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National Alliance for Medical Image Computing 3DSlicer Training Workshop NCBC AHM



Session 2 Saving Data

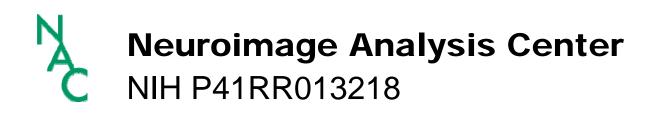
Sonia Pujol, Ph.D. Randy Gollub, M.D., Ph.D.

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Acknowledgments





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Disclaimer

It is the responsibility of the user of 3DSlicer to comply with both the terms of the license and with the applicable laws, regulations and rules.



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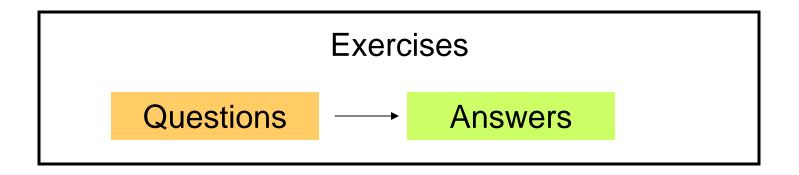
Material

• Slicer 2.6

http://www.na-mic.org/Wiki/index.php/Slicer:Slicer2.6_Getting_Started

Sample Tutorial Data: tutorial-with-dicom.zip

http://www.na-mic.org/Wiki/index.php/Slicer:Workshops:User_Training_101

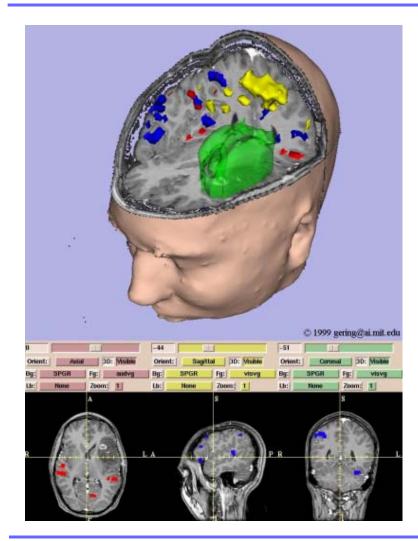






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Goal of this tutorial



Guide you step-by-step through the process of saving data within Slicer.

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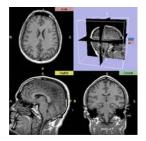


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Saving Data

Slicer can save

• Volumes



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Saving Data

Slicer can save

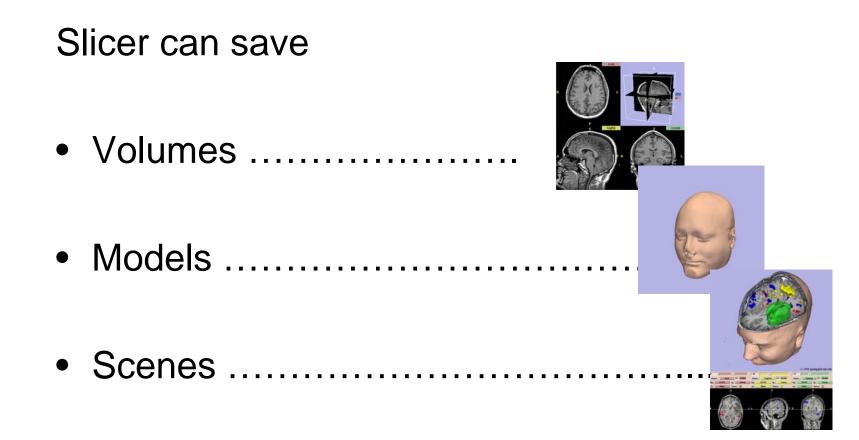
- Volumes
- Models





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Scene

•A Scene in 3DSlicer can be composed of several volumes, fiducials and 3D models.

•It is represented by an .xml file written in Medical Reality Modeling Language (MRML), that lists the elements of the Scene and their attributes.

•Several views of the same Scene can be saved in 3DSlicer.

