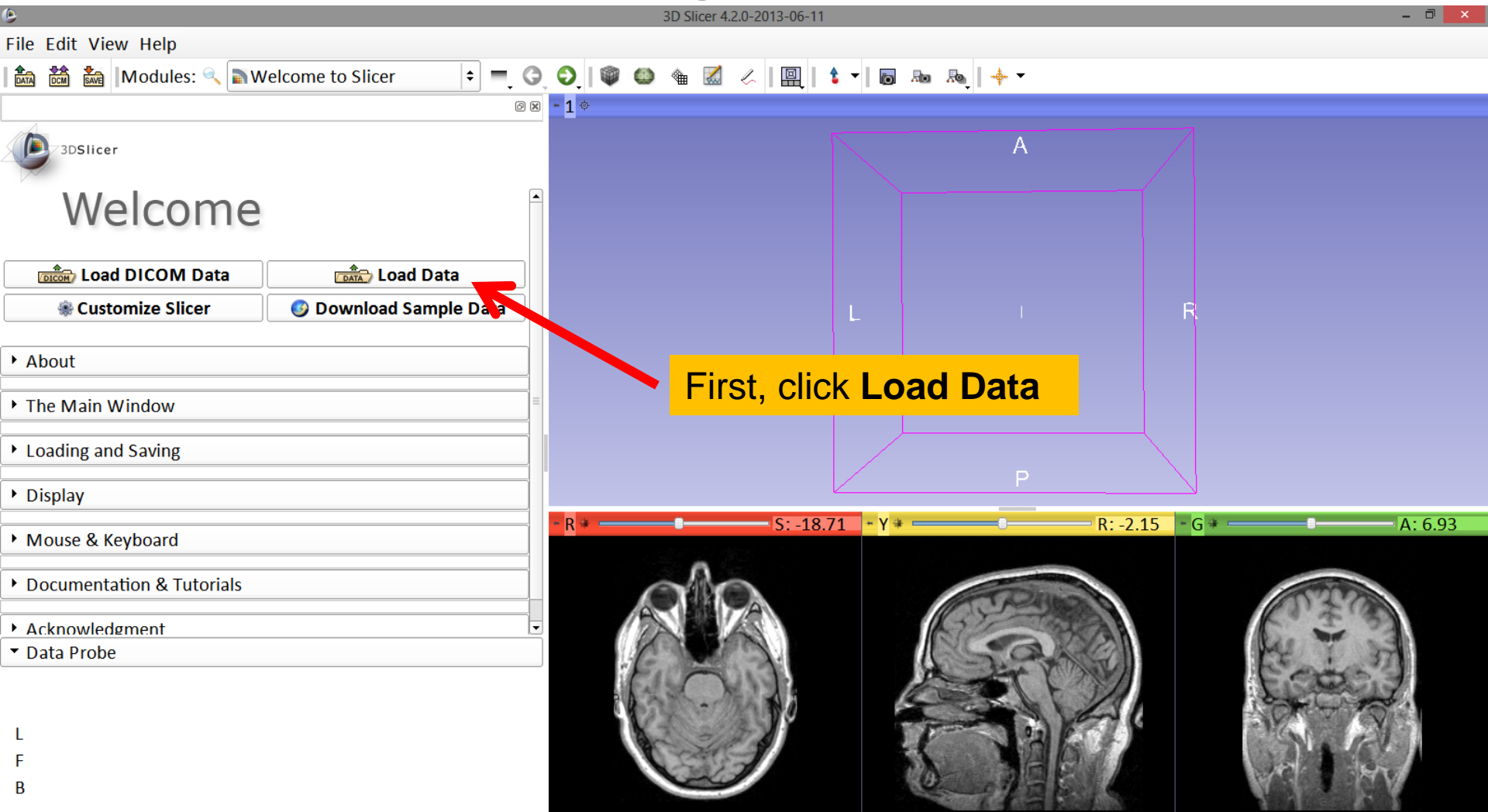




## Part 2:

3D visualization of surface models of the brain

# Loading a Scene



# Loading a Scene

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Welcome to Slicer

3DSlicer

## Welcome

Load DICOM Data Customize Slicer Download

About The Main Window Loading and Saving Display Mouse & Keyboard Documentation & Tutorials Acknowledgment Data Probe

L  
F  
B

**Then click Choose File(s) to Add**

Add data into the scene

Choose Directory to Add Choose File(s) to Add Show Options

	File	Description
<input checked="" type="checkbox"/>	File	

Reset OK Cancel

R: -2.15 -G A: 6.93

# Loading a Scene

File Edit View Help

3D Slicer 4.2.0-2013-06-11

Modules: Welcome to Slicer

3DSlicer

Welcome

Load DICOM Data

Documentation & Tutorials

Acknowledgment

Data Probe

L

F

B

Open

Look in: C:\Users\f...3DHeadData

flynnr

- .3DHeadScene.mrml.swp
- .DS\_Store
- 3DHeadScene.mrml
- grayscale.nrrd
- hemispheric\_white\_matter.vtk
- left\_eyeball.vtk
- Master Scene View.png
- mynewscene.mrml
- optical\_chiasm.vtk
- optical\_nerve\_L.vtk
- optical\_nerve\_R.vtk
- optical\_tract\_L.vtk
- optical\_tract\_R.vtk
- right\_eyeball.vtk
- Skin.vtk
- skull\_bone.vtk

File name: 3DHeadScene.mrml

Files of type: All Files (\*)

Open

Cancel

R: -2.15 -G+ A: 6.93

# Loading a Scene

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Welcome to Slicer

3DSlicer

## Welcome

Load DICOM Data | Customize Slicer | Download

- About
- The Main Window
- Loading and Saving
- Display
- Mouse & Keyboard
- Documentation & Tutorials
- Acknowledgment
- Data Probe

