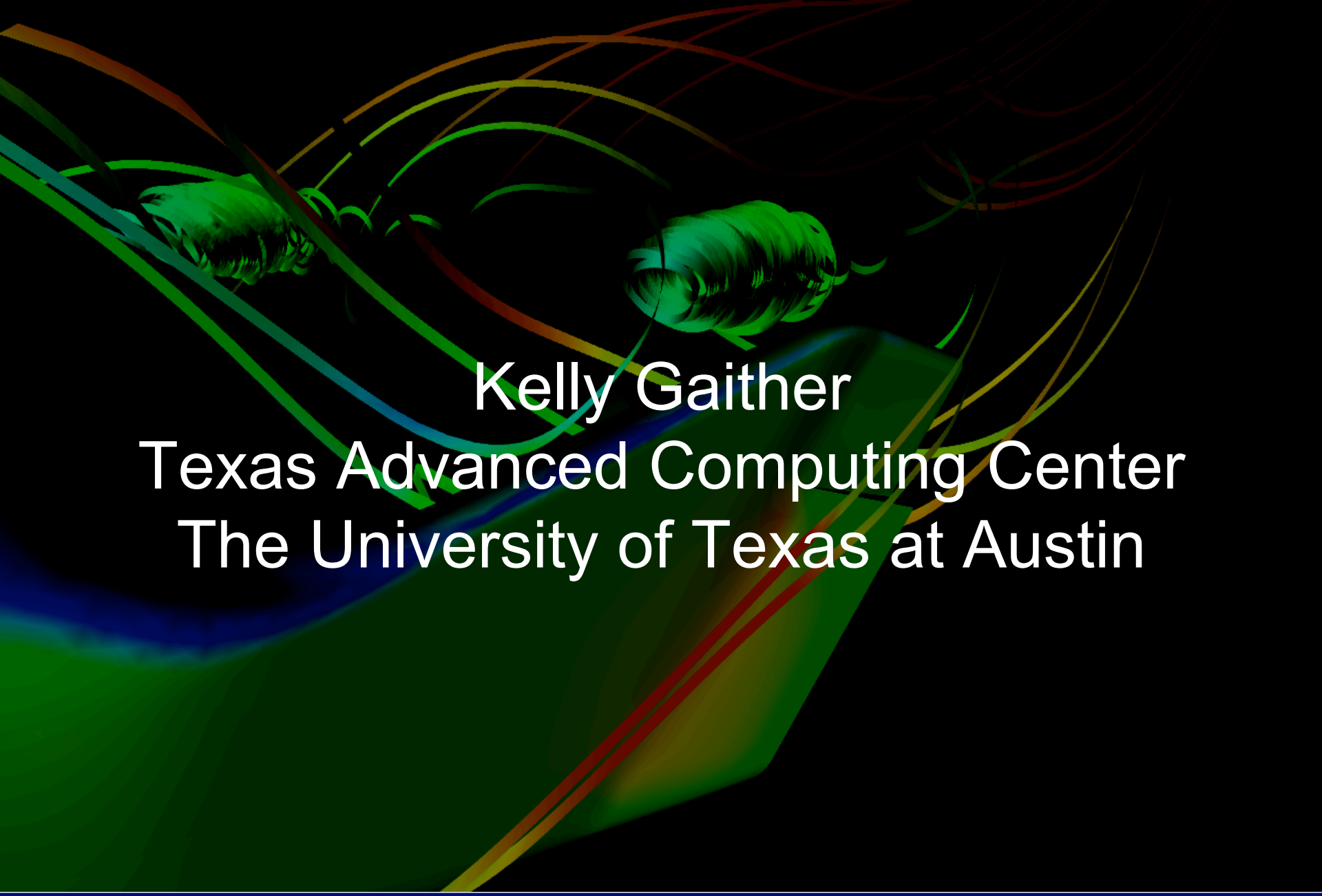

Kelly Gaither
Texas Advanced Computing Center
The University of Texas at Austin

Who am I?

