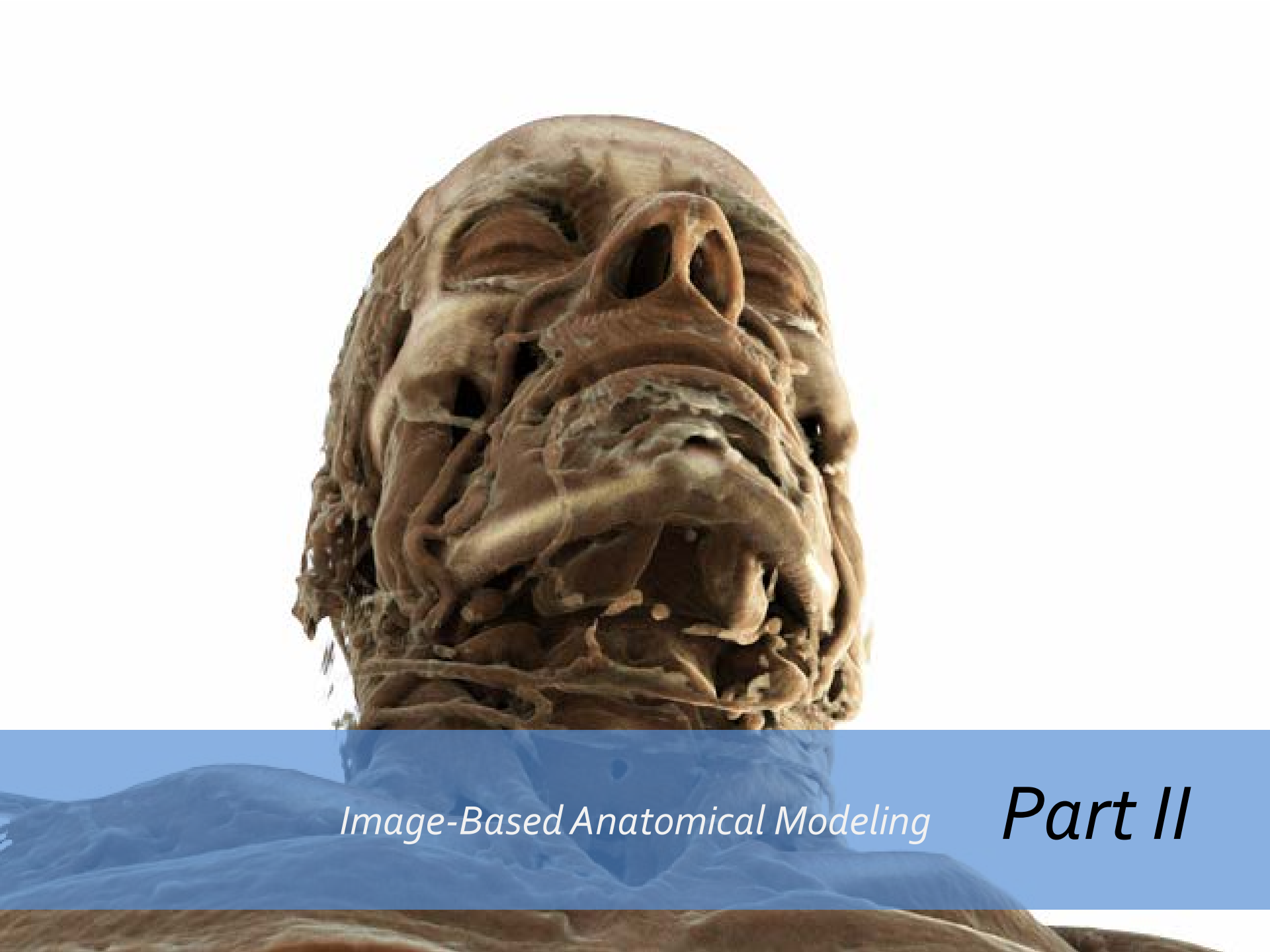


Part II

Image-Based Anatomical Modeling

Check List – Volume Data

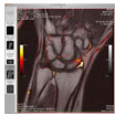
DICOM sample image sets

(All these DICOM files are encoded in JPEG2000 transfer syntax)

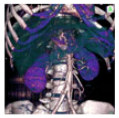
These images are best viewed with OsiriX DICOM Viewer !