L  
F  
B

3D View: A, R

2D Viewports: R: -2.15, A: 6.93

Add data into the scene

Choose Directory to Add | Choose File(s) to Add | Show Options

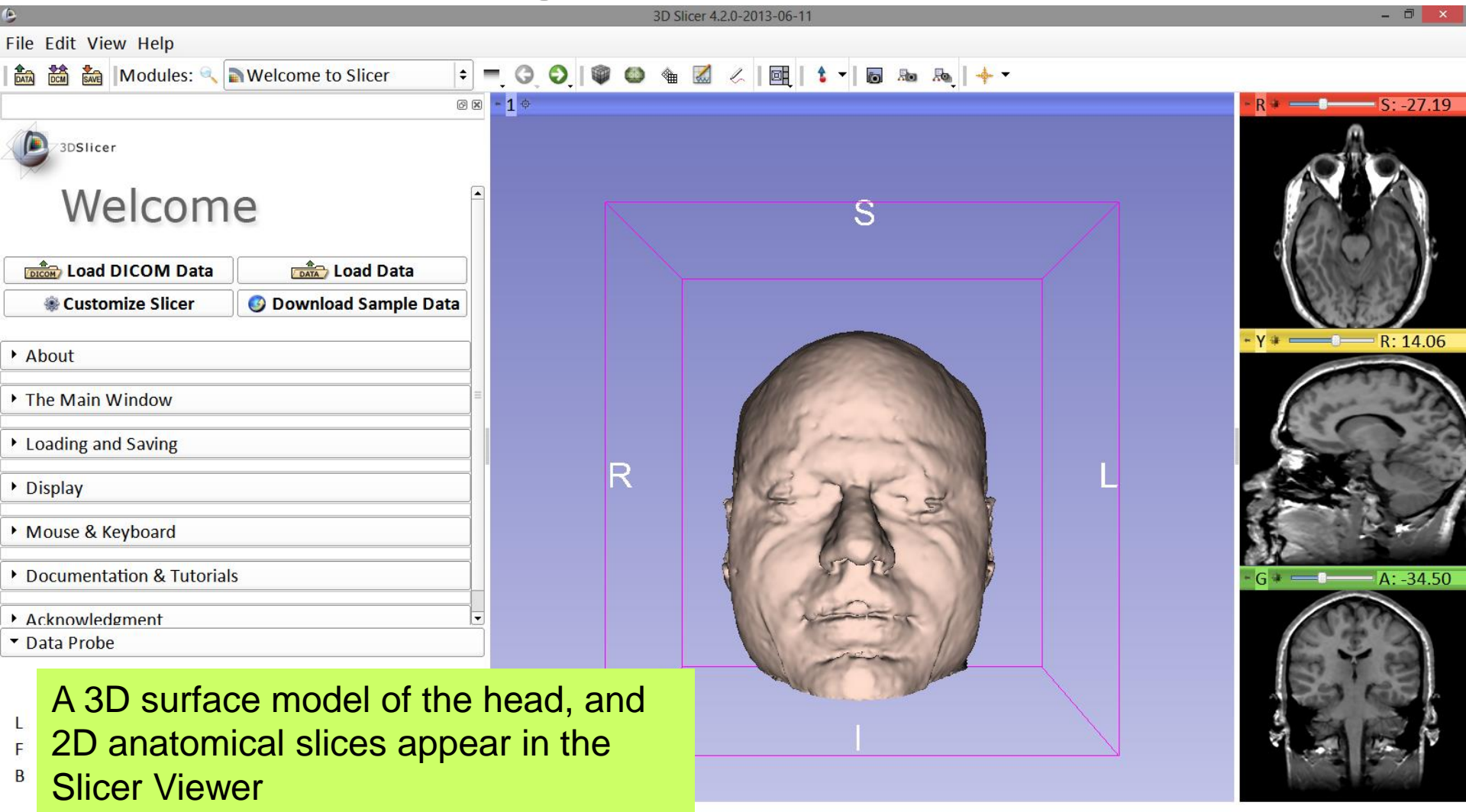
File	Description
...esktop/3DVisualizationData/3DHeadData/3DHeadScene.mrml	MRML Scene

Reset | OK | Cancel

Click OK



# Loading the Slicer Scene



# Loading the Slicer Scene

The screenshot displays the 3D Slicer interface. The 'Modules' menu is open, showing a list of modules including Annotations, Data, DICOM, Editor, Models, Scene Views, Transforms, View Controllers, Volume Rendering, Volumes, and Welcome to Slicer. A red arrow points to the 'Modules' menu. The main 3D view shows a 3D model of a human head with anatomical planes labeled S (Superior), R (Right), L (Left), and I (Inferior). The right side of the interface shows three orthogonal MRI slices: axial, sagittal, and coronal. The axial slice is labeled R and S: -27.19. The sagittal slice is labeled Y and R: 14.06. The coronal slice is labeled G and A: -34.50. A yellow box at the bottom left contains the text: 'Select the **Modules** menu and select **Models**'.

Select the **Modules** menu and select **Models**

# Models Module

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Models

3DSlicer

Help & Acknowledgement

Scene

- hemispheric\_white\_matter.vtk 1.00
- left\_eyeball.vtk 1.00
- optic\_chiasm.vtk 1.00
- optic\_nerve\_L.vtk 1.00
- optic\_nerve\_R.vtk 1.00
- optic\_tract\_L.vtk 1.00

Display

Visibility

Visible:

Clip:

Data Probe

S

R

L

I

R: -27.19

R: 14.06

A: -34.50

The list of 3D scenes appear in the Models panel

L  
F  
B

# 3D Visualization

The screenshot displays the 3D Slicer 4.2.0-2013-06-11 interface. The main window shows a 3D model of a human head with a purple wireframe bounding box. The axes are labeled: 'S' for Superior, 'R' for Right, and 'L' for Left. A red arrow points from a yellow text box to the 'Axial' slice menu in the top right corner. The slice menu also shows 'Sagittal' and 'Coronal' options. The 'Axial' slice is currently selected, showing a cross-section of the brain. The 'Sagittal' slice shows a side view of the brain, and the 'Coronal' slice shows a front view. The 'Sagittal' slice has a position indicator 'R: 14.06' and the 'Coronal' slice has 'A: -34.50'. The left sidebar contains a 'Scene' panel with a list of models and their visibility, an 'Information' panel, a 'Display' panel, and a 'Data Probe' panel. The 'Scene' panel lists: hemispheric\_white\_matter.vtk (1.00), left\_eyeball.vtk (1.00), optic\_chiasm.vtk (1.00), optic\_nerve\_L.vtk (1.00), optic\_nerve\_R.vtk (1.00), and optic\_tract\_L.vtk (1.00). The 'Display' panel has 'Visible' checked, 'Clip' unchecked, and 'Color' set to 'Default'. The 'Data Probe' panel is empty. The bottom left corner has 'L', 'F', and 'B' labels.

Position the cursor over the **pin icon** to reveal the slice menu and click on the **eye icon** to reveal the axial slice

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Models

Scene

- hemispheric\_white\_matter.vtk 1.00
- left\_eyeball.vtk 1.00
- optic\_chiasm.vtk 1.00
- optic\_nerve\_L.vtk 1.00
- optic\_nerve\_R.vtk 1.00
- optic\_tract\_L.vtk 1.00

Information

Display

Visibility

Visible:

Clip:

Data Probe

R S L

Y R: 14.06

G A: -34.50

L  
F  
B

# 3D Visualization

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Models

3DSlicer

- optical\_nerve\_L.vtk 1.00
- optical\_nerve\_R.vtk 1.00
- optical\_tract\_L.vtk 1.00
- optical\_tract\_R.vtk 1.00
- right\_eyeball.vtk 1.00
- Skin.vtk 1.00**
- skull\_bone.vtk 1.00

Information

Display

Visibility

Visible:

Clip:

Slice Intersections Visible:

Slice Intersections Thickness: 1 px

Data Probe

Notice the axial slice through the 3D model of the head

Once the axial slice is displayed in the 3D viewer, click on **Skin.vtk** in the list of 3D scenes

R L

R: -27.19

R: 14.06

A: -34.50

# 3D Visualization

File Edit View Help

3D Slicer 4.2.0-2013-06-11

Modules: Models

3DSlicer

Display

Visibility

Visible:

Clip:

Slice Intersections Visible:

Slice Intersections Thickness: 1 px

Representation

Color

Color: #ffddce

Opacity: 1.00

Edge Visibility:

Edge Color: #000000

Lighting

Material

Scalars

Data Probe

S

R

L

R: -27.19

R: 14.06

A: -34.50

Scroll down the **Models** tabs and locate the “**Color**” tab. Lower the **Opacity** to a transparent level, around .30

# 3D Visualization

The screenshot displays the 3D Slicer 4.2.0-2013-06-11 interface. The main 3D view shows a skull model with a semi-transparent skin layer. The 'Display' panel on the left is expanded to show the 'Color' section, where the 'Opacity' slider is set to 0.30. The 'Color' dropdown is set to #ffddce. The 'Edge Color' is set to #000000. The 'Visibility' section shows 'Visible' checked. The 'Representation' section is collapsed. The 'Lighting' section is collapsed. The 'Material' section is collapsed. The 'Scalars' section is collapsed. The 'Data Probe' section is collapsed. The 'Display' panel also shows 'Slice Intersections Visible' unchecked and 'Slice Intersections Thickness' set to 1 px. The 3D view is labeled with 'S' (Superior), 'R' (Right), and 'L' (Left). The right sidebar shows three orthogonal MRI slices: Axial (S: -27.19), Sagittal (R: 14.06), and Coronal (A: -34.50).

