

# ECOGEO RCN

*From environment, to base pairs, to ocean science and geobiology: Defining the tools and technologies for an interoperable environmental 'omics cyberinfrastructure.*

# EarthCube Oceanography & Geobiology Environmental 'Omics Research Coordination Network

- Edward DeLong, Elisha Wood-Charlson, 12 Steering Committee members
- **Goals:**
  - Create a strategic network and community of field and cyber scientists to explore new facets of 'omics data.
  - Articulate the needs, challenges, and practical solutions that address: 1) development of infrastructure, 2) integration and implementation of workflows and standards, and 3) database and resource sustainability.
  - Develop a community-based framework that integrates best practices for curation and analysis of 'omics data (and its relevant contextual data), and facilitates collaboration and training among environmental microbiology, geobiology, and computer science disciplines.

# Target Resources for this Project

- Databases: JGI/IMG, MG-RAST, iMicrobe, NCBI, EBI, BCO-DMO
- Community generated and contributed data sets
- Genome Standards Consortium
- Workflows: Protocols.io, R, Python notebook, GitHub
- Analysis and visualization tools (too many to list)
- Data transfer, storage, curation, access

# Products of this Funded Project

- All products are available on the ECOGEO website
  - <http://earthcube.org/group/ecogeo>
- August 2015 Workshop: Final report contains a summary of community-defined core science drivers, cyberinfrastructure challenges, and recommendations for moving forward.
- July 2016 Workshop: Training materials developed for the ECOGEO “Introduction to Environmental ‘Omics” 2-day workshop are available online:
  - Virtual machine (VM) containing tools and data sets
  - Videos and slides from presentations
  - Protocols.io collection containing Unix commands for executing VM tools