OsiriX, Advanced Imaging in 3D/4D/5D

(click on the thumbnail images below to download the full set of corresponding DICOM images):



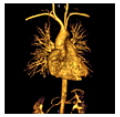
Alias Name: WRIX
Modality: MRI
File Size: **5 MB**
Description: Scaphoid fracture. T1 / STIR fusion.



Alias Name: BREBIX
Modality: CT 64
File Size: **60 MB**
Description: Hypernephroma, arterial and venous acquisitions.

Alias Name: INCISIX
Modality: CT 64
File Size: **61 MB**
Description: Dental Scan.

Alias Name: MAGIX
Modality: CT 64



Alias Name: CETAUTOMATIX
Modality: MRI
File Size: **41 MB**
Description: Normal cardiac MRI and MRA study. Mild Aortic and tricuspid valves regurgitation

Alias Name: PHENIX
Modality: CT
File Size: **120 MB**
Description: Surgical repair of facial deformity

Alias Name: TOUTATIX
Modality: CT
File Size: **195 MB**
Description: SCoronary artery anomaly (emerging from pulmonary artery)

Alias Name: ARTIFIX
Modality: CT

http://www.osirix-viewer.com/datasets/

Check List – Volume Data

Case	Name	Modality	Description	Folder
A	BEAUFIX	MRA	*Contrast-enhanced renal MRA acquired on a 3T scanner. Normal study.*	..\SUB_arterial
B	CENOVIX	CT	*Renal Angio CT with left kidney obstruction.*	.. \ARTERIELLE - 6168
C	CETAUTOMATIX	MRI	*Normal cardiac MRI and MRA study. Mild Aortic and tricuspid valves regurgitation.*	..\SUB_1st pass
D	FELIX	MRI	*Cerebral aneurysm.*	.. \CEMRA_HIGHRES
E1, E2	FOURDIX	CT	*Cardiac CT with 10 steps of the entire cardiac cycle.*	..\CorCTALow 0.75 B25f Diastolic ..\CorCTALow 0.75 B25f Systolic
F	PANORAMIX	CT	*Abdominal CT angiogram acquired on a 16 detector scanner in a patient with abdominal aortic aneurysm.*	.. Abd-Pel w-c 3.0 B30f
G1, G2	PELVIX	CT	*Pelvic fracture.*	.. \Bassin Bassin (Adulte)\Bassin 2.0mm std – 2 ..\CT1 pelvis, bassin\BASSIN – 8577
H	QUATREDEUXSIX	MRI	*Contrast-enhanced MRA of pulmonary arteries; normal study.*	..\cemra highres