L  
F  
B

Notice the skin has become almost fully transparent

# 3D Visualization

The screenshot displays the 3D Slicer interface. The main 3D view shows a skull model with blue eyes, centered within a purple wireframe bounding box. The axes are labeled S (Superior), R (Right), L (Left), and I (Inferior). To the left, the 'Models' panel lists several files: optic\_nerve\_R.vtk, optic\_tract\_L.vtk, optic\_tract\_R.vtk, right\_eyeball.vtk, Skin.vtk, and skull\_bone.vtk. A red arrow points from the 'skull\_bone.vtk' entry to a yellow callout box. The 'Information' panel below the models panel shows the 'Visible' checkbox checked. To the right, three MRI slices are visible: an axial slice at the top (S: -27.19), a sagittal slice in the middle (R: 14.06), and a coronal slice at the bottom (A: -34.50).

File Edit View Help

3D Slicer 4.2.0-2013-06-11

File Edit View Help

DATA DCM SAVE Modules: Models

3DSlicer

- optic\_nerve\_R.vtk 1.00
- optic\_tract\_L.vtk 1.00
- optic\_tract\_R.vtk 1.00
- right\_eyeball.vtk 1.00
- Skin.vtk 0.30
- skull\_bone.vtk 1.00

Information

Display

Visibility

Visible:

Clip:

Slice Intersections Visible:

Slice Intersections Thickness: 1 p

Representation

Color

Data Probe

S

R L

I

R: -27.19

Y R: 14.06

G A: -34.50

L  
F  
B

Scroll back up to the 3D scenes menu and select **skull\_bone.vtk**



# 3D Visualization

The screenshot shows the 3D Slicer interface. The main 3D view displays a semi-transparent skull with internal structures like the optic nerves and tracts. A red arrow points to the 'Visible' checkbox in the 'Visibility' section of the left sidebar, which is currently unchecked. A yellow callout box contains the following text:

Turn off its visibility by unchecking the **Visibility** option and notice the bone disappearing from the 3D view of the head

The interface includes a menu bar (File, Edit, View, Help), a toolbar with various icons, and a sidebar with a 'Models' list containing items like 'optic\_nerve\_R.vtk', 'optic\_tract\_L.vtk', 'optic\_tract\_R.vtk', 'right\_eyeball.vtk', 'Skin.vtk', and 'skull\_bone.vtk'. The 'Display' and 'Visibility' sections are expanded in the sidebar. The 3D view is labeled with 'S' (Superior), 'R' (Right), and 'L' (Left). On the right side, there are three axial, sagittal, and coronal MRI slice views with their respective coordinates.

# 3D Visualization

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Models

3DSlicer

- optic\_nerve\_R.vtk 1.00
- optic\_tract\_L.vtk 1.00
- optic\_tract\_R.vtk 1.00
- right\_eyeball.vtk 1.00
- Skin.vtk 0.30
- skull\_bone.vtk 1.00

Information

Display

Visibility

Visible:

Clip:

Slice Intersections Visible:

Slice Intersections Thickness: 1 px

Representation

Color

Data Probe

S

R L

- R + S: -27.19

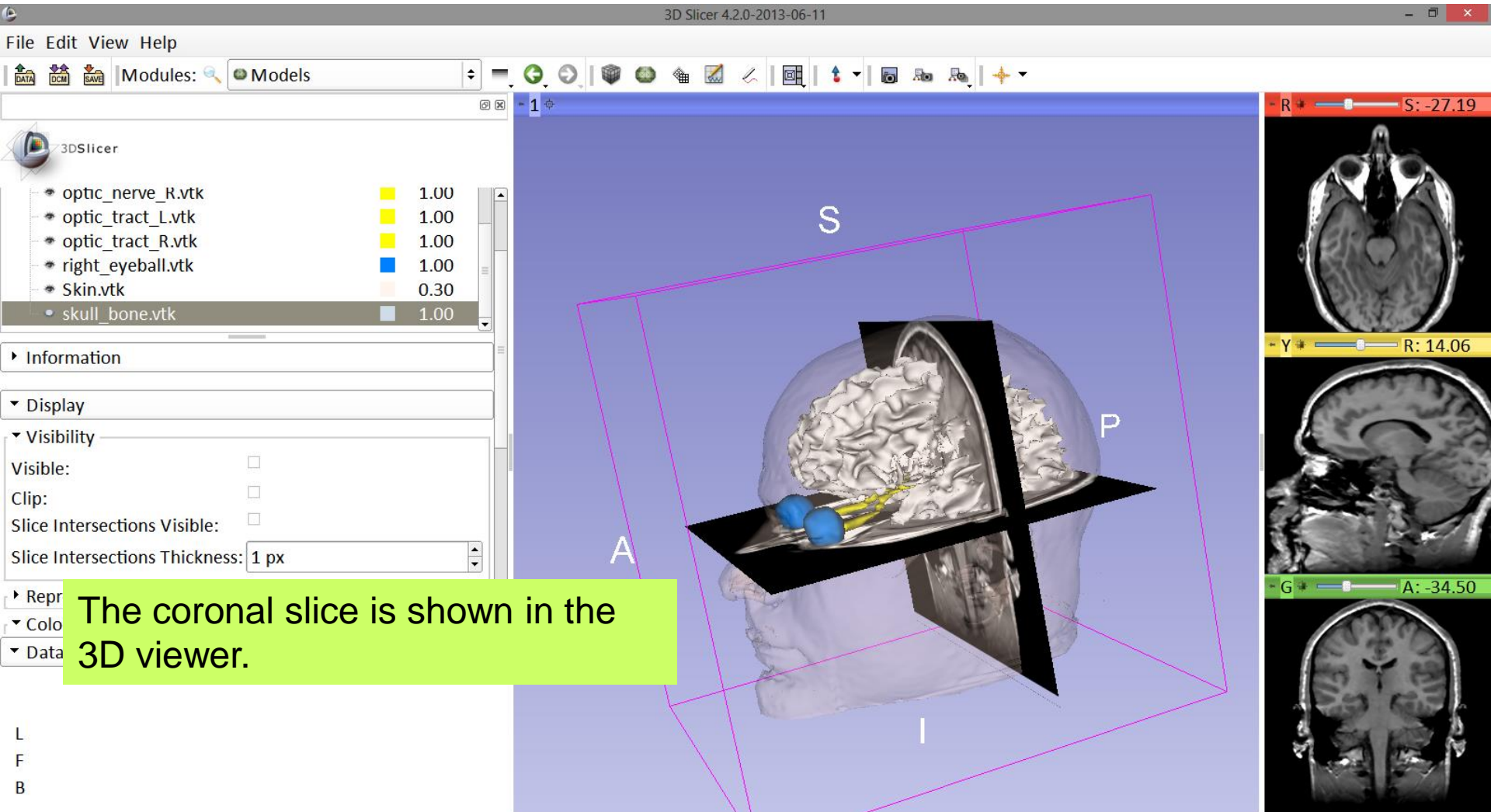
- Y + R: 14.06

- G + A: -34.50

Corona g...e

Position your mouse over the **pin icon** in the coronal slice view and select the **eye icon** to reveal the coronal slice in the 3D view