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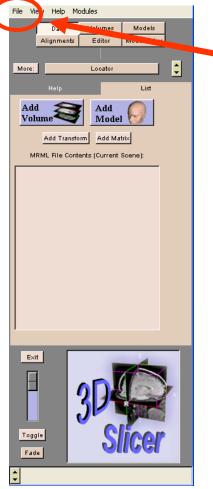


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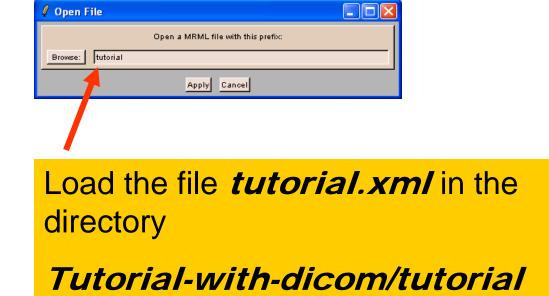
Tutorial 7: Overview

- Part 1: Loading a Scene
- Part 2: Saving Volumes
- Part 3: Saving Models
- Part 4: Saving Scenes
- Part 5: Saving Images of a Scene



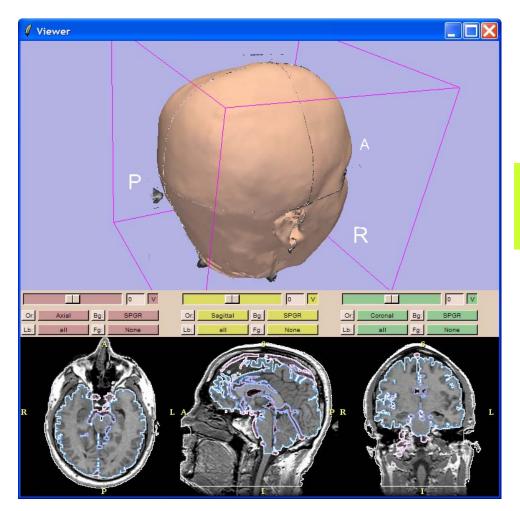


Select File → OpenScene in the Main Menu.



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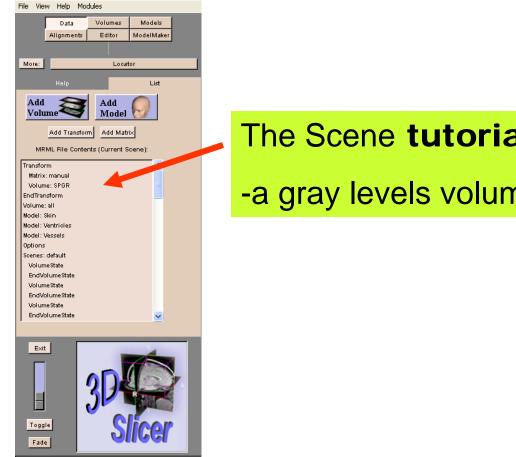




Slicer loads the scene *tutorial* in the **Viewer**.

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The Scene tutorial.xml is composed of

-a gray levels volume: SPGR

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The Scene tutorial.xml is composed of

-a gray levels volume: SPGR

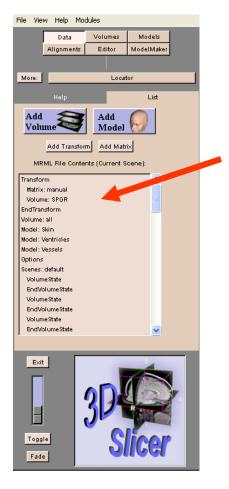
-a segmented volume: all

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The Scene tutorial.xml is composed of

-a gray levels volume: SPGR

-a segmented volume: all

-three models: Skin, Ventricles, Vessels

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Tutorial 7: Overview

- Part 1: Loading a Scene
- Part 2: Saving Volumes
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- Part 5: Saving Saving Images of a Scene



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Saving Volumes

File View Help Modules
Data Volumes Models
Alignments Editor
More: EMSegment
Help Volumes Effects Details
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Setup merge undu Save
Save a labelmap volume.
Volume to save: SPGR
Filename Prefix: spgr/l
Pick Format Standard Save
Exit
Fade