Check List – Volume Rendering Engine

US | France | Europe | Worldwide

Kitware

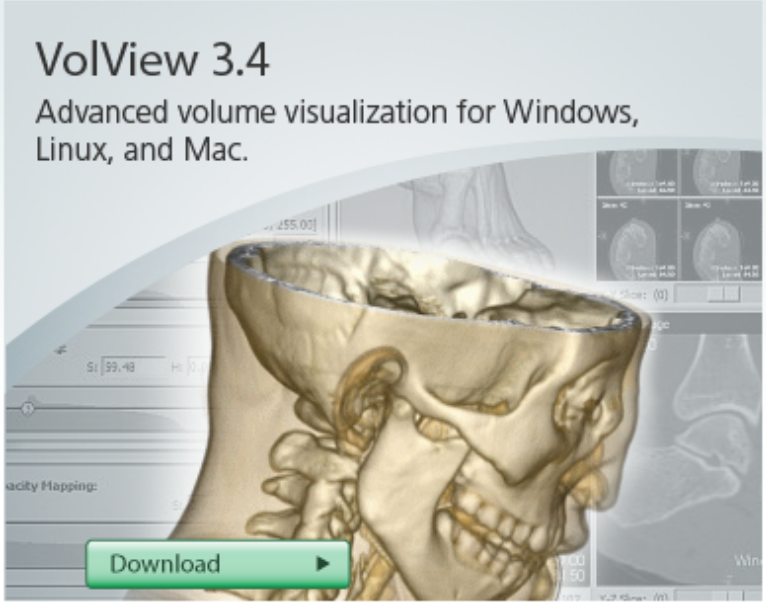
COMPANY MEDIA SERVICES SOLUTIONS OPEN SOURCE

VolView

VolView 3.4 now available

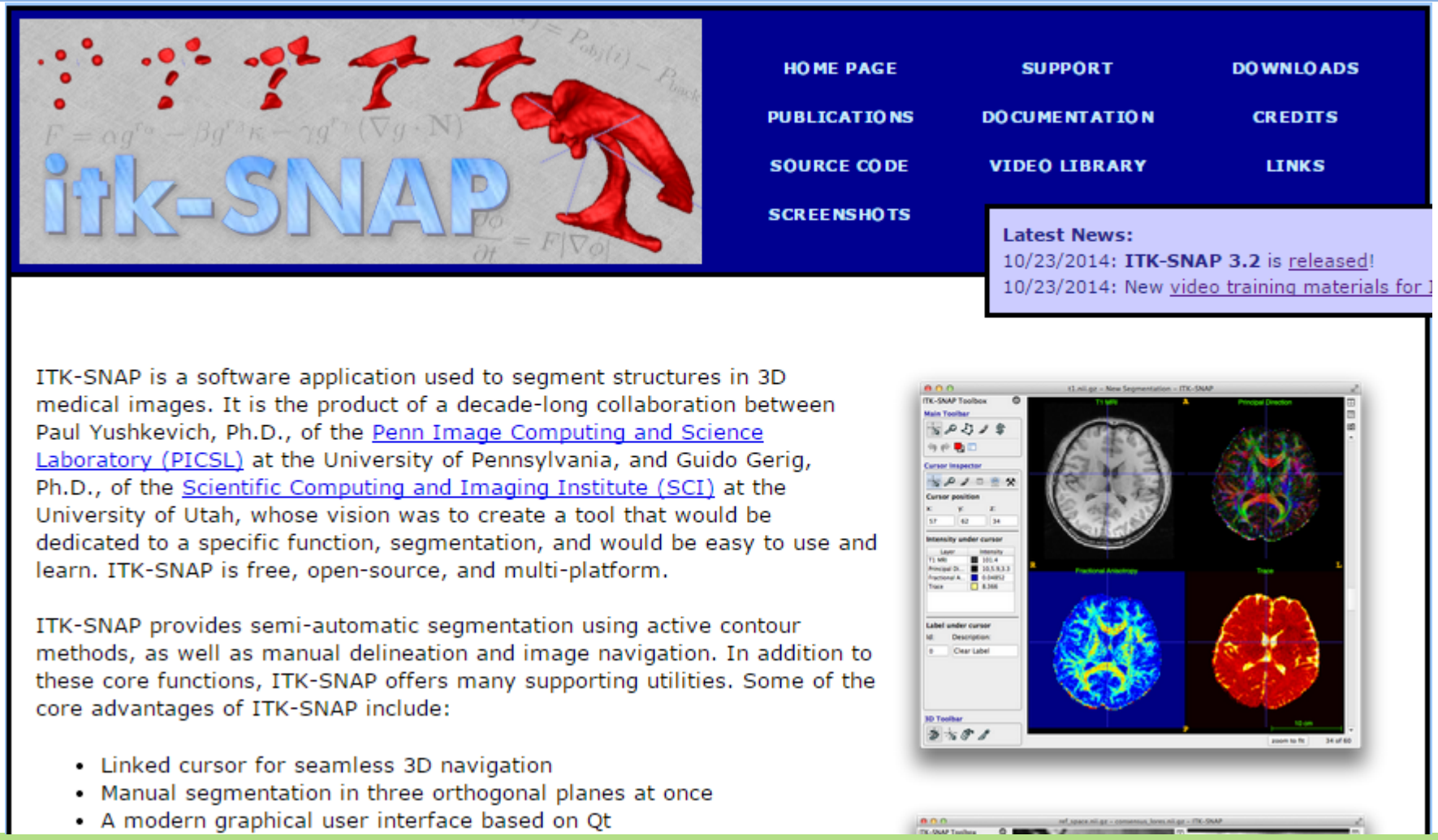
VolView is an open-source, intuitive, interactive system for volume visualization that allows researchers to quickly explore and analyze complex 3D medical or scientific data on Windows, Mac and Linux computers. Users can easily load and interactively explore datasets using 2D and 3D display methods and tools. 3D tools include volume rendering, maximum intensity projections, and oblique reformatting. The ability to save an entire visualization session allows users to easily stop and start sessions. Advanced users can perform custom data processing using a simple plug-in API.