# 3D Visualization



# 3D Visualization

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Models

Scene

- hemispheric\_white\_matter.vtk 1.00
- left\_eyeball.vtk 1.00
- optic\_chiasm.vtk 1.00
- optic\_nerve\_L.vtk 1.00
- optic\_nerve\_R.vtk 1.00
- optic\_tract\_L.vtk 1.00

Information

Display

Visibility

Visible:

Clip:

Slice Intersections Visible:

Slice Intersections Thickness: 1 px

Data Probe

L  
F  
B

Scroll up and select the 3D scene **hemispheric\_white\_matter.vtk**, then check off the option for **Clip** under the **Visibility** tab

A  
P  
I

R: -27.19

Y: R: 14.06

G: A: -34.50

# 3D Visualization

The screenshot shows the 3D Slicer interface. The main window displays a 3D model of a brain with a semi-transparent skull and a white brain volume. A blue sphere and a yellow line are visible on the brain's surface. The model is viewed from a perspective that shows the anterior (A), posterior (P), superior (S), and inferior (I) directions. A red box highlights the 'Clipping' section in the left sidebar, where the 'Green Slice Clipping' option is checked, and the 'Negative' radio button is selected. The 'Data Probe' section is also visible below the clipping options. On the right side, there are three axial MRI slices with coordinate indicators: R: -27.19, R: 12.19, and A: -13.50.

Scroll down and find the tab **Clipping**, and check off the options for **Green Slice Clipping** and **Negative Space**

# 3D Visualization

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Models

3DSlicer

Representation

Color

Color: **The optic chiasm appears in the 3D viewer**

Opacity:

Edge Visibility:

Edge Color: #000000

Lighting

Material

Scalars

Clipping

Clipping Type:  Union  Intersection

Red Slice Clipping:  Positive  Negative

Yellow Slice Clipping:  Positive  Negative

Green Slice Clipping:  Positive  Negative

Data Probe

L R S I

R S: -38.44

Y R: 10.31

G A: -13.50

# 3D Visualization

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Models

3DSlicer

Information

Display

Visibility

Visible:

Clip:  **Scroll up and uncheck the option for `Clip` and lower the `Opacity` of `hemispheric_white_matter.vtk`**

Slice Intersections Visible:

Slice Intersections Thickness: 1 px

Representation

Color

Color: #ffffff

**Opacity: 0.30**

Edge Visibility:

Edge Color: #000000

Lighting

Data Probe

L  
F  
B

S

R

L

- R + S: -38.44

- Y + R: 10.31

- G + A: -13.50

# 3D Visualization

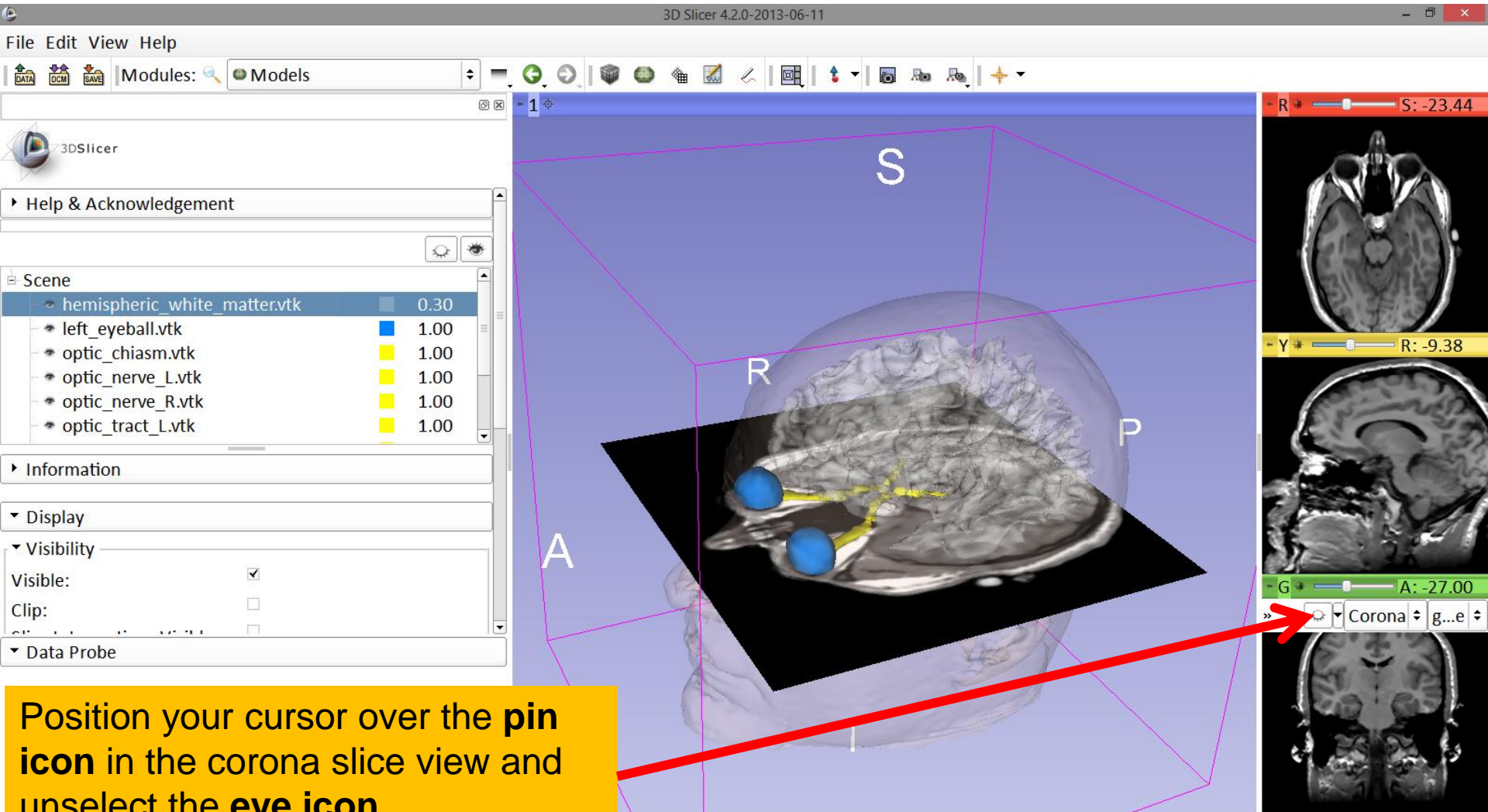
The screenshot displays the 3D Slicer interface. The main window shows a 3D model of a brain with a semi-transparent white matter surface. Three anatomical planes are visible: a sagittal plane (S), a coronal plane (R), and an axial plane (P). The intersection of these planes is labeled with 'A'. The 2D viewers on the right show the corresponding 2D slices: axial (top), sagittal (middle), and coronal (bottom). The interface includes a menu bar (File, Edit, View, Help), a toolbar, and a sidebar with a scene list and display settings.