Select the module Editor in the Main Menu

Select the Panel **Volumes** in the Editor Menu

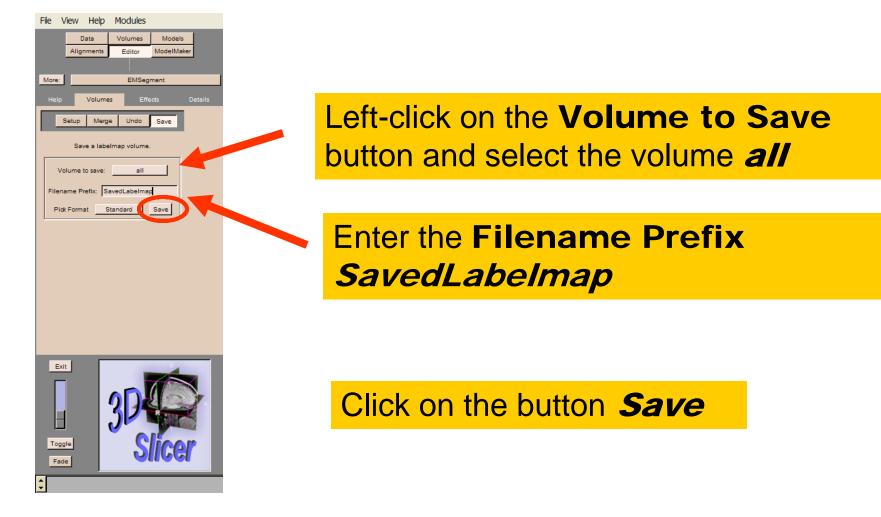
Select the Standard format

Click on the button Save

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Saving Volumes



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Saving Volumes

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	🖬 all.005	🔟 all.020	🔟 all.035	🔟 all.050	🗾 all.065
	🖬 all.006	🚾 all.021	🔟 all.036	🚾 all.051	國 all.066
Desktop	🖬 all.007	📼 all.022	🖻 all.037	🚾 all.052	🖬 all.067
D controp	all.008	📷 all.023	國 all.038	🚾 all.053	🗟 all.068
-	🖬 all.009	📷 all.024	🔟 all.039	🚾 all.054	🗟 all.069
	🖬 all.010	🔂 all.025	🖻 all.040	🖻 all.055	🖬 all.070
	🖬 all.011	🖬 all.026	🔟 all.041	🚾 all.056	🖬 all.071
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	🖬 all.013	🗟 all.028	🗟 all.043	🗟 all.058	🗟 all.073
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My Network	Save as type:	All Files (*.*)		*	Cancel

Select the directory **Tutorial_with_dicom/tutorial/labels** to save the existing labelmap with the new name **SavedLabelMap**.

Click on Save

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Saving Volumes

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A message warns the user that the volume should not be saved, because it has not been changed since the last time it was saved.

Click on **Yes** to save the volume with the new name



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Saving Volumes

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SavedLabelmap.122	128 KB 122 File		
SavedLabelmap.123	128 KB 123 File		
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Tutorial 7: Overview

- Part 1: Loading a Scene
- Part 2: Saving Volumes
- Part 3: Saving Models
- Part 4: Saving Scenes
- Part 5: Saving Images of the Scene



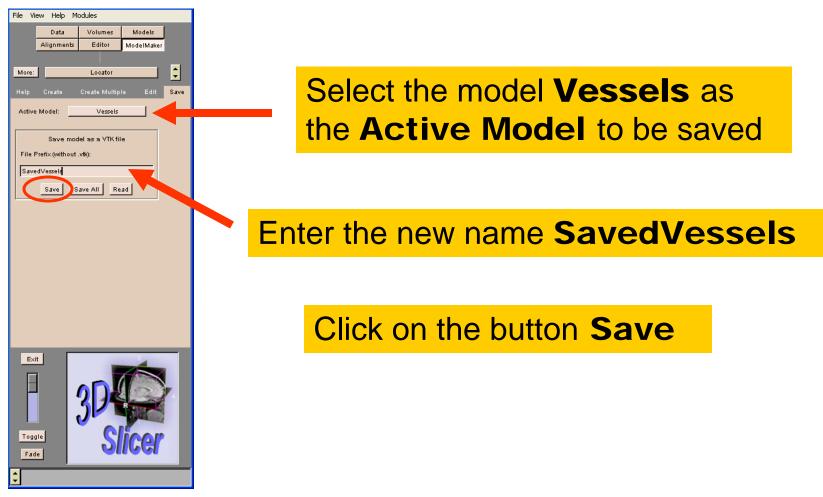
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Saving Models

