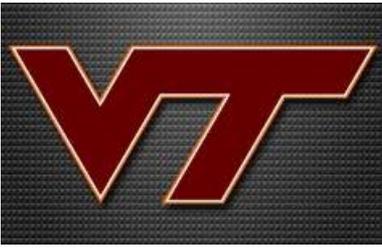


Nicholas F. Polys, Ph.D.

Director of Visual Computing,
Advanced Research Computing & IT

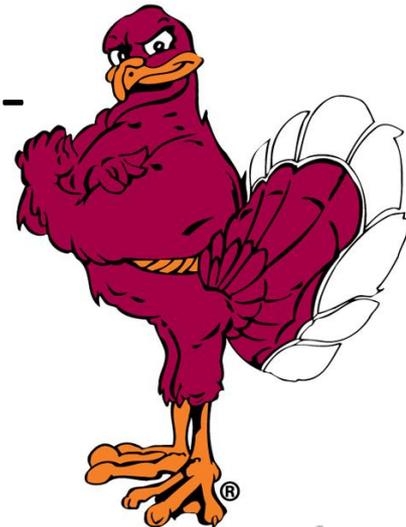
Affiliate Professor,
Department of Computer Science





Virginia Tech

- Eight colleges and graduate school
- 65 bachelor's degree programs
- 150 master's and doctoral degree programs
- 31,000 full-time students 16:1 student-faculty ratio
- \$454 million in sponsored research in
FY 2012

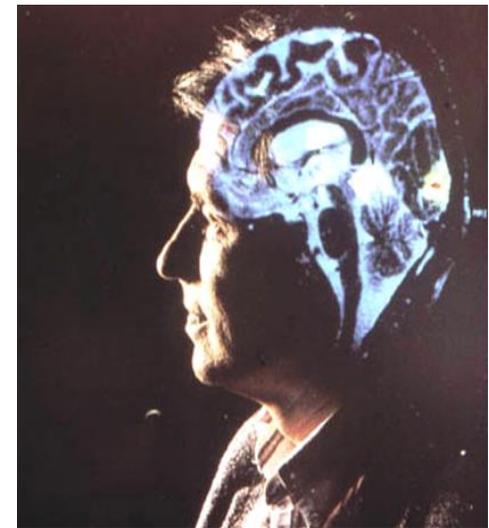
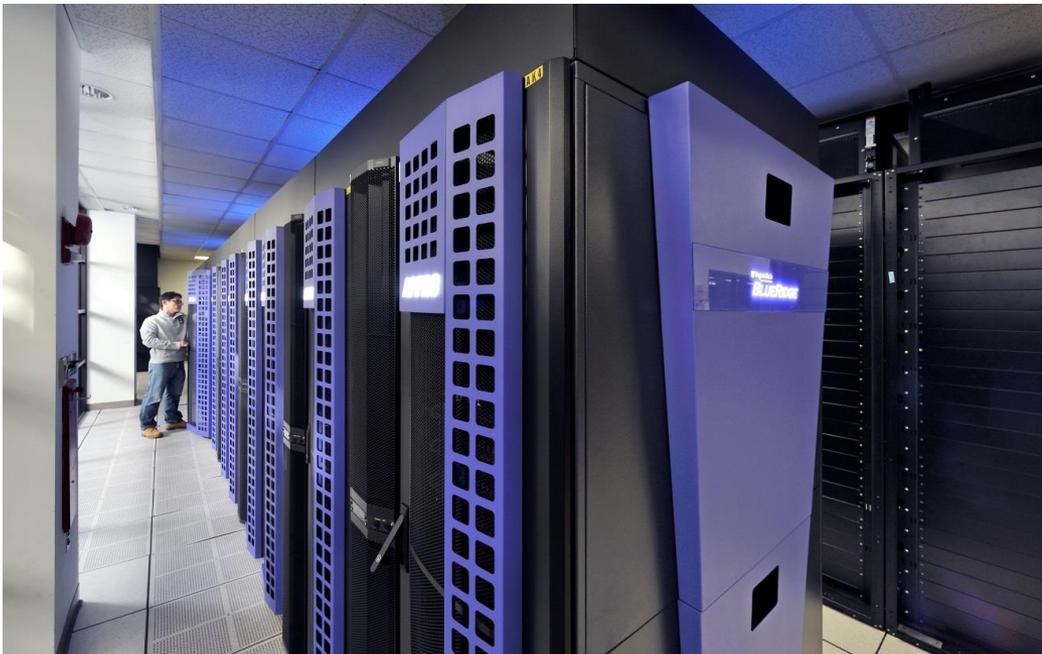


Virginia Tech

High-Performance Computing

- Advanced Research Computing (ARC) Group
 - Centralized resources:
 - Compute (CPU, GPU clusters)
 - Visualization