Model Name	Color	Opacity
hemispheric_white_matter.vtk	Grey	0.30
left_eyeball.vtk	Blue	1.00
optic_chiasm.vtk	Yellow	1.00
optic_nerve_L.vtk	Yellow	1.00
optic_nerve_R.vtk	Yellow	1.00
optic_tract_L.vtk	Yellow	1.00

**The intersection of the white matter surface with the 2D anatomical slices are shown in the 2D viewers**



# 3D Visualization



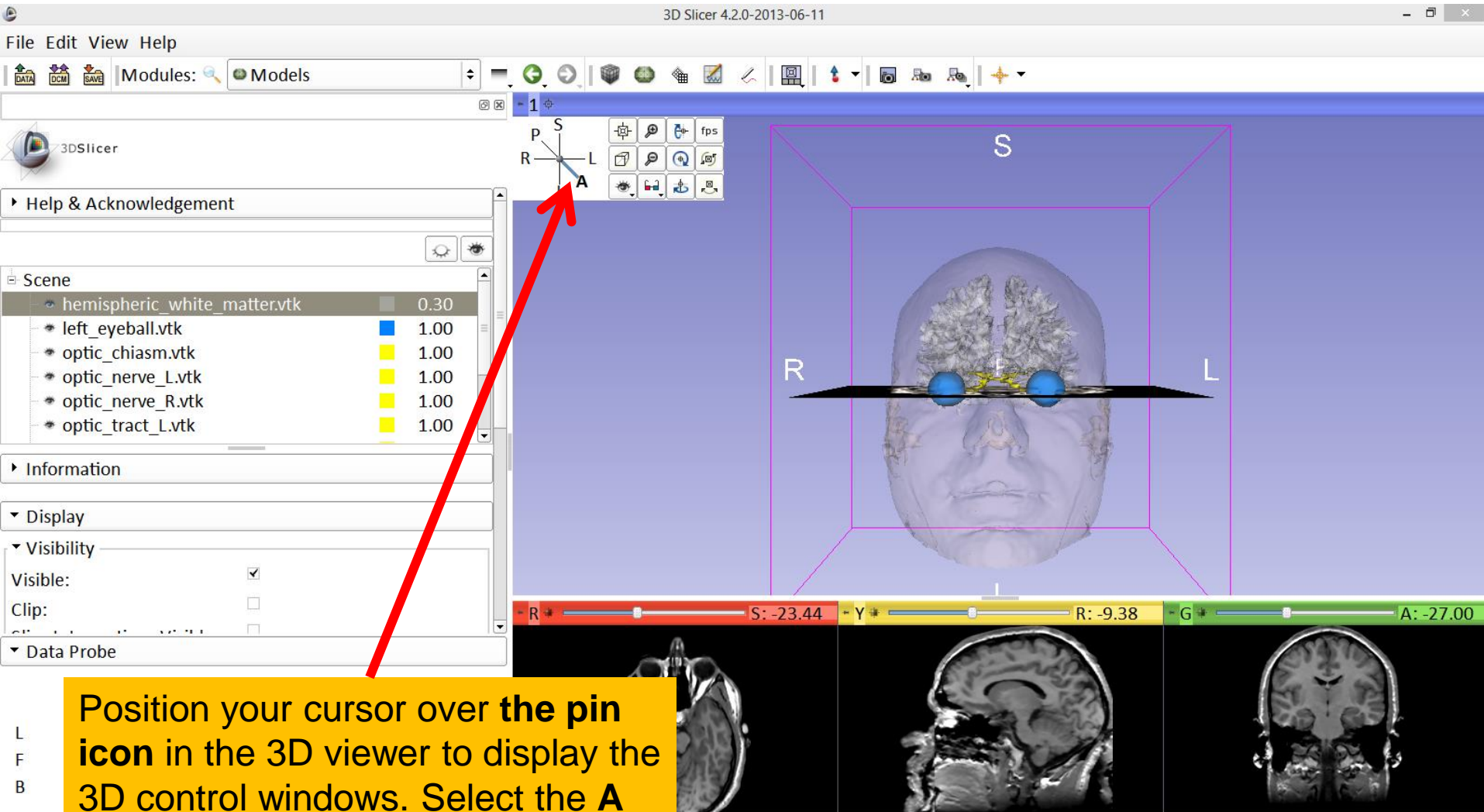
Position your cursor over the **pin icon** in the corona slice view and unselect the **eye icon**

# 3D Visualization

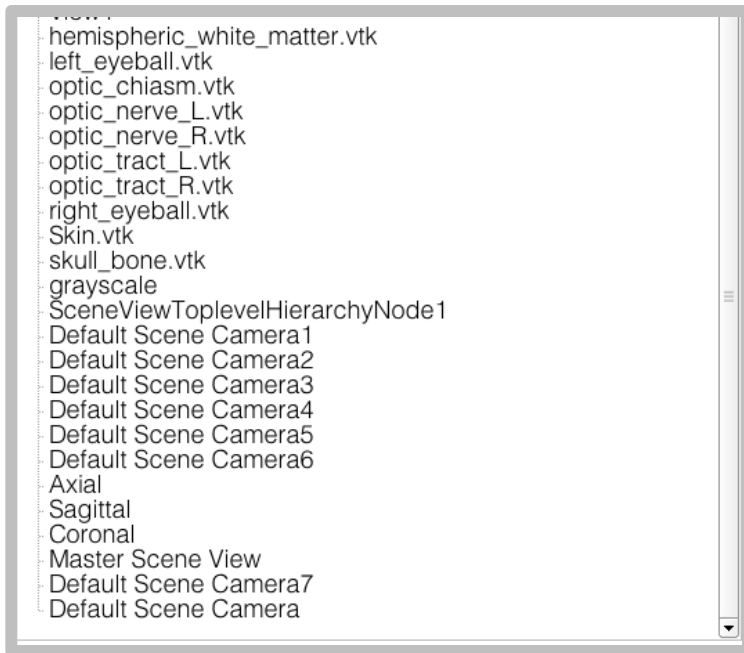
The screenshot displays the 3D Slicer software interface. The main window shows a 3D model of a brain with a blue sphere representing a lesion. The interface includes a menu bar (File, Edit, View, Help), a toolbar with icons for data, DCM, save, and models, and a sidebar with panels for Help & Acknowledgement, Scene, Information, Display, Visibility, and Data Probe. The Scene panel lists several models: hemispheric\_white\_matter.vtk (0.30), left\_eyeball.vtk (1.00), optic\_chiasm.vtk (1.00), optic\_nerve\_L.vtk (1.00), optic\_nerve\_R.vtk (1.00), and optic\_tract\_L.vtk (1.00). A red arrow points from a yellow callout box to the Slicer Layout icon in the toolbar. The Slicer Layout menu is open, showing various visualization options such as Conventional, Conventional Widescreen, Conventional Quantitative, Four-Up, Four-Up Quantitative, Dual 3D, Triple 3D, 3D only, One-Up Quantitative, Red slice only, Yellow slice only, Green slice only, Tabbed 3D, Tabbed slice, Compare, Compare Widescreen, Compare Grid, Three over three, Three Over Three Quantitative, Four over four, and Two over Two. The right side of the interface shows three orthogonal views of the brain: Axial (R: -23.44), Sagittal (R: -9.38), and Coronal (A: -27.00).