File View Help Modules	
Data Volumes Models Alignments Editor ModelMaker More: Locator Help Create Create Multiple Active Model: Skin	Select the module ModelMaker in the Main Menu
Save model as a VTK file File Prefix (without .vtk):	
Save Save All Read	Select the tab Save in the module ModelMaker
Exit	
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Saving Models



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Saving Models

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Alignments Editor ModelMaker	Save in: 🔎 models 🔹 🕑 🤣 📂 🖽 -
More: Locator Create Multiple Edit Save Help Create Create Multiple Edit Save Active Model: Vessels Save model as a VTK file File File Prefix (without .vtk): SavedVessels Save Save All Read	Sin.vtk Sin.vtk Sin.vtk Sin.vtk Sin.vtk Ventrides.vtk Ventrides.vtk Ventrides.vtk Ventrides.vtk Vessels.vtk Vessels.vtk Vessels.vtk Vessels.vtk
Exit Toggle Fade	Save the model <i>SavedVessels</i> in the directory Tutorial_with_dicom/tutorial/models

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Saving Models

File View Help Modules						
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Alignments	Editor	ModelMaker				
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A message warns the user that the Model has not been changed since the last time it was saved.

Click on **OK** to save the model with the new name.

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Saving Models

🗀 C:\SlicerData\Tutorial-wi	th-dicom\tutorial\models
File Edit View Favorites	Tools Help
🌀 Back 🝷 🕥 🕤 🏂	Search Address Links Search More
Name 🔺	Size Type
SavedVessels.vtk	1,090 KB VTK File
🖬 Skin.vtk	1,987 KB VTK File
🖬 Skin-old.vtk	2,001 KB VTK File
🖬 Ventricles.vtk	205 KB VTK File
🖬 Ventricles-old.vtk	203 KB VTK File
🖬 Vessels.vtk	1,090 KB VTK File
🖬 Vessels-old.vtk	1,076 KB VTK File
<	
7 objects	7.46 MB 😔 My Computer 🛒

Slicer writes the file **SavedVessels.vtk** in the directory **Tutorial_with_dicom/tutorial/models**



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Tutorial 7: Overview

- Part 1: Loading a Scene
- Part 2: Saving Volumes
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- Part 5: Saving Images of the Scene



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Saving a Scene

•A scene in Slicer can be composed of several volumes and several models.



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Saving a Scene

•A scene in Slicer can be composed of several volumes and several models.

•All the volumes and all the models have to be saved **separately** before saving a Scene.



File V w Help Modules
open Scene
Save Scene
Save Scene As
Save Scene With Option
Save Current Options
Save 3D View
Set Save 3D View Parameters
Save Active Slice
Save Active Slice As
Close
Exit
Exit
Exit Toggle Fade

Select the section **File** in the **Main Menu**

Select Save Scene As

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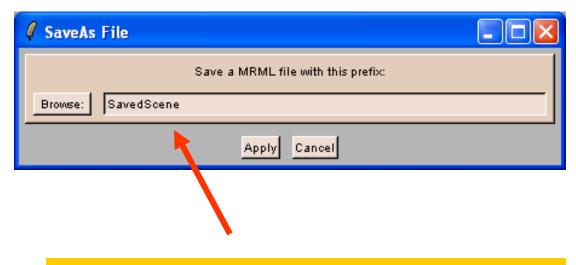
🦸 SaveAs File		
Browsk data	Save a MRML file with this prefix:	
	Apply Cancel	

The window **Save As File** for the scene name appears. Slicer sets the default name for the scene to **data**.

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File	View	Help	Modules	
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C	lose			
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Enter the name **SavedScene**, select the directory **Tutorial_with_dicom/tutorial**, and click on **Apply**.

