SGCI

Connecting people and resources to accelerate discovery by empowering the science gateway community

Support for Campus-based Digital Resource Creation through the Science Gateways Community Institute

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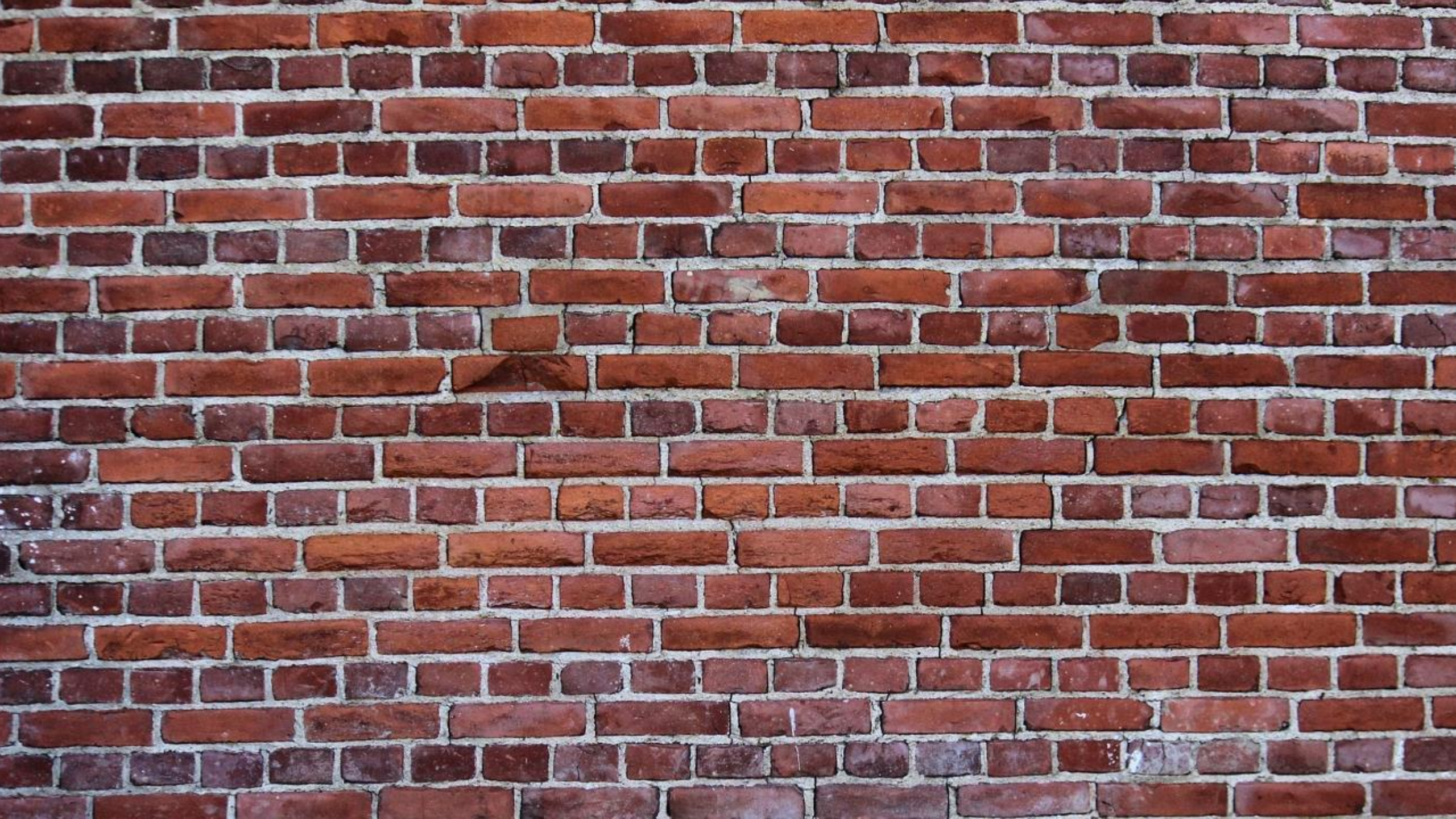
SGCI Slides Provided by Katherine Lawrence (University of Michigan)

