



X3D Medical Working Group of Web3D Consortium

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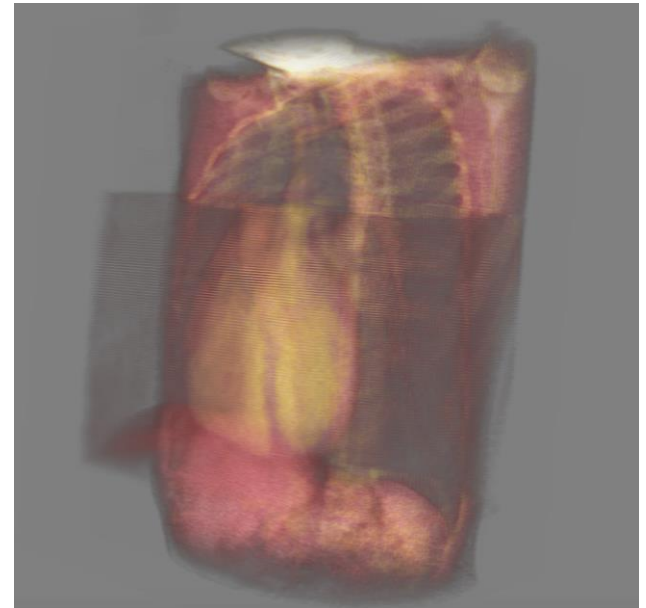
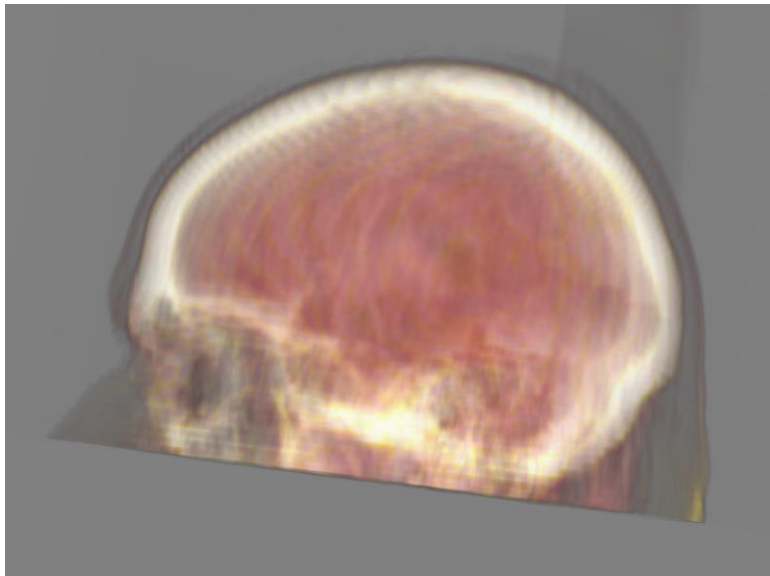
Medical Working Group Related Activities

- Mirror4All*
- NIH 3D Print Exchange
- Visualization of data through FHIR
- CPET visualization
- Zebrafish Brain Browser*

*Leverages work on Volume Rendering Component of X3D

Mirror4All

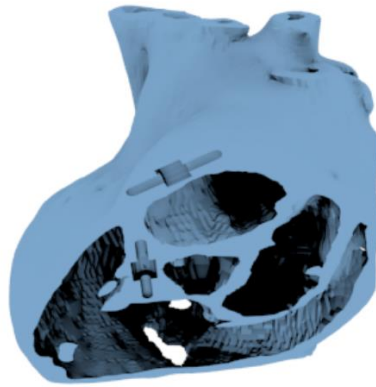
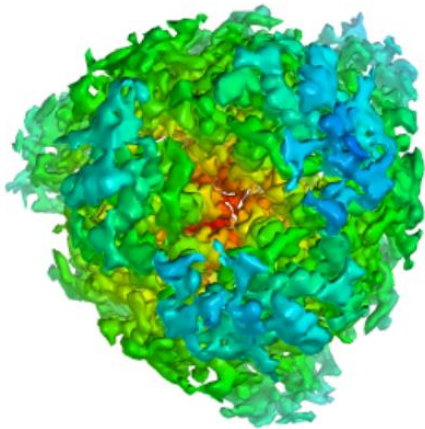
- Volume rendering of any CT or MRI scans
- No app required, works in the browser
- Files processed locally to preserve privacy