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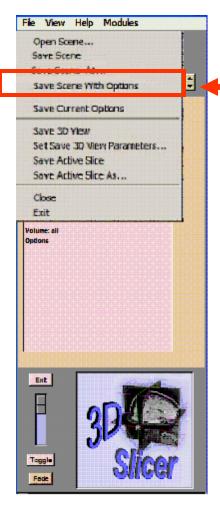
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Select Save Scene With Options

The **options** of the Scene including the **settings** from the **modules** and the **background color** set are saved in the file **SavedScene.xml**.

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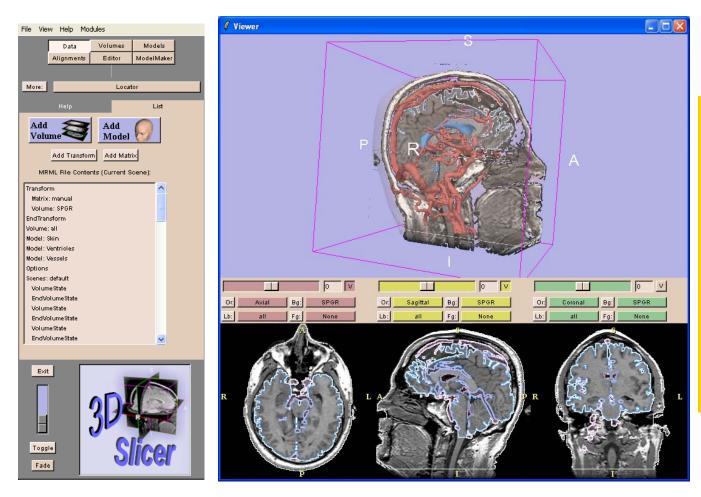
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Tutorial 7: Overview

- Part 1: Loading a Scene
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- Part 5: Saving Images of a Scene



Saving Images of a Scene



Manipulate the models and volumes within the Viewer, and choose a view of the data that you would like to save.

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Saving Images of a Scene

	Help Modules	
Open Scer		
Save Scen		t
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Select Set Save 3D View Parameters in File

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Saving Images of a Scene

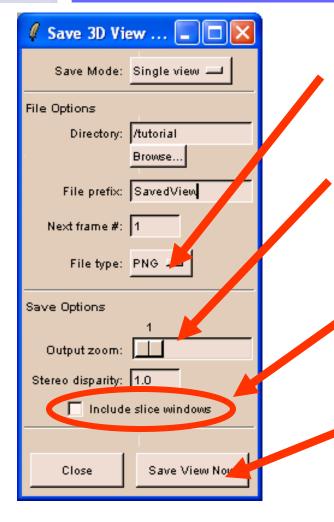
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	🔲 Include slice windows	
Close Save View Now	Close Save View Now	

Set the Save Mode to Single view

Select the **directory** /tutorial to save the view

Enter the File prefix *SavedView*

Saving Images of a Scene



Set the File Type to PNG

The *Output zoom* option provides a higher resolution image.

Check the option **Include slice windows** to save the anatomical views

Click on Save View Now

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Saving Images of a Scene

File Edit View Favorites Tools Help Sack Search Folders Address Links Search + More ² Mame Size Type Gicom File Folder SavedView0001.png 23 KB PNS The Colder SavedView0001.png 23 KB Slicer SavedView000 SavedView000	C:\SlicerData\Tutorial-with-	-dicom\tutorial		
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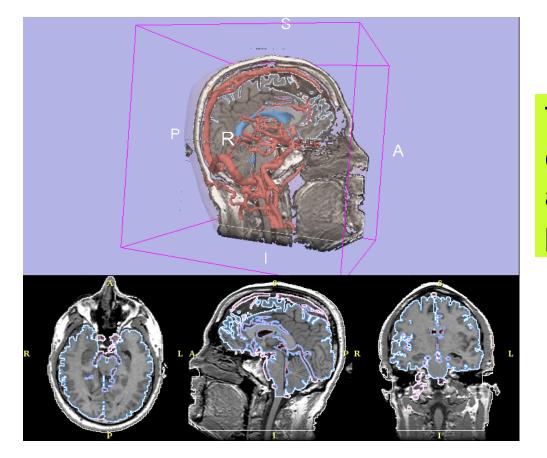
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Saving Images of a Scene



The resulting PNG file can be included in an article or a PowerPoint presentation.

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- Open-Source environment
- MRML description of the Scene elements location
- Saving data processed with Slicer

Conclusion





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