sciencegateways.org

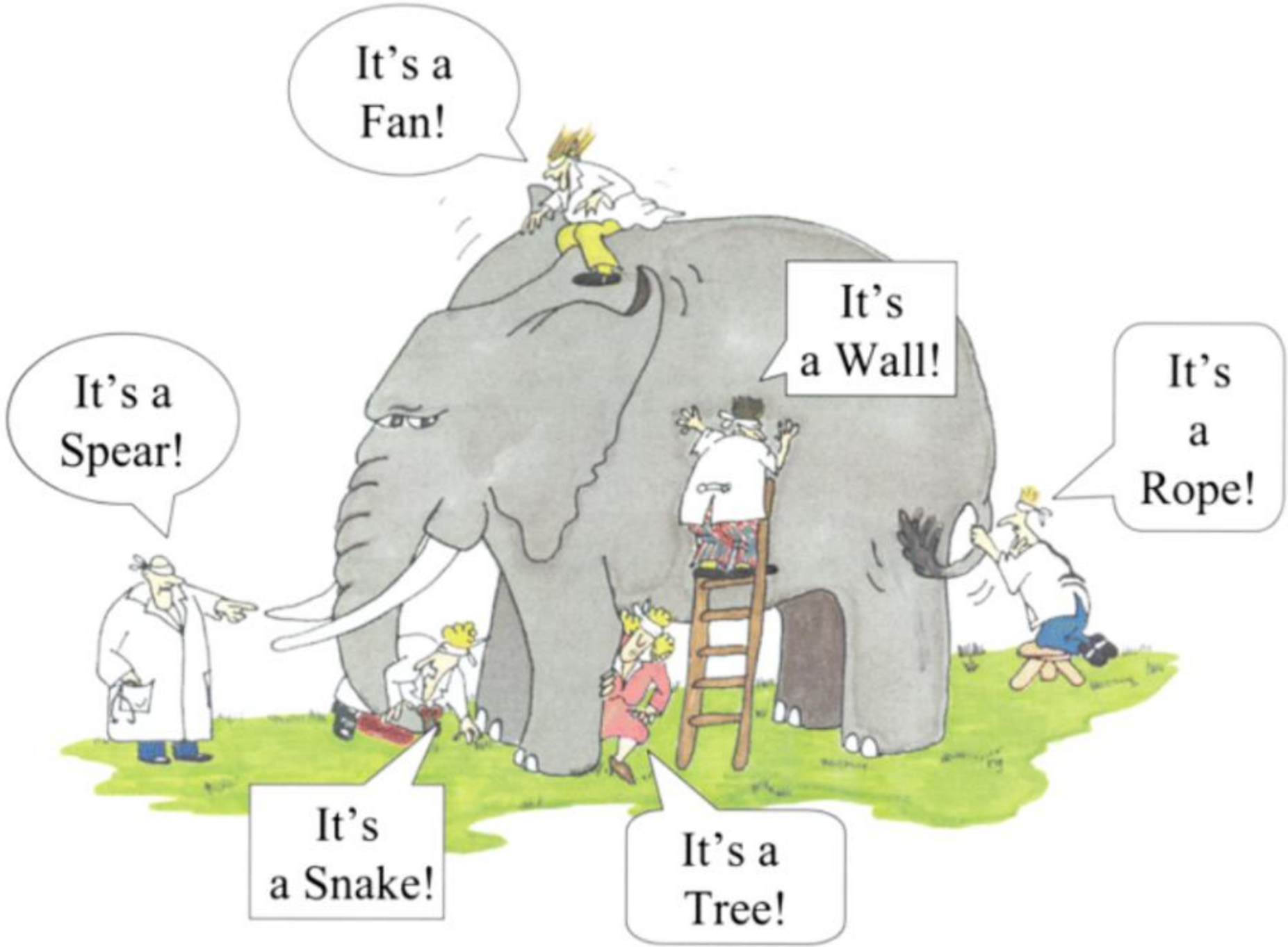
Award Number
ACI-1547611

NSF



Science Gateways
Community Institute

What is a gateway?