Kitware offers commercial consulting, support, and training services that can help your organization make the most of our tools. We can provide on-site or online training for your team, dedicated support services to help you effectively visualize and process your data, and customized consulting services to extend the VolView functionality or create



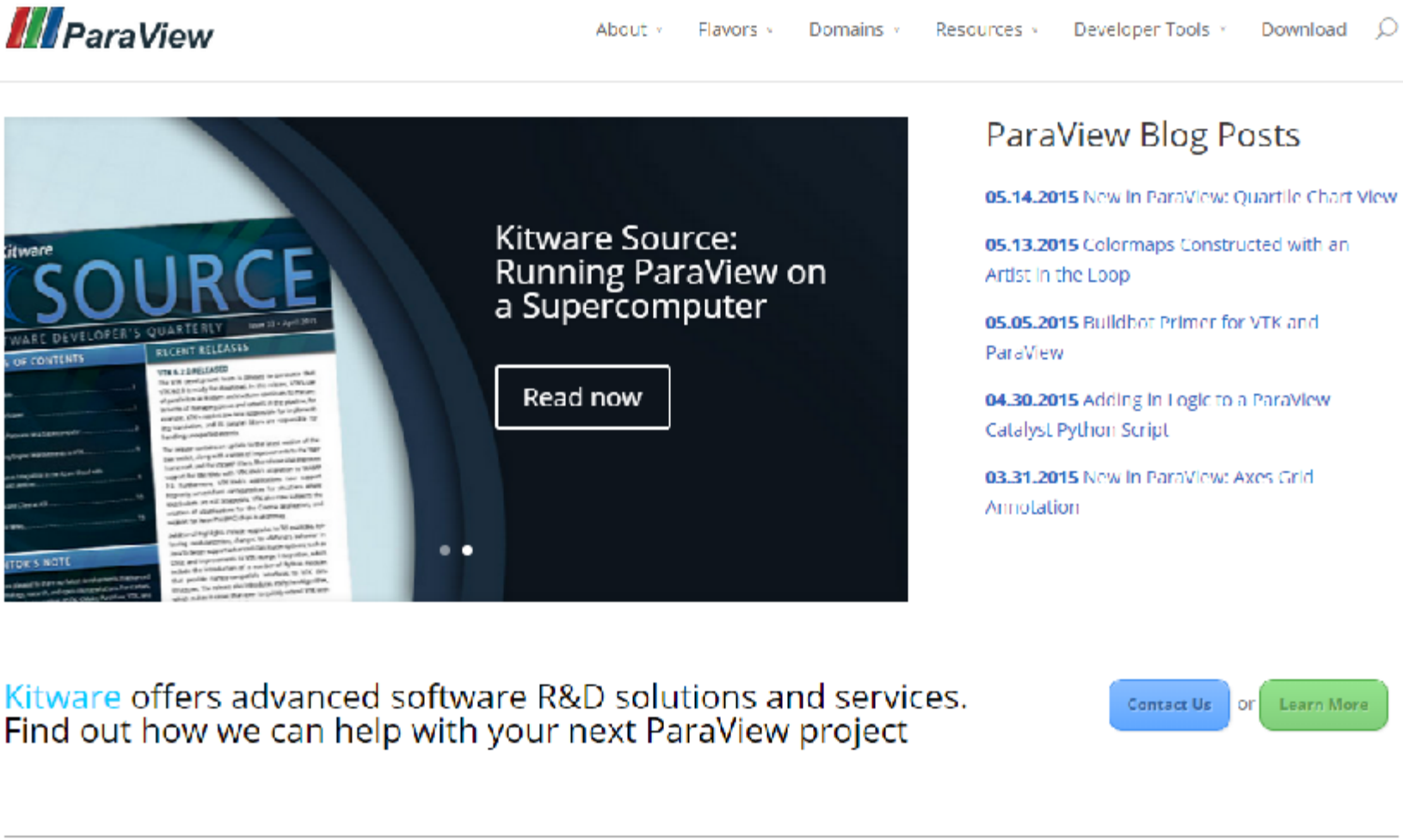
http://www.kitware.com/opensource/volview.html