- Kelly Gaither, Director of Visualization/Senior Research Scientist, Texas Advanced Computing Center, The University of Texas at Austin
- Lead a group of 12-15 researchers and software developers dedicated to visualizing science for the purposes of providing insight and facilitating knowledge discovery

What are we doing with visualization?

- Provides resources/services to a growing local and national user community to enable scientific discovery and insight

Maverick
2004 – 2008

Spur
2008 – 2013

Longhorn
2010 – 2013

Maverick 2014

Stampede
2013

2004 2014

Image/Animation Generation

Exploration/Knowledge Discovery

What are we doing with visualization?

- Provides resources/services to a growing local and national user community to enable scientific discovery and insight

Maverick
2004 – 2008

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Longhorn
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Maverick 2014

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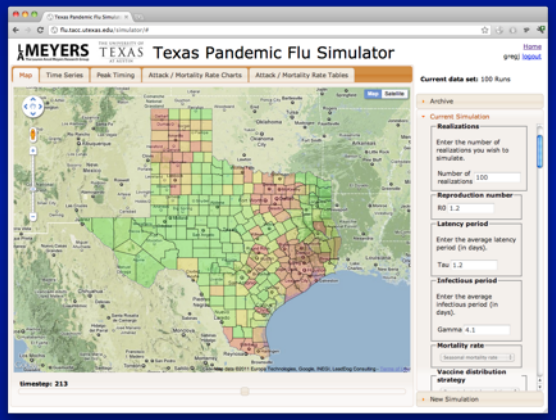
2013

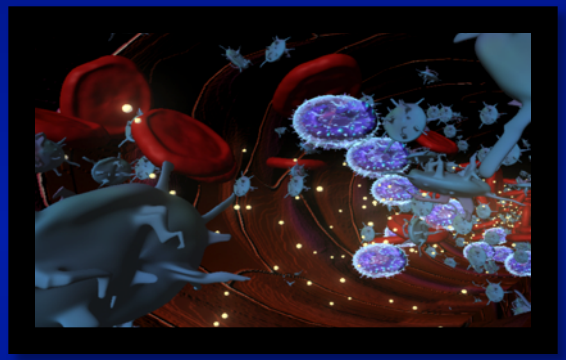
2004 2014

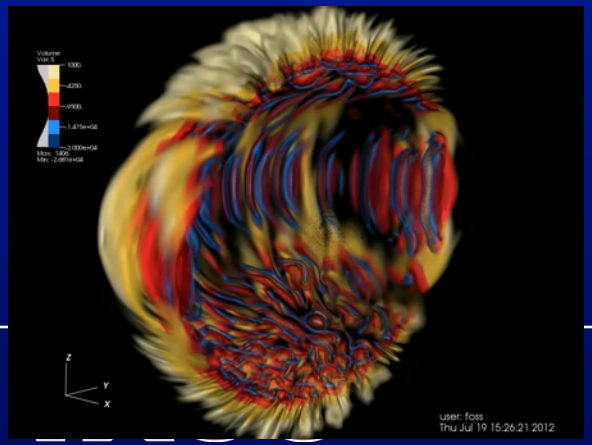
Scientific Visualization *Visual Analytics*

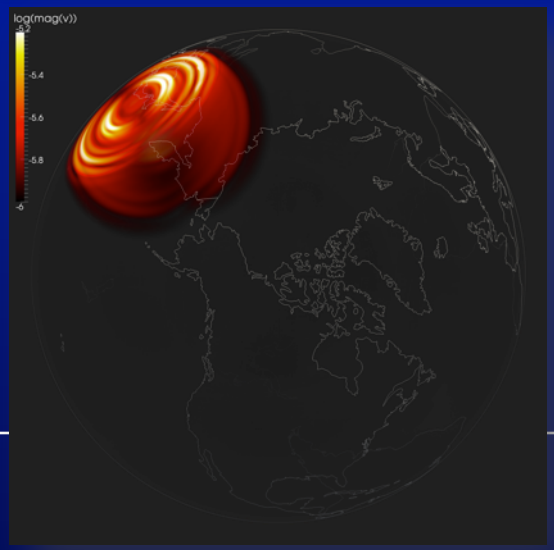
What are we doing with visualization?