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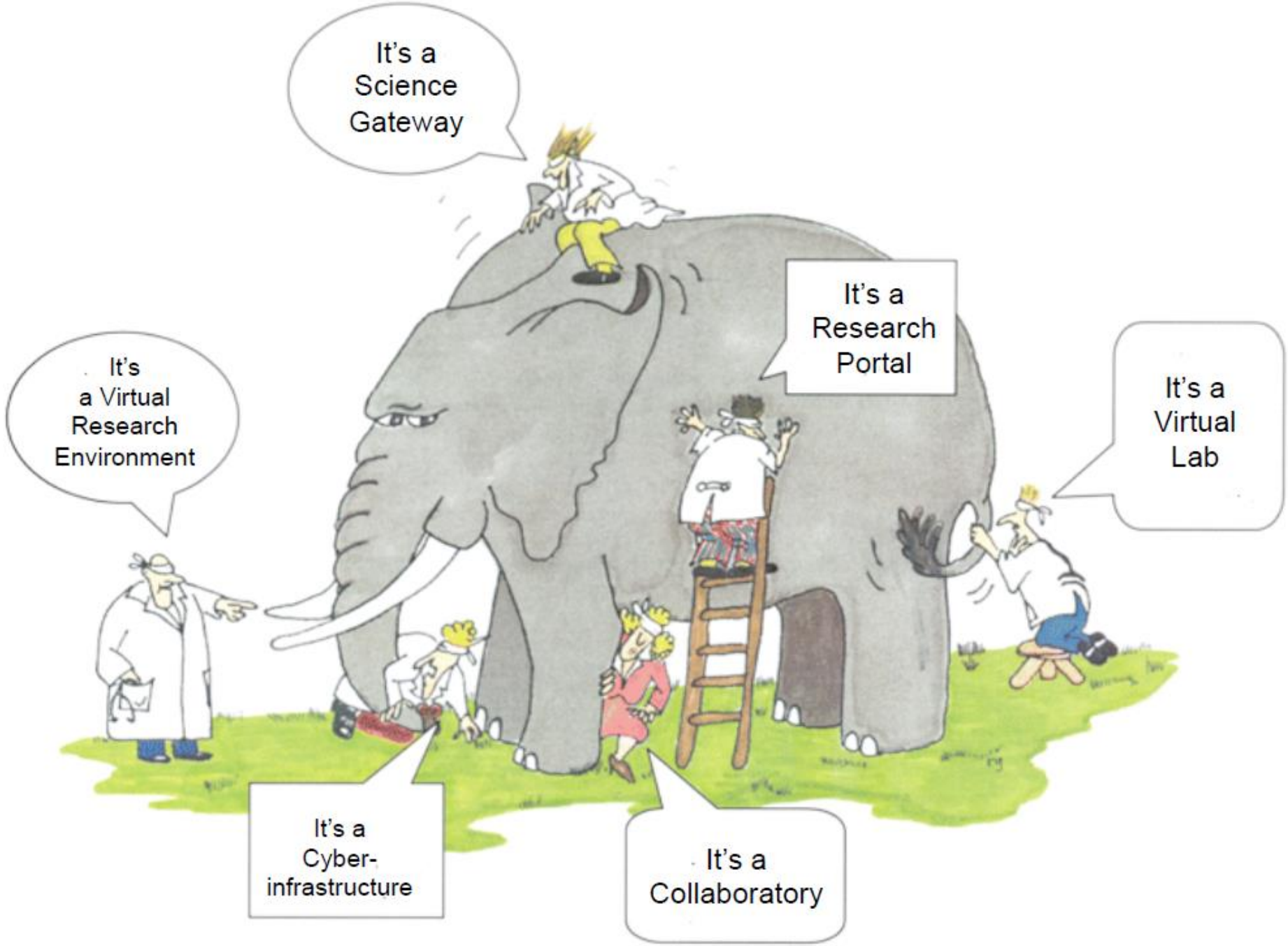
It's a Science Gateway
It's a Research Portal
It's a Virtual Lab
It's a Virtual Research Environment
It's a Cyber-infrastructure
It's a Collaboratory

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What is a gateway?

- an online community space for science and engineering research and education
- a Web-based resource for accessing data, software, computing services, and equipment specific to the needs of an academic discipline
- A way to help researchers, educators, students, and the public gain access to sophisticated or limited resources