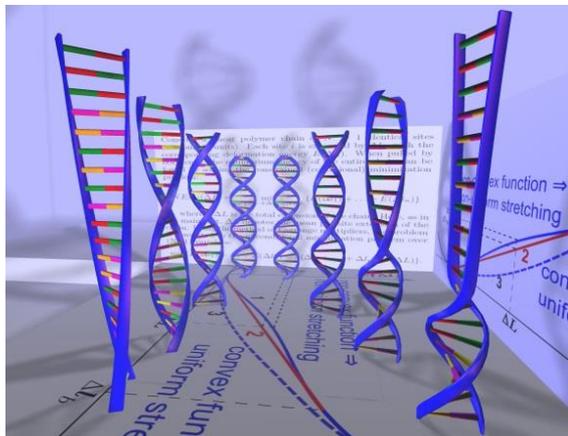
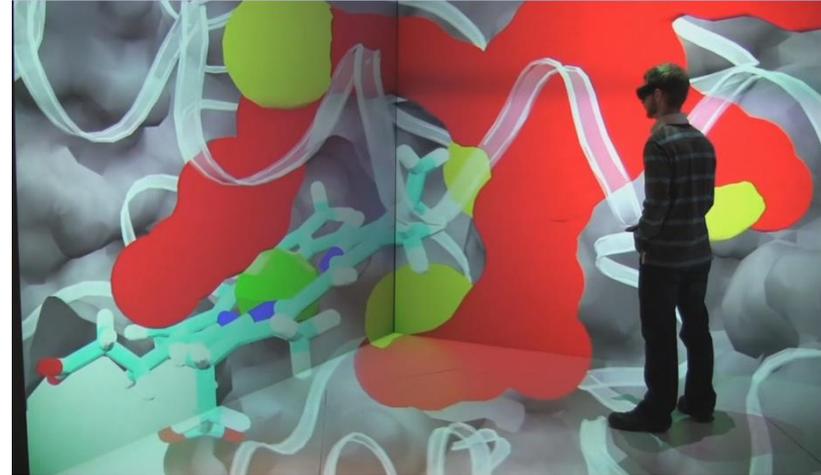
www.arc.vt.edu



The Visionarium Lab

Open to faculty and students

- The VisCube
- Deep Six
- Touchscreens
- Stereo TVs
- Tablets



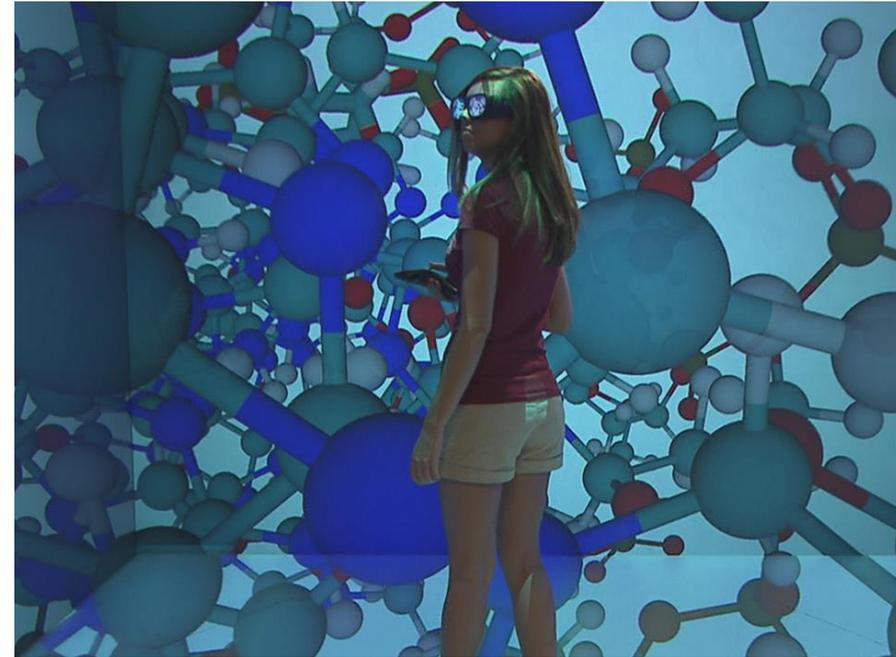
Immersive VR

Empirical evidence for benefits of:

- Screen surround
 - Stereo rendering
 - 6DOF head and wand tracking
- tracking

Using **Extensible 3D (X3D)**
from smartphones
To CAVEs!

X3D !



Open ISO/IEC Standards

- ‘Content is King’
- Portability
- Durability
- IP independence
- International recognition and community
 - Plus: W3C, OGC, DICOM, ISO/IEC!

www.web3d.org





Future Web3D.org

- Non-profit member-driven organization
- Develops and standardizes open 3D graphics technologies for the web
- Next steps:
 - X3D 4.0 => www.X3DOM.org (native HTML5)
 - DICOM integration and X3D haptics
 - OpenGeospatial.org Web3D Service
 - Call for Compression

Join Us !!!

npolys@vt.edu