Check List – Image Segmentation



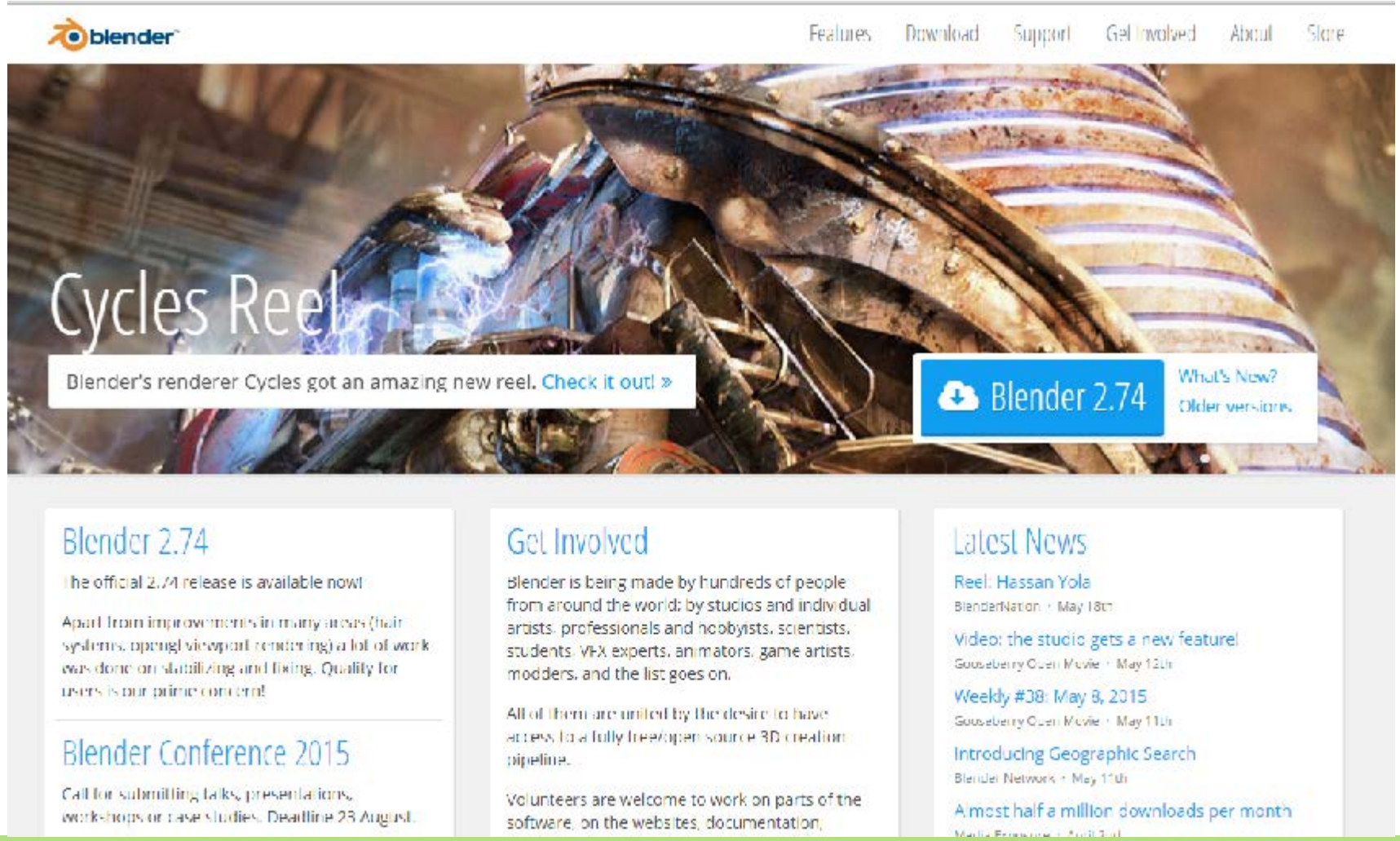
http://www.itksnap.org/pmwiki/pmwiki.php