- Researching and developing tools/techniques for the next generation of problems facing the user community









What are we passionate about?

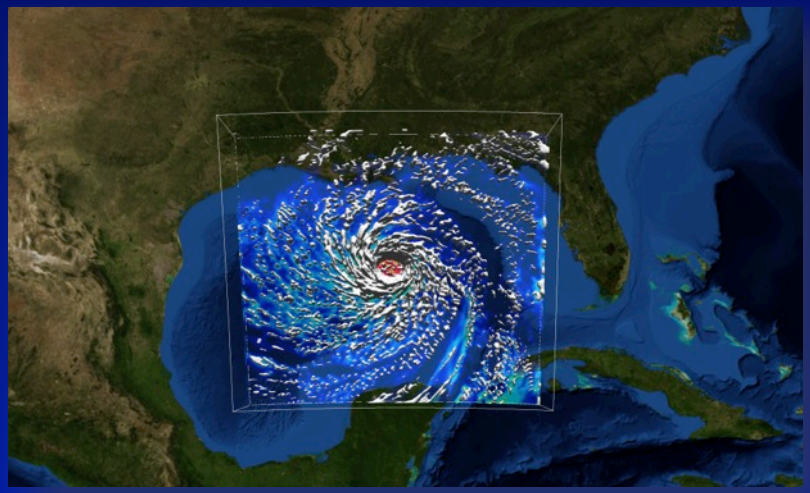


Image: Greg P. Johnson, Romy Schneider, TACC

Image: Adam Kubach, Karla Vega, Clint Dawson

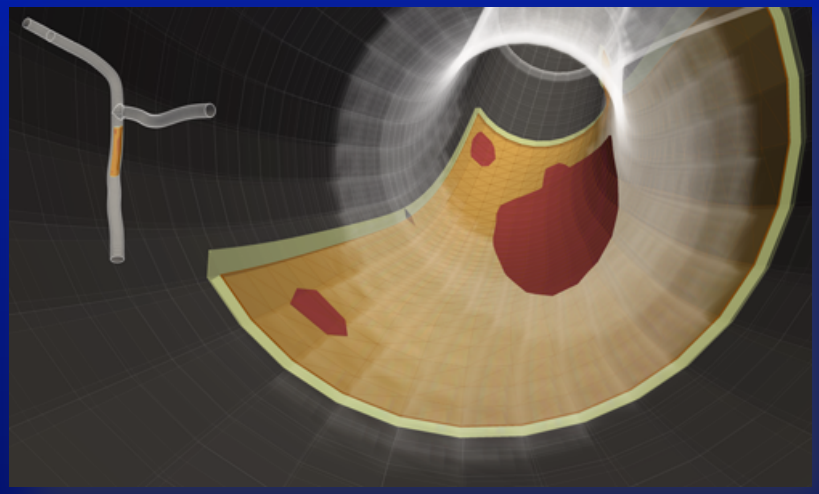
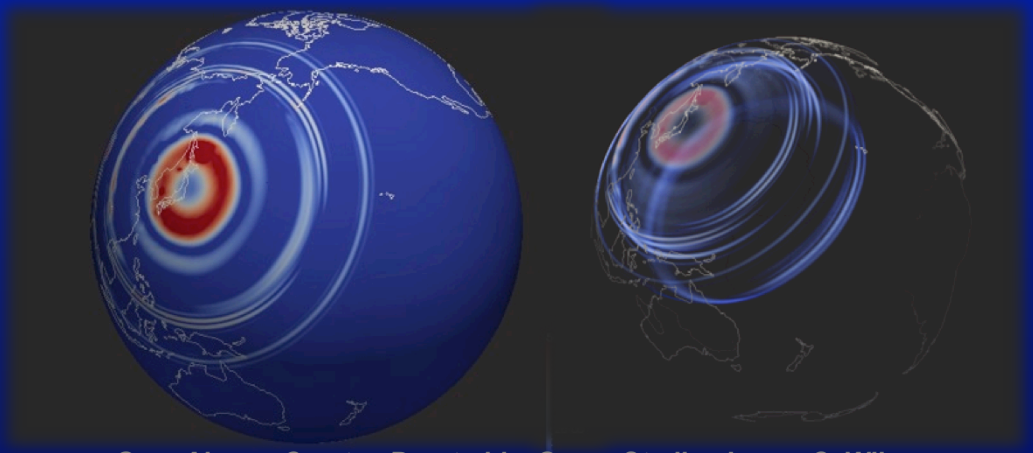