<http://sayra.kshell.com/mirror/index.html>

NIH 3D Print Exchange

- 3D printable models depository
- Scientifically accurate
- Medically applicable
- Special COVID 19 Section for PPE



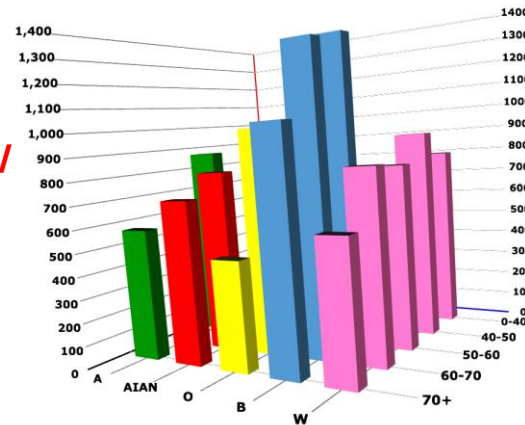
<https://3dprint.nih.gov/>

Visualization of Healthcare Data Through FHIR

- Fast Healthcare Interoperability Resources
- HTTP-based, resource-oriented RESTful API
- Uses XML and JSON

● A : Asian
● AIAN : American Indians and Alaska Native
● O : Other
● B : Black or African American
● W : White

X: Age Group vs. Y: Race vs. Z: Average Length of Stay (minutes)



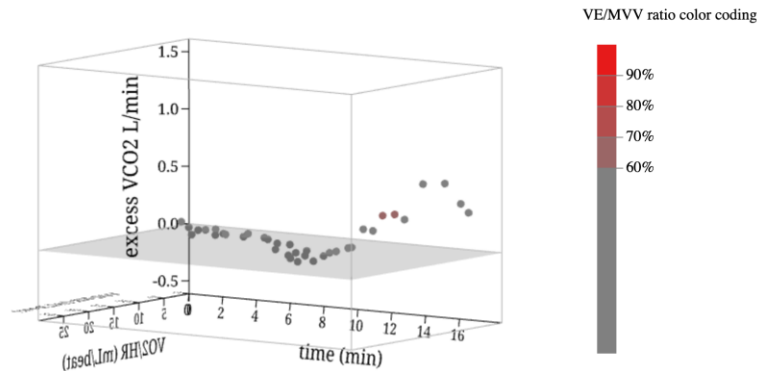
<http://metagrid2.sv.vt.edu/~dhruv1504/dashboard2/dashboard/homepage.html>

CPET Visualization

- CardioPulmonary Exercise Testing
- Normally in numerous tables and graphs
- Can be combined into 3D graphs for easier comprehension and insights