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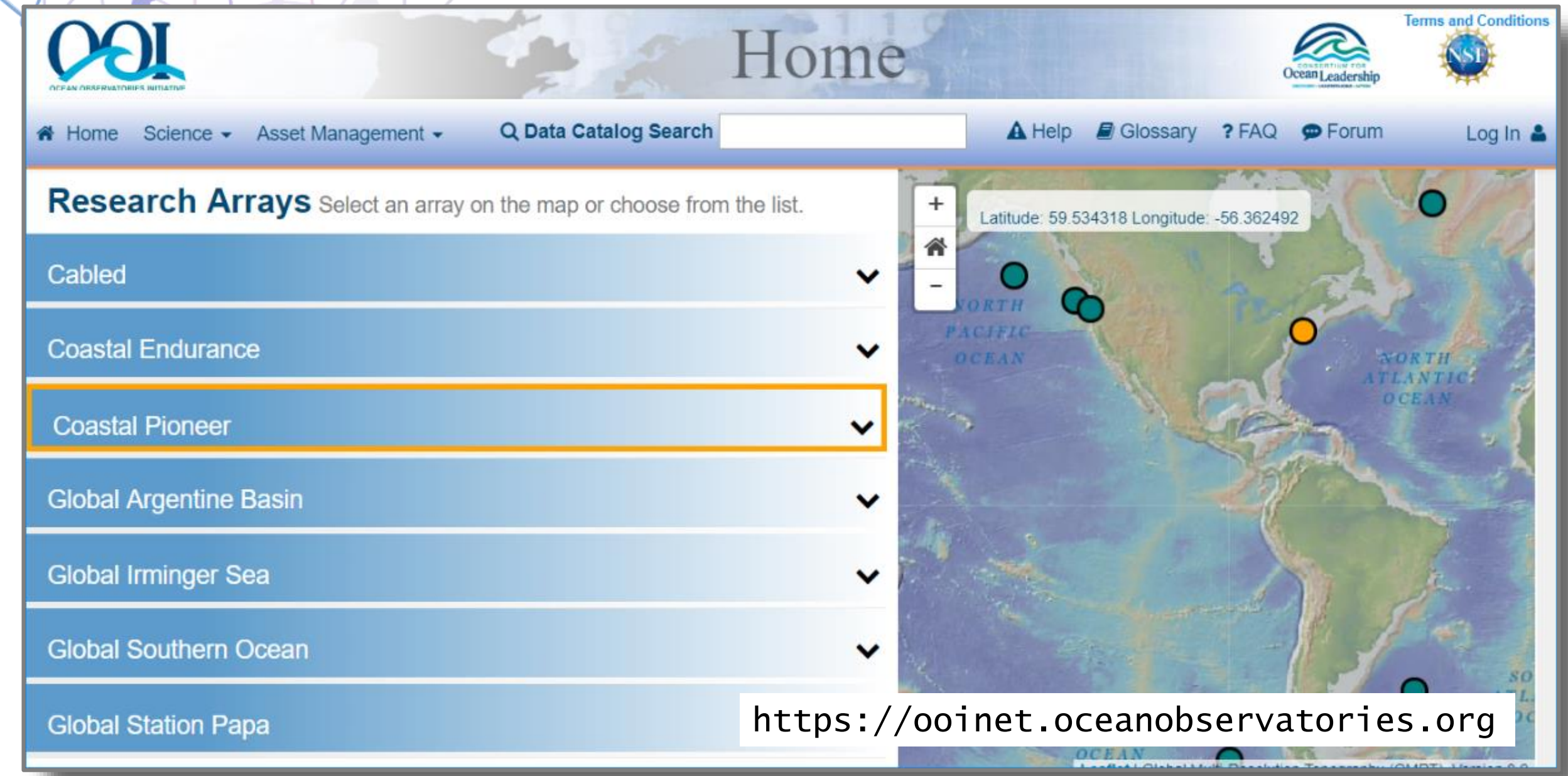
