

# The CardioVascular Research Grid Project

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- NHLBI-Funded R24 Resource
- Mission:  
Serve the needs of cardiovascular researchers by providing seamless, customized, secure access to study datasets and analysis tools
- Current focus, clinical research
- Web Site [www.cvrgrid.org](http://www.cvrgrid.org)
- Wiki Site [wiki.cvrgrid.org](http://wiki.cvrgrid.org)

# Participating Institutions

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- **The Johns Hopkins University Institute for Computational Medicine**
  - D. Geman, D. Naiman, M. Miller, R. Winslow, L. Younes
- **Emory University Center for Comprehensive Informatics**
  - J. Saltz, T. Kurc, A. Post
- **Wake Forest University Translational Sciences Institute Biomedical Informatics Center**
  - J. Carr, Y. Ge
- **University of Chicago Computation Institute**
  - I. Foster, R. Madduri

# CVRG-Supported Studies

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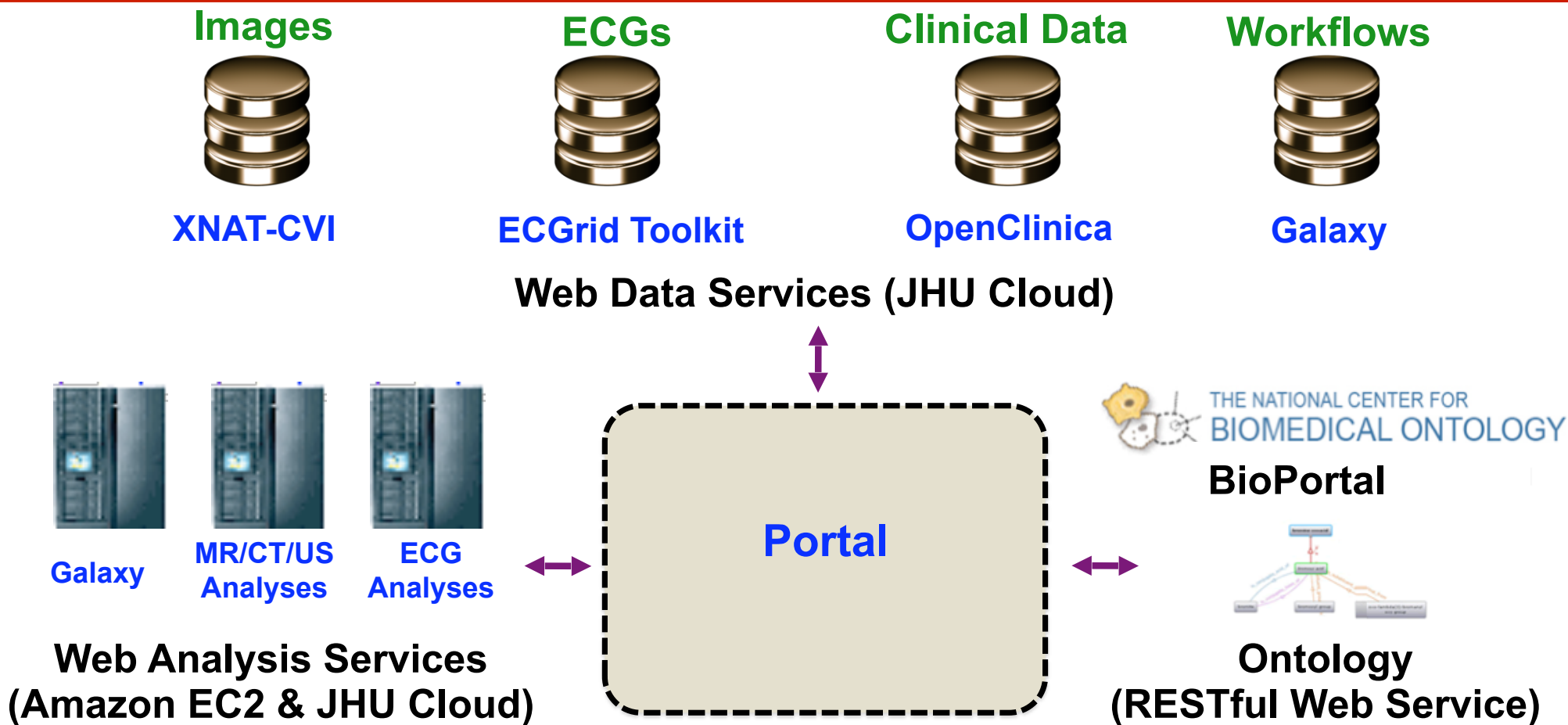
- **Coronary Artery Risk Development in Young Adults**
  - ~ 25 years, ~ 5,100 subjects
- **Multi-Ethnic Study of Atherosclerosis**
  - ~ 11 years, ~ 6,500 subjects
- **Hypertrophic Cardiomyopathy Consortium**
  - 2009, ~ 10,000 subjects
- **Jackson Heart Study**
  - ~ 11 years, ~ 6,500 subjects
- **Pediatric Heart Network**
  - ~ 10 years
- **others**

# What We Learned in Our 1<sup>st</sup> 2 Years

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- **Design of NHLBI studies silo's data**
  - Data collection sites —→ “Reading Centers”
  - Data Coordination Center archives data
- **Exploring data is hard**
  - Can't interact with data at DCC or Reading Centers
- **Sites have minimal to no IT support**
  - Can't install/maintain complex software
  - No Unix applications, VMs, caBIG tools
- **Solution (?): access tools & data via browser - “SaaS”**
  - Minimal IT overhead
  - "Private Cloud"

# Tools for Cardiovascular Research



# Tools for Cardiovascular Research

CardioVascular Research Grid

Welcome Galaxy DCM4CHEE OpenClinica **XNAT** ECGrid Toolkit

liferay.com > XNAT

User: sgranite ([Logout](#)) ([Edit](#))   [Advanced](#)

**XNAT**

Home New Upload Administer Tools

The sessions listed below have been uploaded but not yet placed in the archive. Click on a session name to examine that session and, optionally, move session.

If you have uploaded any files to the FTP server, they will appear above the sessions, in the FTP inbox. **Import** those files to organize them into sessions

Status key: Receiving Building Ready Archiving Error

MESA5 (268 sessions)

Session/subject		Session date/time
MESA4017846SPELJIF / MESA4017846SPELJIF	Move to...	Thu Apr 14 2011 09:33:46 GMT-0400 (Eastern Daylight Time)
MESA4019091SMITMAF / MESA4019091SMITMAF	Move to...	Fri May 28 2010 08:34:16 GMT-0400 (Eastern Daylight Time)
MESA4022610MERCNEM / MESA4022610MERCNEM	Move to...	Thu May 20 2010 12:32:06 GMT-0400 (Eastern Daylight Time)
MESA4021827POLYFAF / MESA4021827POLYFAF	Move to...	Wed Jun 02 2010 10:00:13 GMT-0400 (Eastern Daylight Time)

# The Challenges

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- **Scaling up**
  - Will need an external host
  - Raises issues of ...
- **Security**
  - HIPAA compliance, de-identified data and PHI
  - Liability
  - Technical approach ?
- **Everything must remain simple, browser-based**
  - Interacting with large data sets (e.g., 24 hr Holter data)
  - Seamless use of Globus Online through browser ?