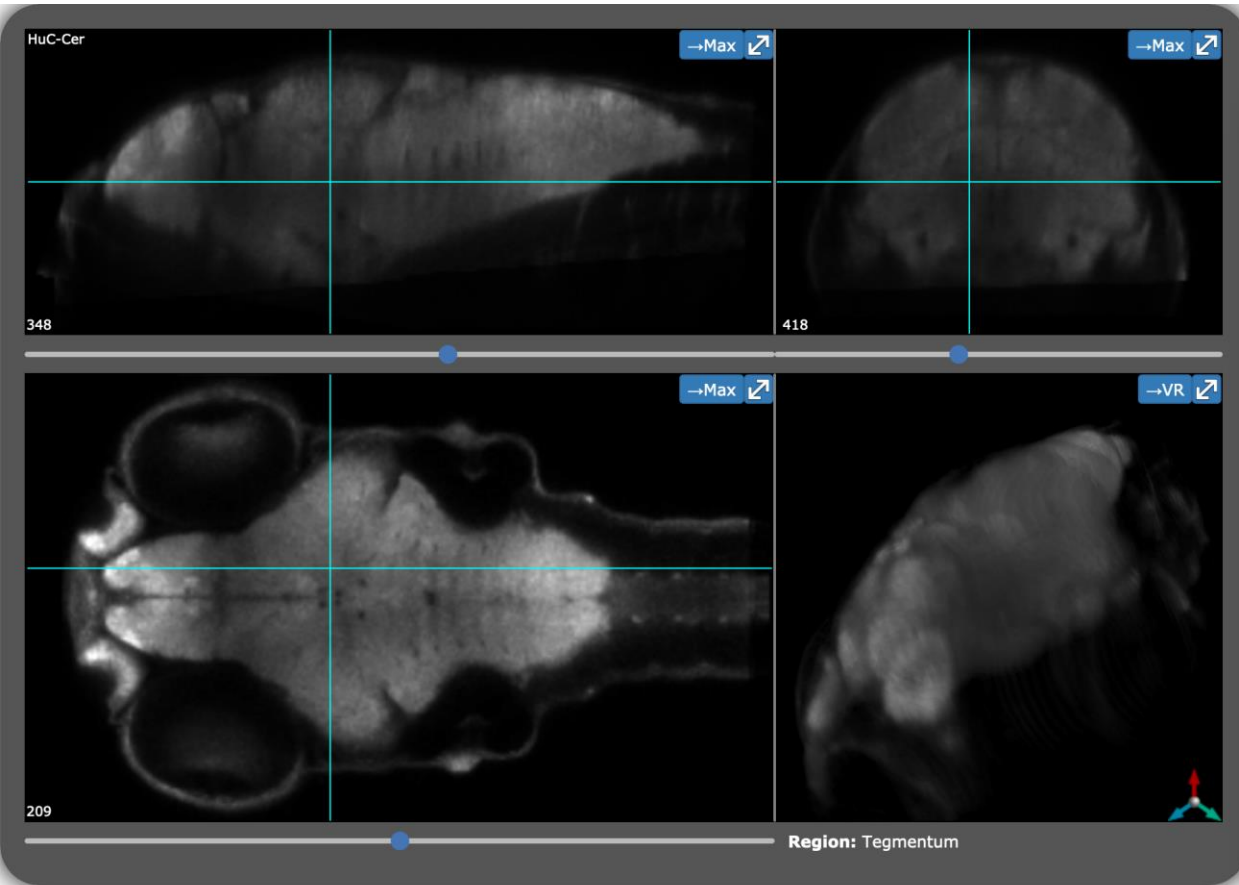
Case Source: [Principles of Exercise Testing and Interpretation 5th Ed.](#)

Case 20: Myocardial Ischemia: Coronary Artery Disease in a Previously Athletic Man



<http://www.kshell.com/pages/PETvisualization/index.html>

Zebrafish Brain Browser



Lines Anatomy Aliases Search

Settings Download Share About

Transgenic Gal4 Cre Misc Custom

- HuC-Cer *Marquart Fr Neural Circuits (2015)*
- ath5-GFP *Masai Development (2003)*
- bActin-GFP *Horstick Nuc Ac Res (2015)*
- brn3c-GFP *Xiao Dev (2005)*
- chata-Gal4 *Forster Sci Rep (2017)*
- chx10-gal4 *Kimura Curr Biol (2013)*
- cxc4b-Gal4 *Forster Sci Rep (2017)*
- dat-GFP *Xi Dev Dyn (2011)*
- dbh-Gal4 *Marquart Fr Neural Circuits (2015)*
- dbx1a-Gal4 *Forster Sci Rep (2017)*
- dmbx1b-Gal4 *Forster Sci Rep (2017)*
- drd2a-Gal4 *Forster Sci Rep (2017)*
- eng1b-Gal4 *Kimura Sci Reports (2014)*
- evx2-Gal4 *Higashijima lab unpublished*
- flk-GFP *Choi Dev Biol (2007)*
- foxb1a-Gal4 *Forster Sci Rep (2017)*
- gad1b-Gal4 *Forster Sci Rep (2017)*

HuC-Cer 1

Contrast 0.6

Brightness 0

<http://vis.arc.vt.edu/projects/zbb/>

Thank you!!