Click on the **Slicer Layout** icon and select **Conventional**

# 3D Visualization



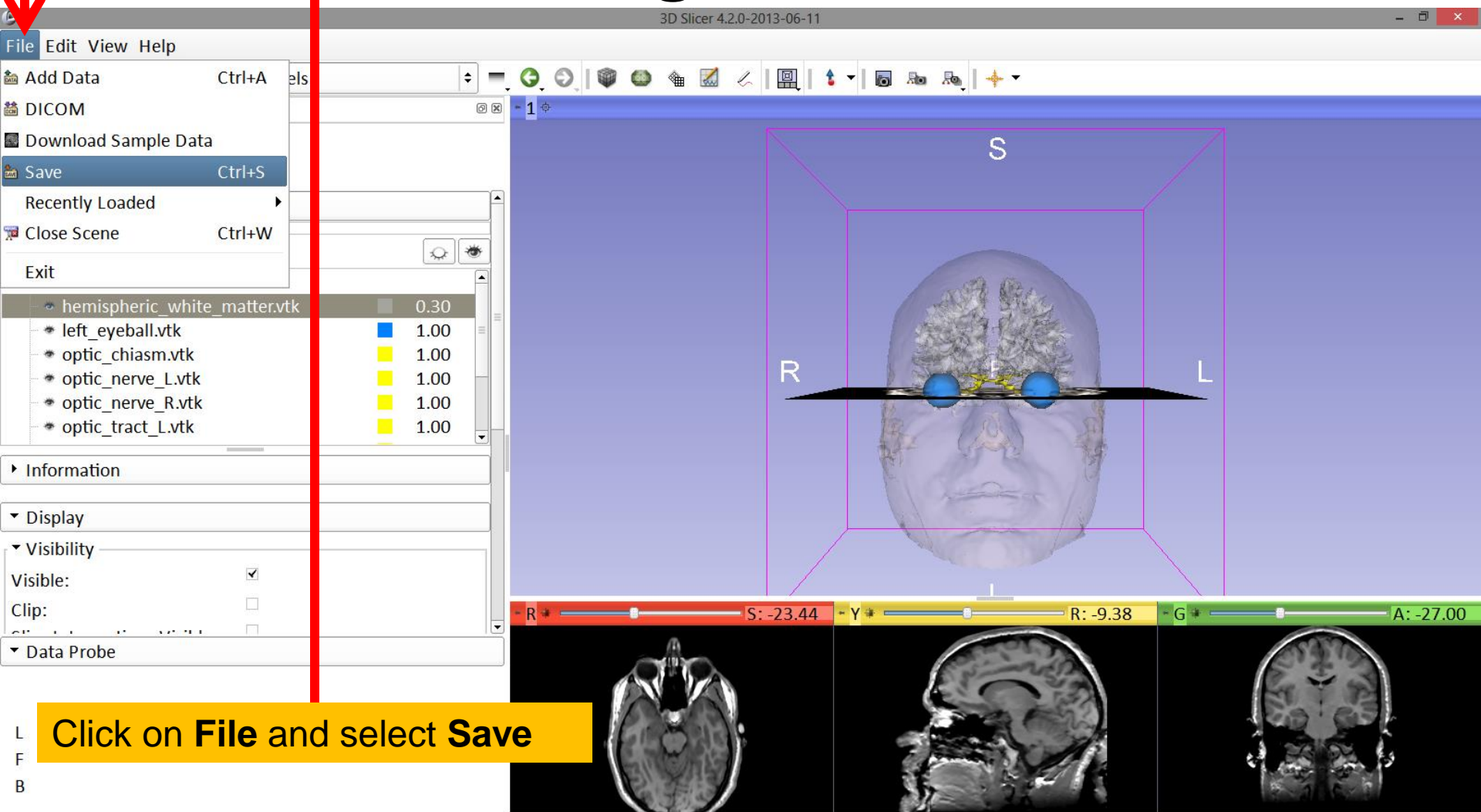
Position your cursor over the pin icon in the 3D viewer to display the 3D control windows. Select the A (Anterior) view of the 3D models



## Part 3:

# Saving a scene

# Saving a Scene



Click on **File** and select **Save**

# Saving a Scene

The **Save Scene and Unsaved Data** window lists all the elements of the slicer scene.

File Name	File Format	Directory
<input type="checkbox"/> 3DHeadScene.mrml	MRML Scene (.mrml)	C:/Users/flynnm3/Desktop/3DVisualizationData/3DHeadDat
<input type="checkbox"/> MRHead.nrrd	NRRD (.nrrd)	C:/Users/flynnm3/AppData/Local/Temp/Slicer/RemoteIO
<input type="checkbox"/> hemispheric_white_matter.vtk.vtk	Poly Data (.vtk)	C:/Users/flynnm3/Desktop/3DVisualizationData/3DHeadDat
<input type="checkbox"/> left_eyeball.vtk.vtk	Poly Data (.vtk)	C:/Users/flynnm3/Desktop/3DVisualizationData/3DHeadDat
<input type="checkbox"/> optic_chiasm.vtk.vtk	Polv Data (.vtk)	C:/Users/flynnm3/Desktop/3DVisualizationData/3DHeadDat

Change directory for selected files [Save] [Cancel]

Visible:  Clip:  Data Probe:

L F B

R: -23.44 Y: -9.38 G: A: -27.00

# Saving a Scene

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Models

Save Scene and Unsaved Data

File Name	File Format	Directory
<input checked="" type="checkbox"/> myNewScene.mrml	MRML Scene (.mrml)	C:/Users/flynnm3/Desktop/3DVisualizationData/3DHeadDat
<input type="checkbox"/> MRHead.nrrd	NRRD (.nrrd)	C:/Users/flynnm3/AppData/Local/Temp/Slicer/RemoteIO
<input type="checkbox"/> hemispheric_white_matter.vtk.vtk	Poly Data (.vtk)	C:/Users/flynnm3/Desktop/3DVisualizationData/3DHeadDat
<input type="checkbox"/> left_eyeball.vtk.vtk	Poly Data (.vtk)	C:/Users/flynnm3/Desktop/3DVisualizationData/3DHeadDat
<input type="checkbox"/> optic_chiasm.vtk.vtk	Polv Data (.vtk)	C:/Users/flynnm3/Desktop/3DVisualizationData/3DHeadDat

Change directory for selected files

Save Cancel

S: -23.44 -Y R: -9.38 -G A: -27.00

3D Slicer

Scene

- hemispheric\_w
- left\_eyeball.vtk
- optic\_chiasm.vt
- optic\_nerve
- opti\_erve\_Pv
- opti\_tract\_L.vt

Information

Display

Visibility

Visible:

Clip:

Data

L F B

3DHeadScene.mrml

myNewScene.mrml

MRHead.nrrd

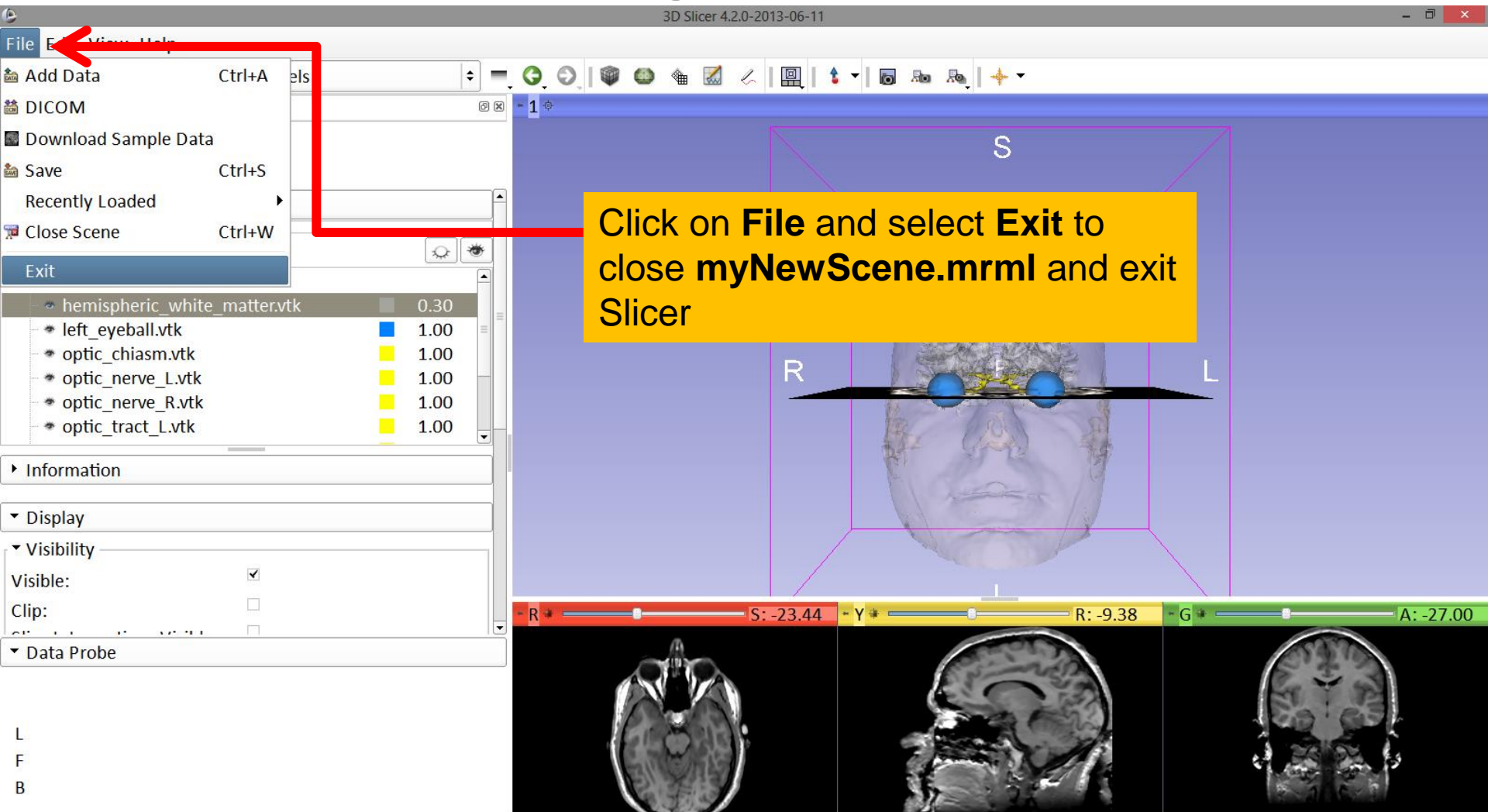
hemispheric\_white\_matter.vtk.vtk

left\_eyeball.vtk.vtk

optic\_chiasm.vtk.vtk

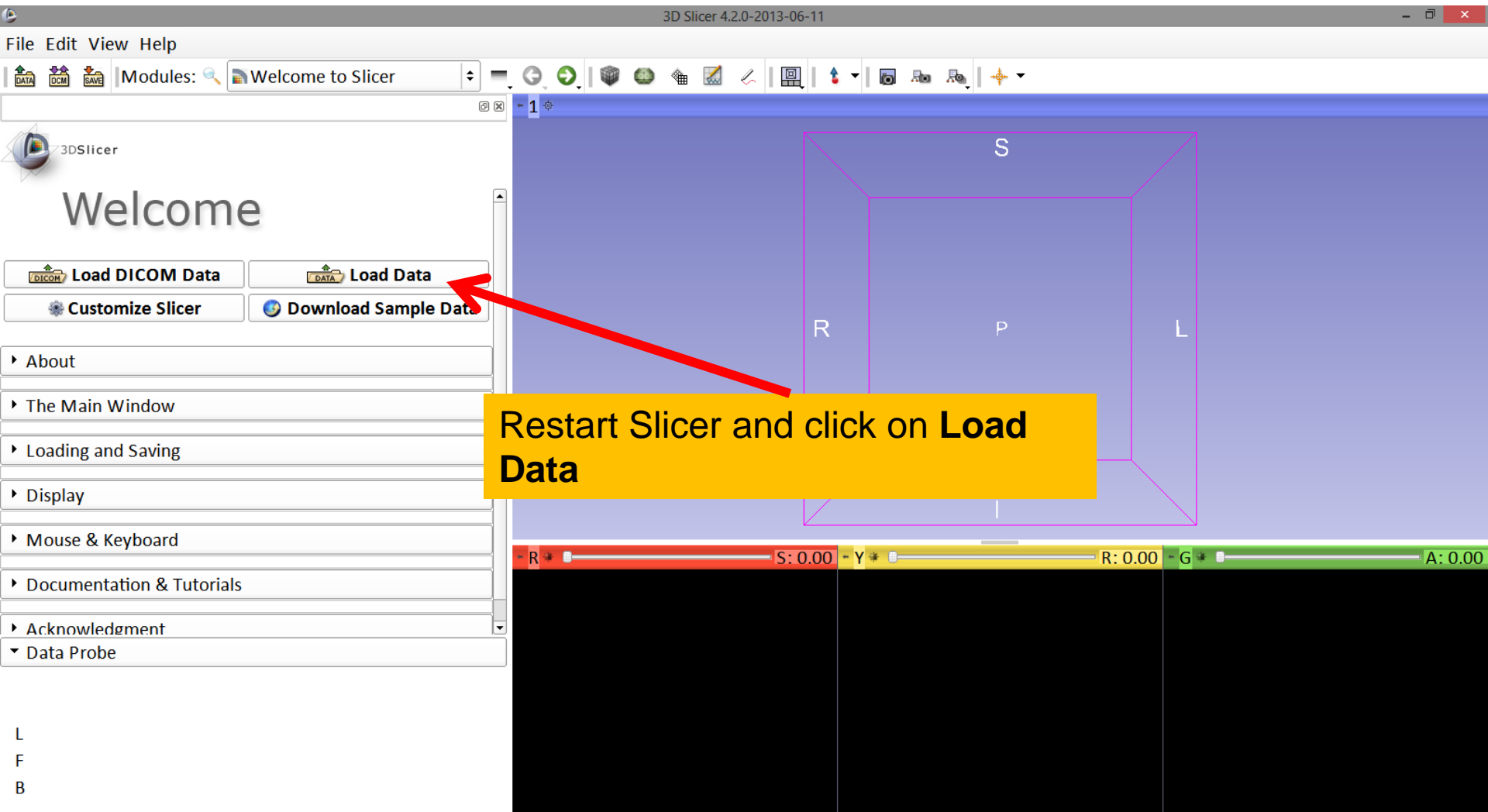
Check off the box next to the scene named **3DHeadScene.mrml** and double click on it to rename it **myNewScene.mrml** and select **Save**