Check List – Mesh Processing



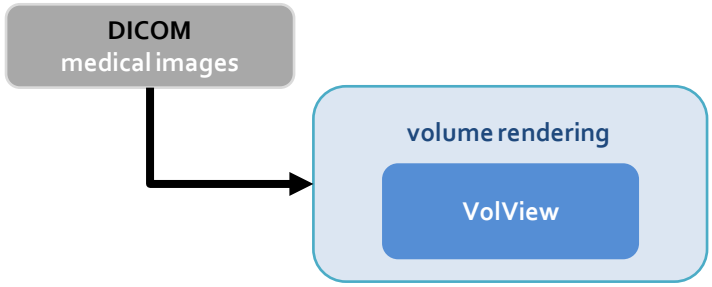
http://www.paraview.org/

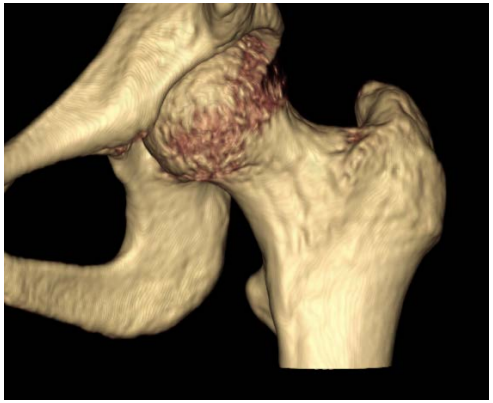
Check List – Mesh Adjustments

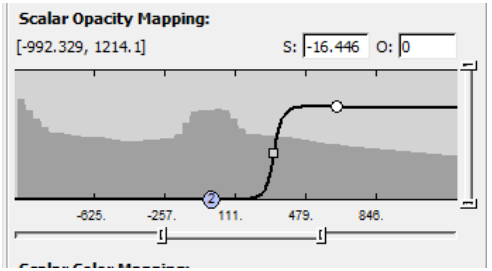


https://www.blender.org/

Software Pipeline

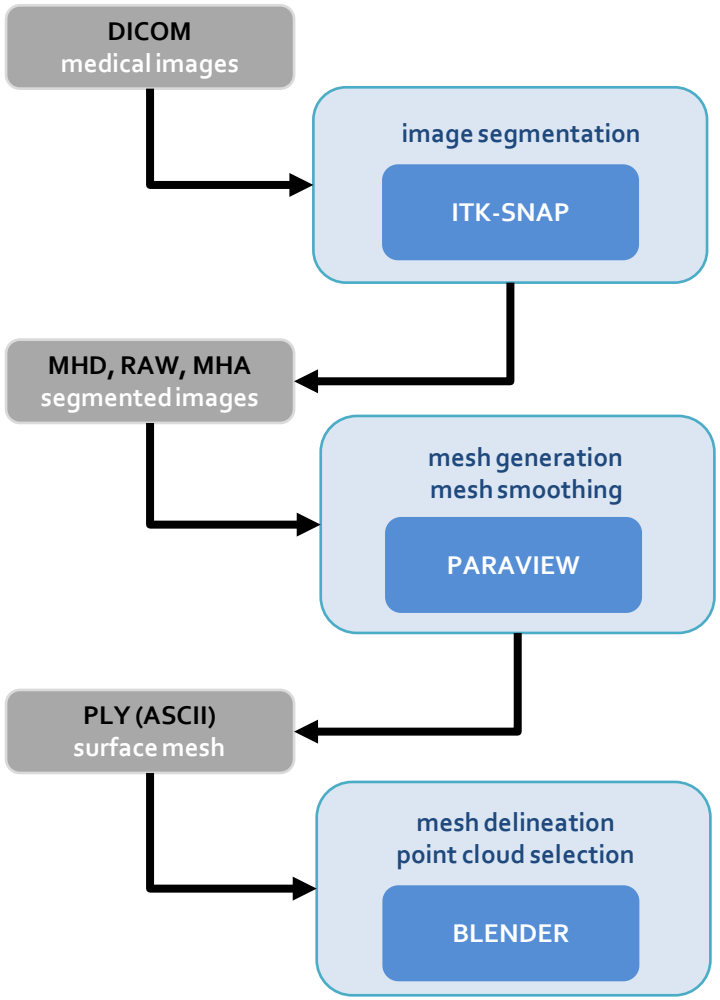


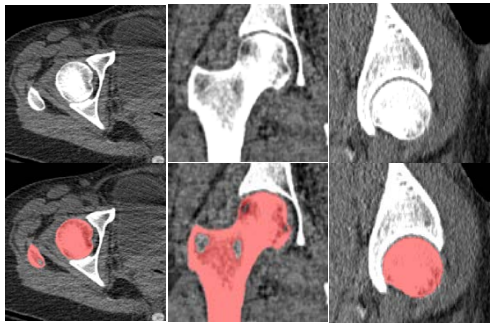


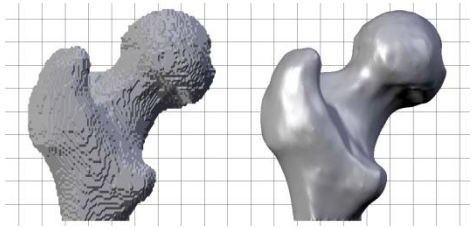


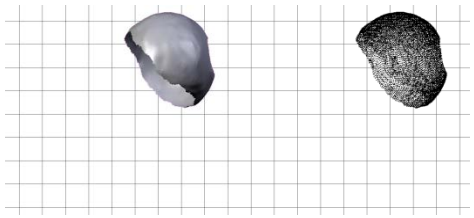
- image navigation
- volume rendering
- transfer function design

Software Pipeline









- global threshold (intensity region)
- active contour methods (3D snakes)
- manual segmentation

- surface mesh generation (marching cubes)
- mesh smoothing (Laplacian filter)

- manual mesh delineation
- edge and vertex deletion

Goals

Each one of you must obtain:

1 – volume rendered images (w/ TFs!)

2 – image segmentation file & mesh

3 – smoothed & decimated mesh