Image: Karla Vega, Shaolie Hossain, Thomas J.R., Hughes



Greg Abram, Carsten Burstedde, Georg Stadler, Lucas C. Wilcox, James R. Martin, Tobin Isaac, Tan Bui-Thanh,and Omar Ghattas

TACC

Maximizing Scientific Impact

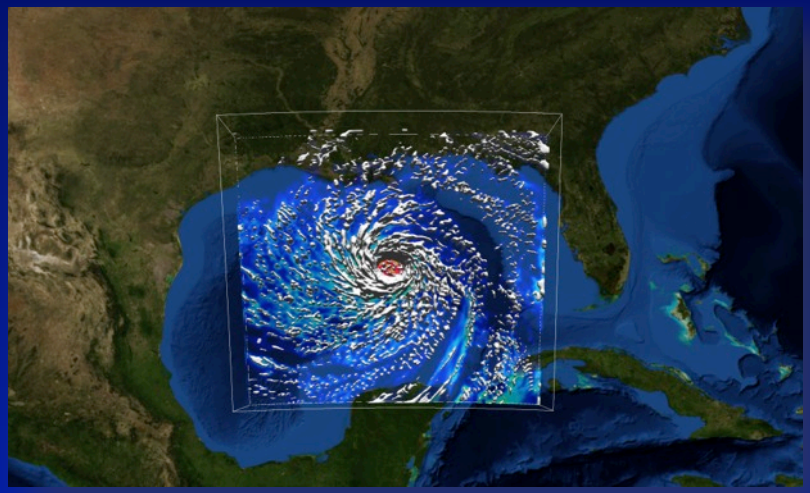


Image: Greg P. Johnson, Romy Schneider, TACC

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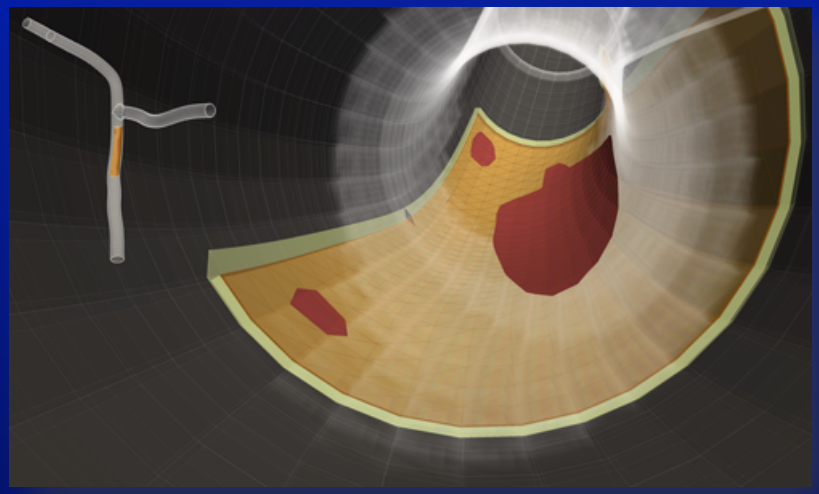

