



ARL's eScience Initiative: Developing Capacity in Research Libraries

Librarians & eScience: Focusing Towards 20/20

CIC Center for Library Initiatives Conference

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Neil Rambo, ARL Visiting Program Officer

Theory Experiment Observation

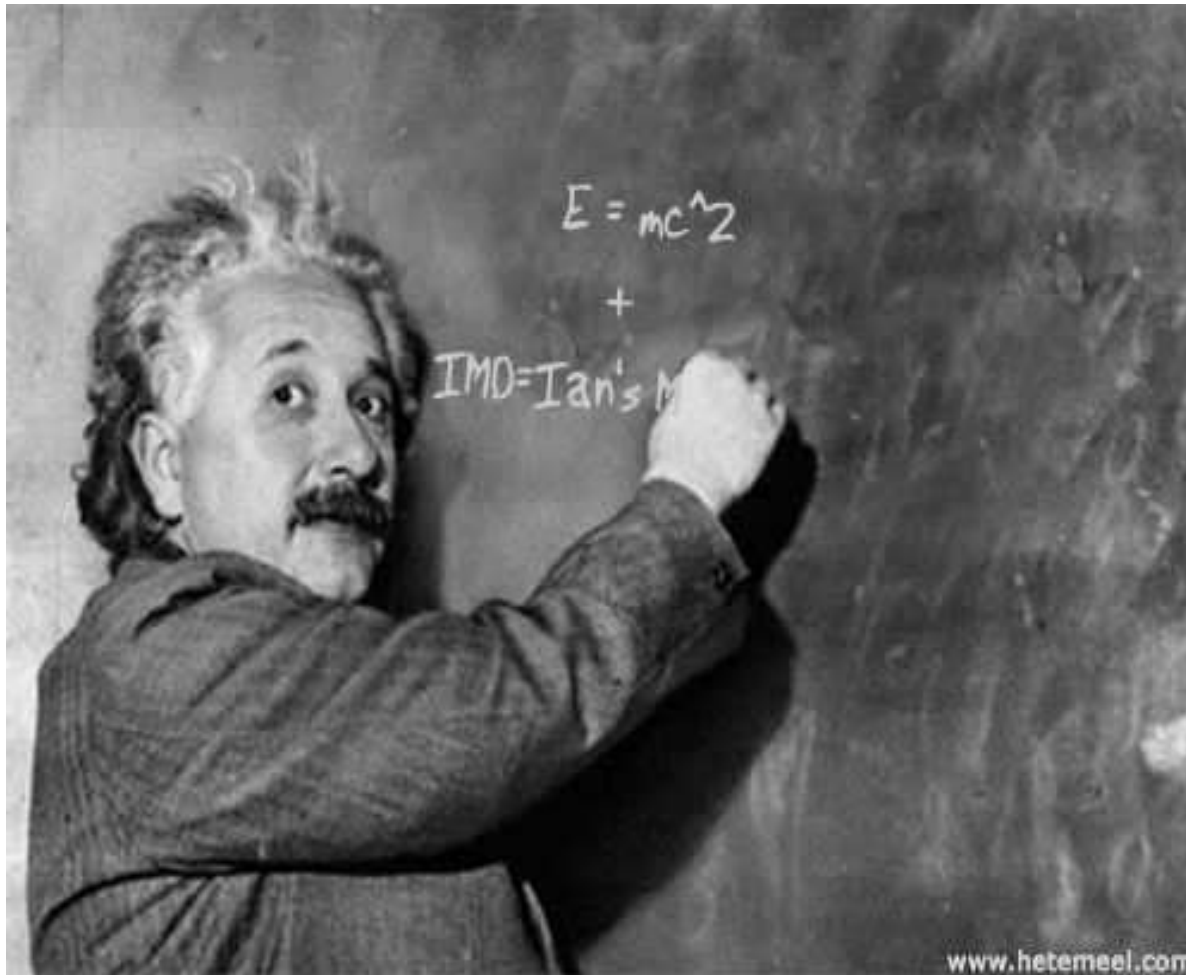


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Theory Experiment Observation



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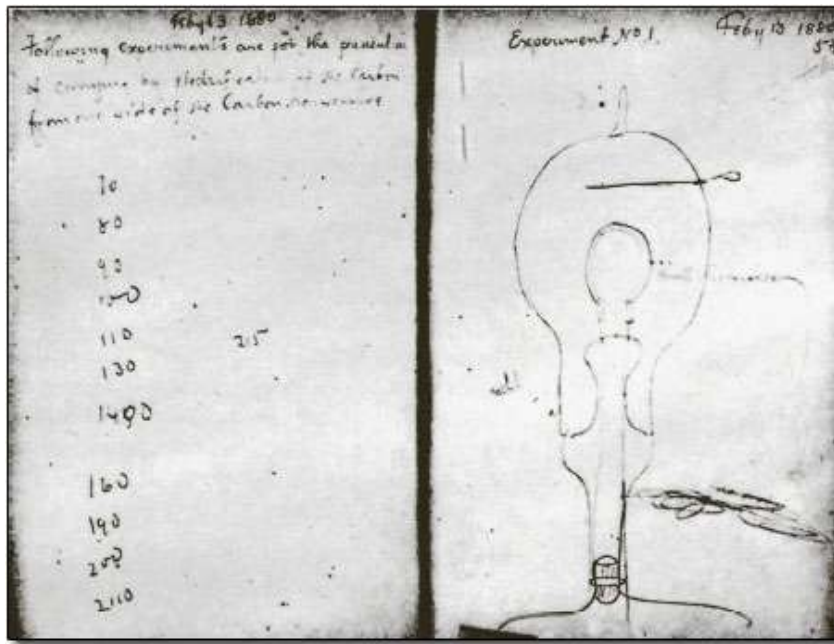