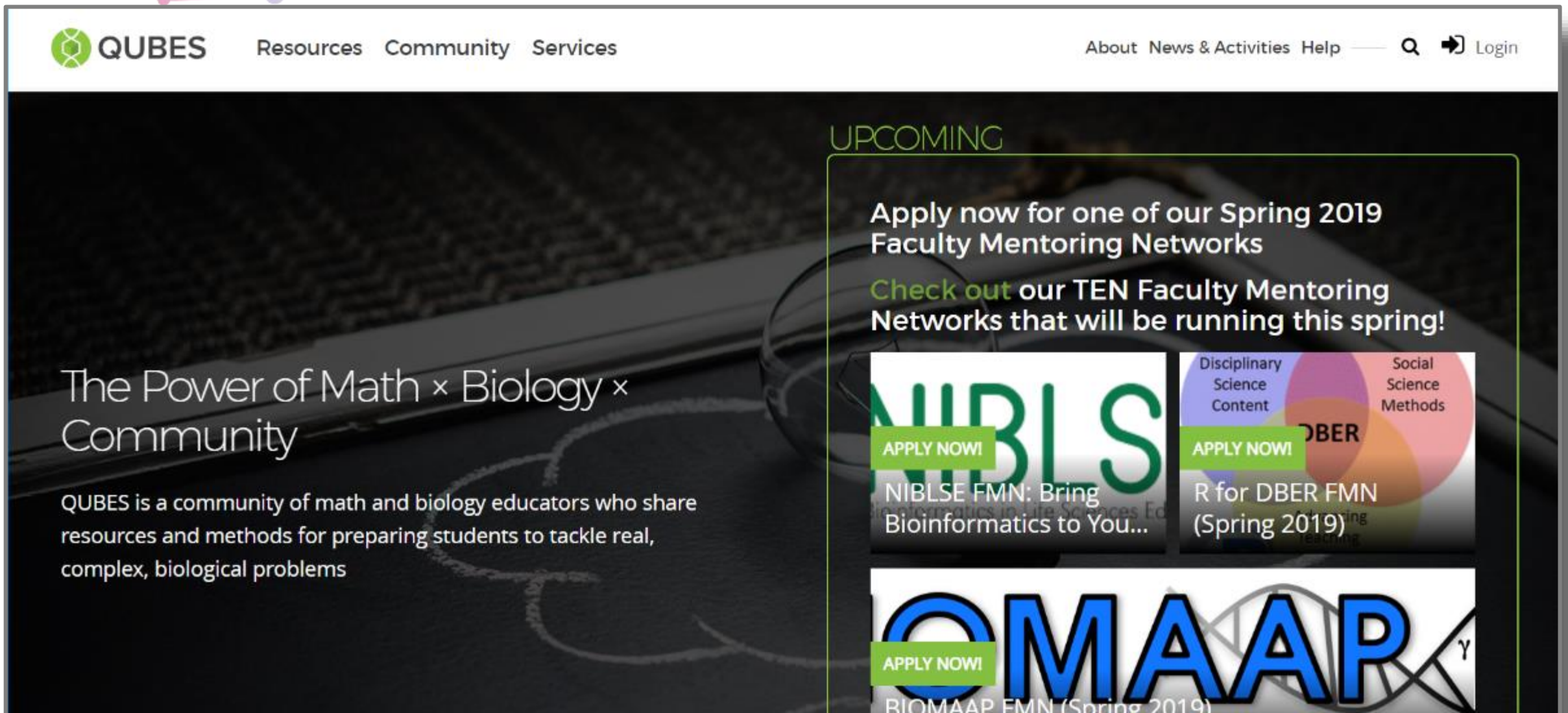
OOI: Ocean Observatories Initiative