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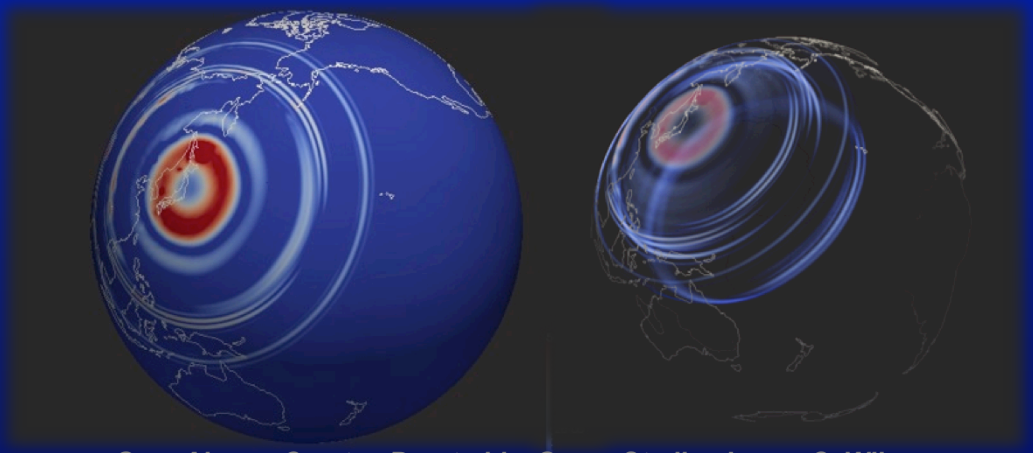

Greg Abram, Carsten Burstedde, Georg Stadler, Lucas C. Wilcox, James R. Martin, Tobin Isaac, Tan Bui-Thanh,and Omar Ghattas

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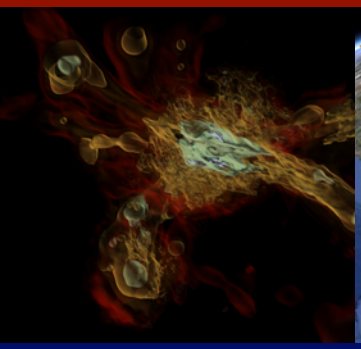
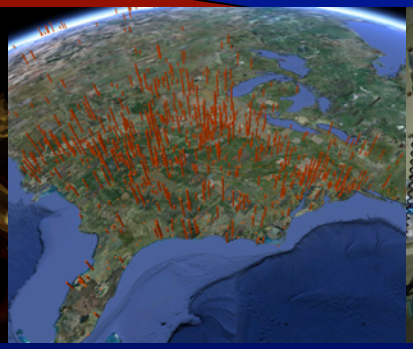
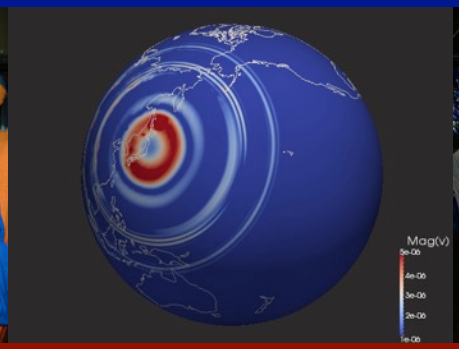
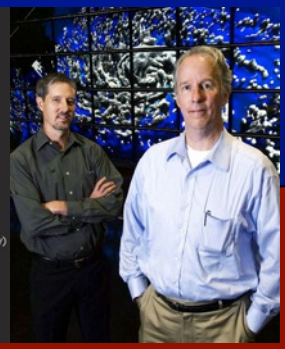
What are our current challenges and focus areas?

- Managing Data at Scale
- Visualizing Data at Scale
  - Large Scale Feature Detection/Extraction
  - Rendering at Scale on Diverse Platforms
- Ensuring Broad Accessibility/Developing Ubiquitous Tools





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What is on our wish list?

- Funding to explore novel techniques for visualization
  - What defines a good visualization? Has to be more than a popularity contest.
  - How do we permeate application domains when the tools are written to be general purpose? Is this a tension between modularity vs ubiquity?
- Widespread access to diverse data sets that allow us to test and innovate across domains