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Theory Experiment Observation

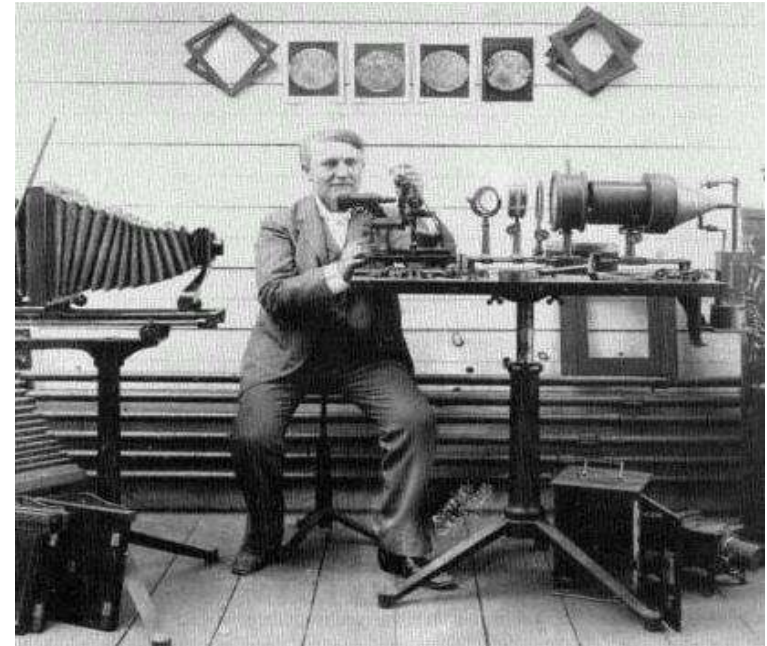


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Theory Experiment Observation Computational Science

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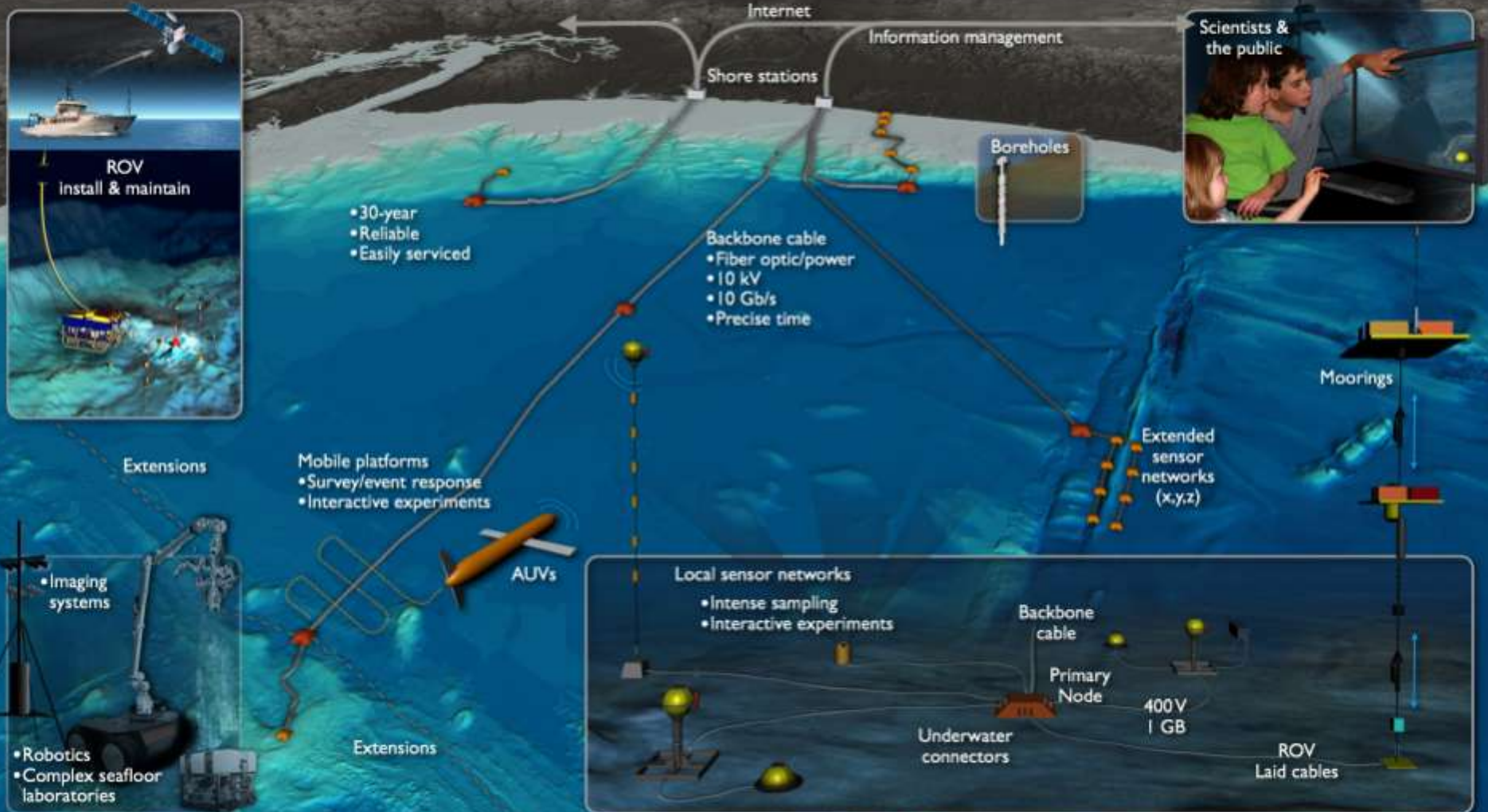


