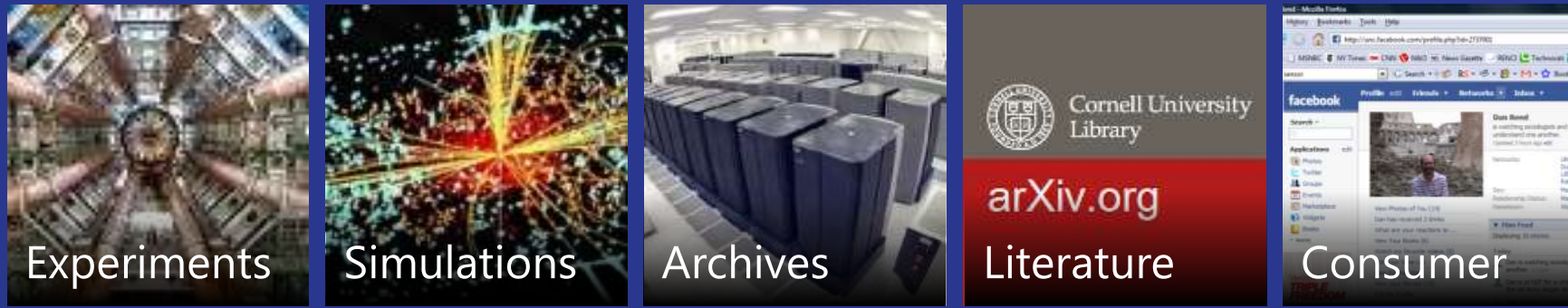


# CLOUD FUTURES 2012

*Hot Topics in Research and Education*

# The data explosion is transforming science



Petabytes  
Doubling & Doubling

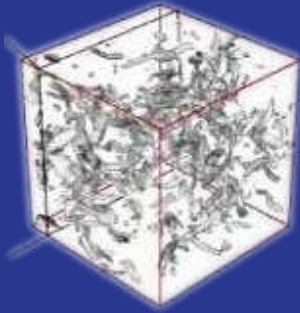
4<sup>th</sup> Paradigm

## THE RESPONSE

- Every area of science is now engaged in data-intensive research
- Researchers need
  - Technology to publish and share data in the cloud
  - Data analytics tools to explore massive data collections
  - A sustainable economic model for scientific analysis, collaboration and data curation

# The Cloud Opportunity

- Cloud data services from commercial providers can democratize access to big data.
- The cloud can support *research data services* that are
  - Open and extensible
  - Easily accessed by simple desktop/web analysis applications
  - Encourages scientific collaboration
  - Allows scientific analysis of massive data collections without requiring each researcher to acquire a private supercomputer
- **Cloud Futures Papers** presented here illustrate what is possible



$$\left(\frac{\dot{a}}{a}\right)^2 = \frac{4\pi G\rho}{3} - \mathbf{K} \frac{c^2}{a^2}$$



# Cloud Futures 2012

- 3<sup>rd</sup> Workshop in a Series that started 2010
- Appreciation
  - UC Berkeley – host and support
  - Michael Franklin – co-chair
- Attendees
  - 18 countries and 60+ institutions

# Program Overview

- Keynotes:
  - Joseph Hellerstein (Manager, Big Science - Google): *Science in the Cloud*
  - Yousef Khalidi (Distinguished Engineer - Microsoft): *Large Scale Cloud Computing: Opportunities & Challenges*
- Plenary sessions, parallel sessions, poster session
- Panel - chair: Michael Franklin
  - *Big Data on Campus: Addressing the Challenges and Opportunities Across Domains*