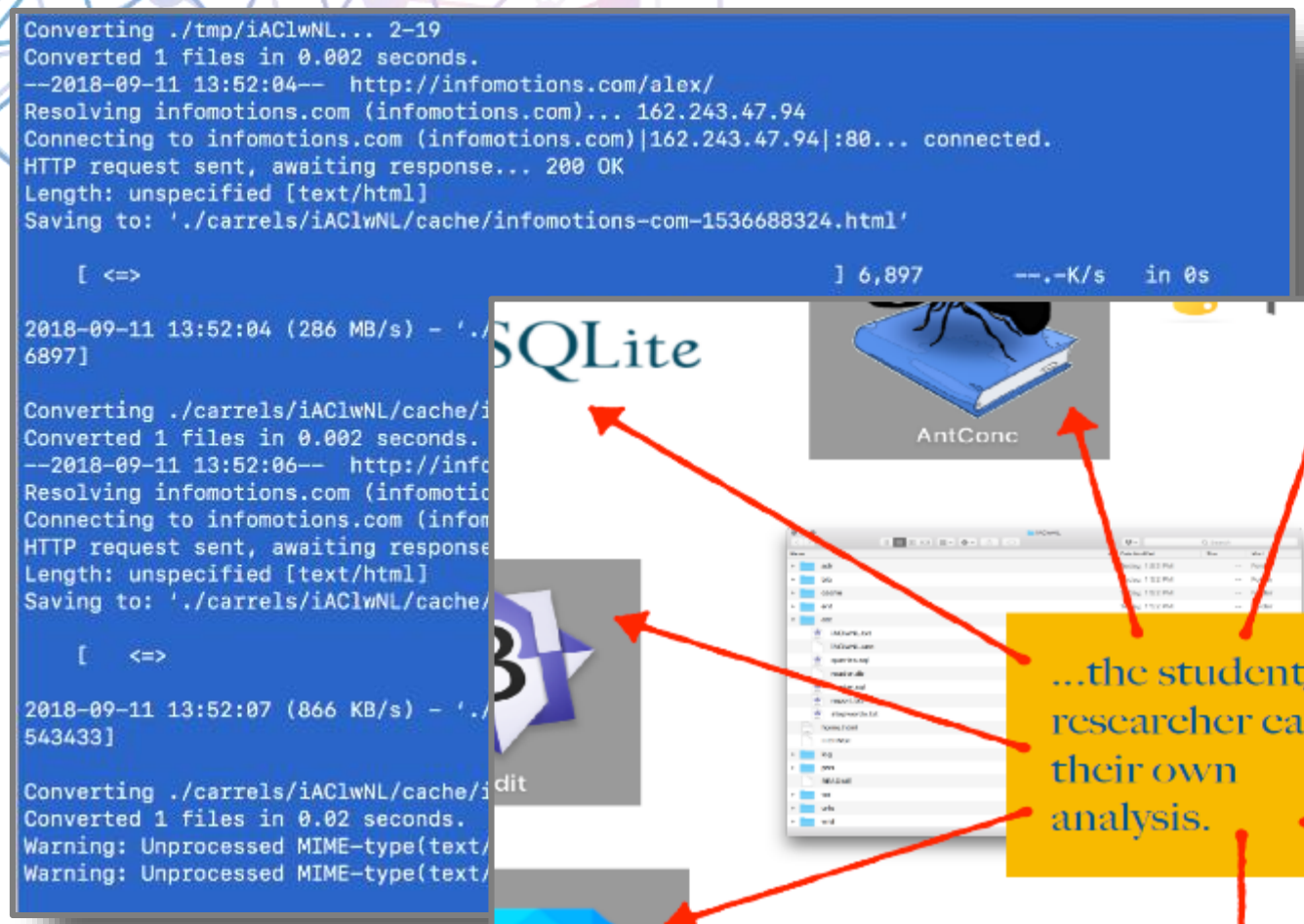


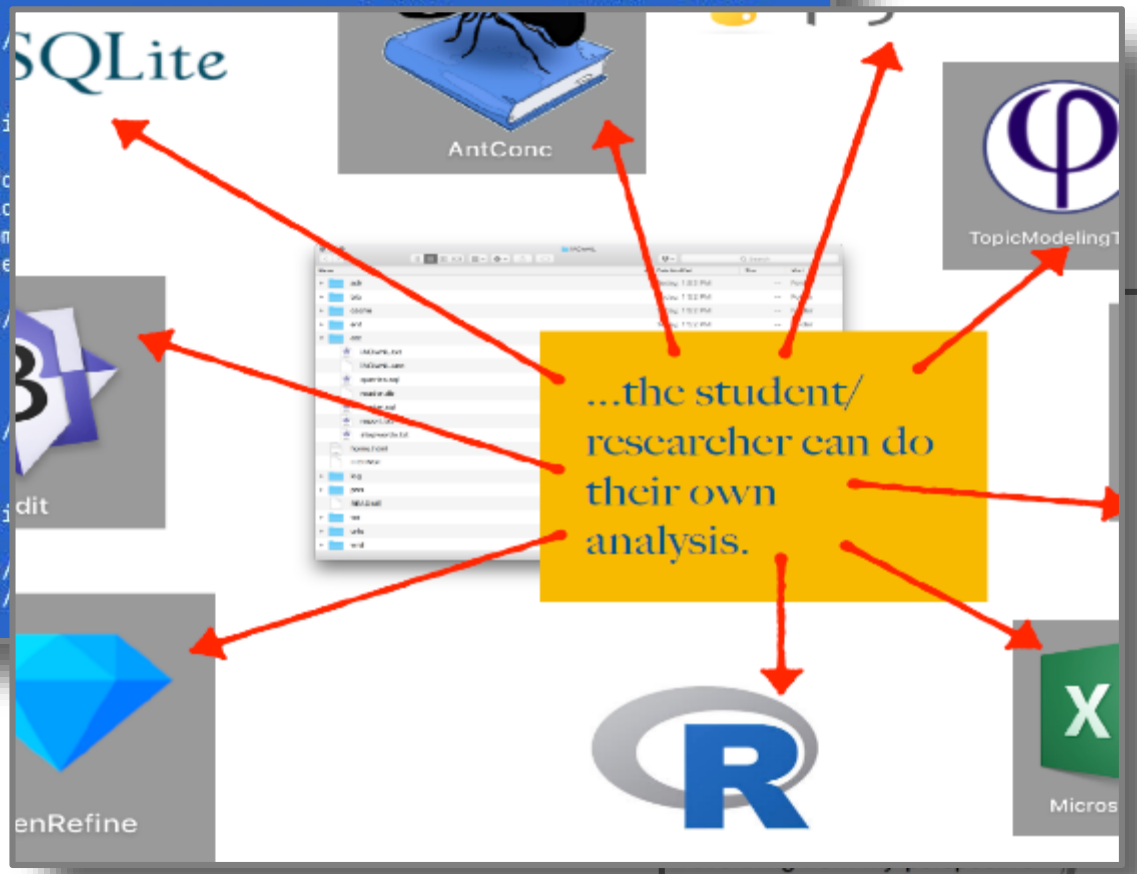
QUBES:
Quantitative Biology Education Resources