# Saving a Scene

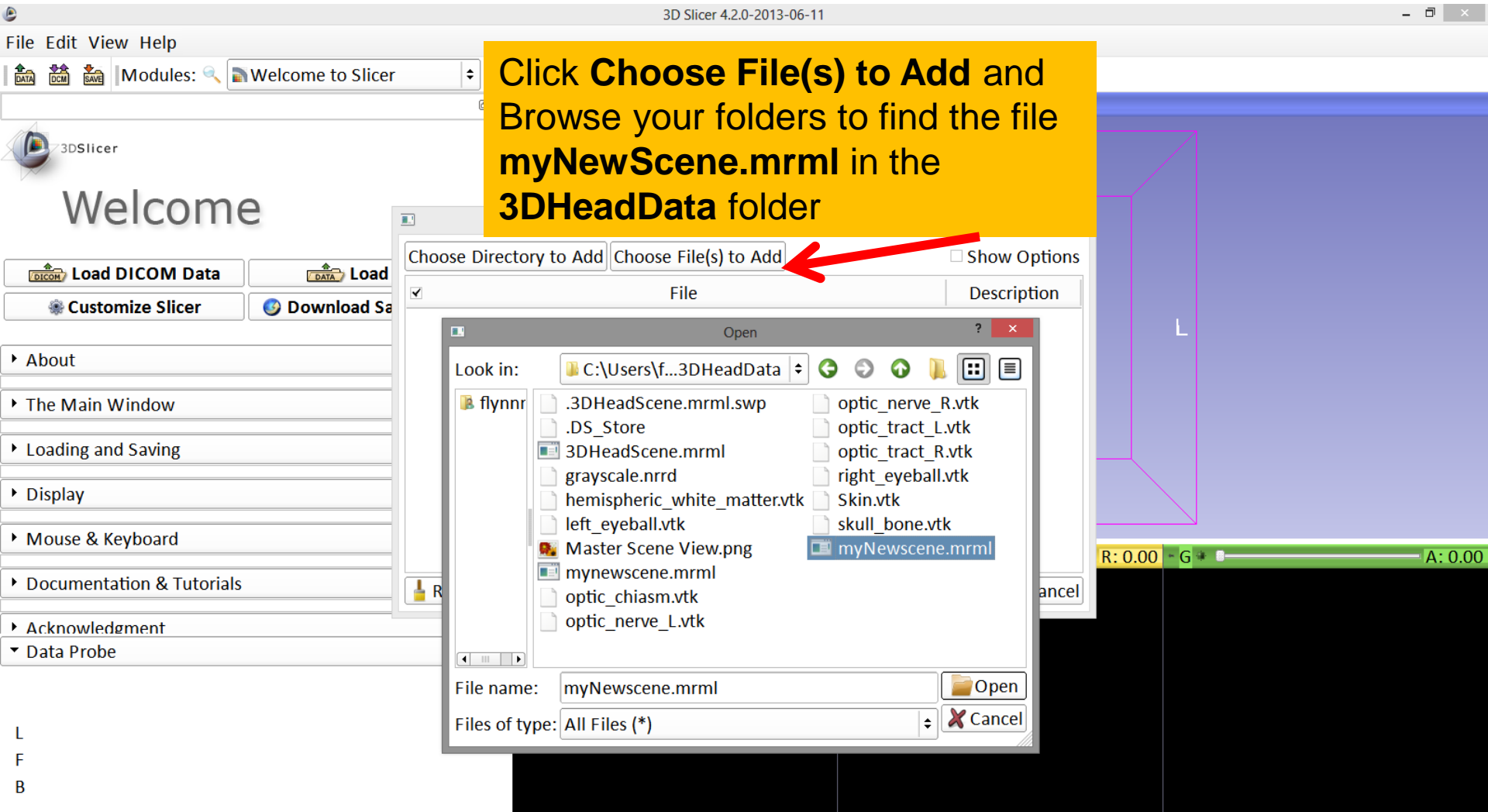




# Scene Restore



# Scene Restore



# Scene Restore

3D Slicer 4.2.0-2013-06-11

File Edit View Help

Modules: Welcome to Slicer

3DSlicer

## Welcome

Load DICOM Data Load Data

Customize Slicer Download Slicer

- About
- The Main Window
- Loading and Saving
- Display
- Mouse & Keyboard
- Documentation & Tutorials
- Acknowledgment
- Data Probe

Add data into the scene

Choose Directory to Add Choose File(s) to Add  Show Options

File	Description
...esktop/3DVisualizationData/3DHeadData/myNewscene.mrml	MRML Scene

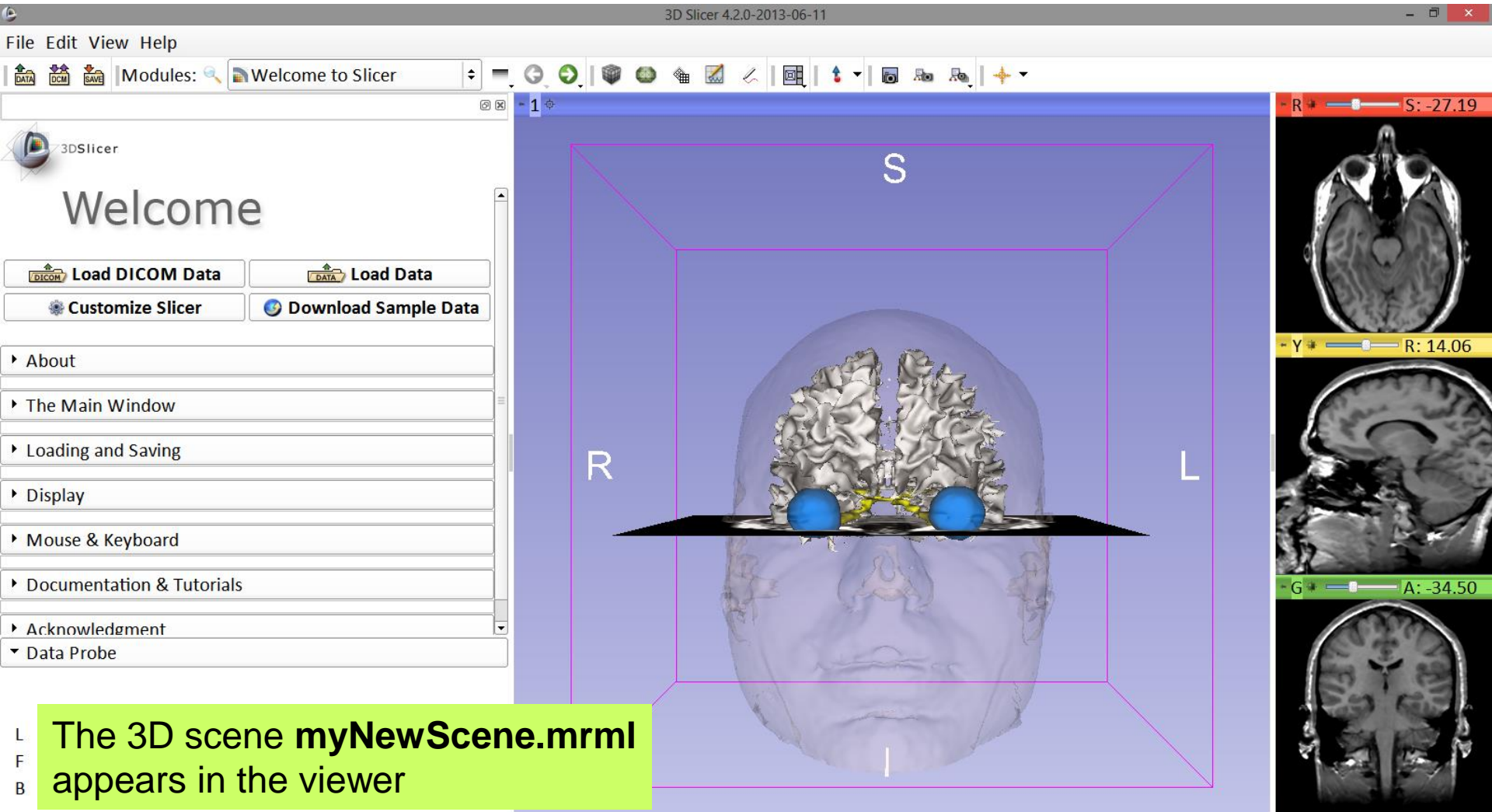
Reset OK Cancel

**Click OK**

L  
F  
B

R: 0.00 - G + A: 0.00

# Slicer4



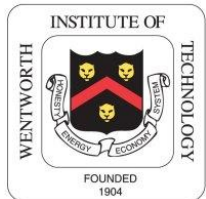
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