Theory
Experiment
Observation
Computational
Science
eScience



NSF Ocean Observatories Initiative

Regional Cabled Observatory Essential Elements



It's all about the data

- More data dependent than computationally intense
- Key capabilities include:
 - Sensor networks
 - Databases
 - Machine learning
 - Data mining
 - Visualization
- These capabilities are now expected to be ubiquitous
 - The future competitiveness of our research institutions depends on it

eScience is...

- A new research methodology
 - Fueled by networked capabilities and vast amounts of data
 - Data-driven and computationally intensive
- Team science, inter- & multi-disciplinary
- Multi-institutional & global
- Not a singular model

Opportunities for libraries

- Managing research assets
- Supporting new forms of communication & publication
- Supporting virtual organizations
- Contributing to policy development

ARL's interest in eScience

- Joint Task Force on Library Support for eScience, 2006-07
 - SC/RTL strategic directions steering committees
- Sense that eScience trends evolving rapidly
- Libraries could miss opportunity to contribute & engage
- Report issued end of 2007
 - http://www.arl.org/bm~doc/ARL_EScience_final.pdf

Task force charge

- Understanding within RL community
- Addressing issues of data curation
- Development of new roles for libraries
- Identify skills needed
- Identify opportunities & strategies for developing relationships

Areas for library engagement

- Data curation
- New forms of publication
- Virtual organizations
- Policy development

Areas for library engagement

- Data curation
 - Preservation + access → re-use
 - Archival practice: selection, access, how long to preserve, IP rights management
- New forms of publication
- Virtual organizations
- Policy development

Areas for library engagement

- Data curation
- New forms of publication
 - eJournal links to underlying data
 - Reader manipulation of data
 - Journal + database = hybrid publication
- Virtual organizations
- Policy development

Areas for library engagement

- Data curation
- New forms of publication
- Virtual organizations
 - Content, data, tools to enable collaboration
 - Challenge of multi-institutional service model
 - Extension of digital library environments
- Policy development

Areas for library engagement

- Data curation
- New forms of publication
- Virtual organizations
- **Policy development**
 - Funding agency data policies
 - NIH public access law
 - Open access → Open data
 - ScienceCommons licensing models

Library strengths

- Open access: deep understanding & experience
- Integration and interoperability tools
- Archival practices and policies
- Preservation and metadata

Library strengths

- Open access: deep understanding & experience
 - Policies, practices, roles
 - Institutional & domain repositories
- Integration and interoperability tools
- Archival practices and policies
- Preservation and metadata

Library strengths

- Open access: deep understanding & experience
- Integration and interoperability tools
 - Link resolvers, federated search, metadata standards
- Archival practices and policies
- Preservation and metadata

Library strengths

- Open access: deep understanding & experience
- Integration and interoperability tools
- **Archival practices and policies**
 - Both business & technical strategies
 - Research, resource, reference collections
- Preservation and metadata

Library strengths

- Open access: deep understanding & experience
- Integration and interoperability tools
- Archival practices and policies
- **Preservation and metadata**
 - Understanding information life cycle
 - Importance of assuring access & usability

Desired outcomes

- Capacity & process to advance eScience agenda
- Shared understanding of library contributions to eScience
- Knowledgeable and skilled library professionals
- Libraries as active contributors to infrastructure, systems, services, tools
- Influence policy, standards, resource allocation decisions

Task force recommendations

- Structure and process for ARL agenda
- Develop knowledgeable community
- Develop skilled workforce
- Contribute to research infrastructure
- Influence policy & resource allocation decisions

Thank you!



Neil Rambo

neil@arl.org

206.685.8556 (office)

206.450.9932 (cell)

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