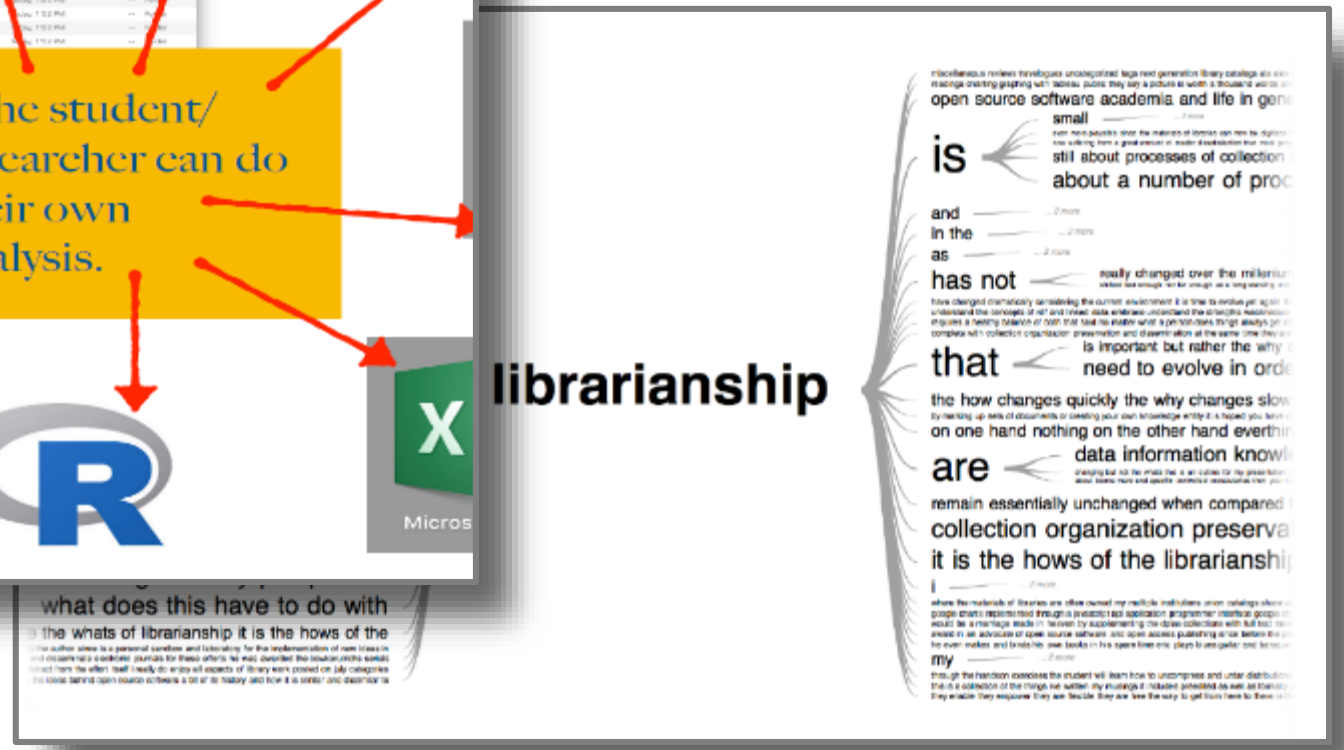


The Distant Reader

http://dh.crc.nd.edu/tmp/reader/







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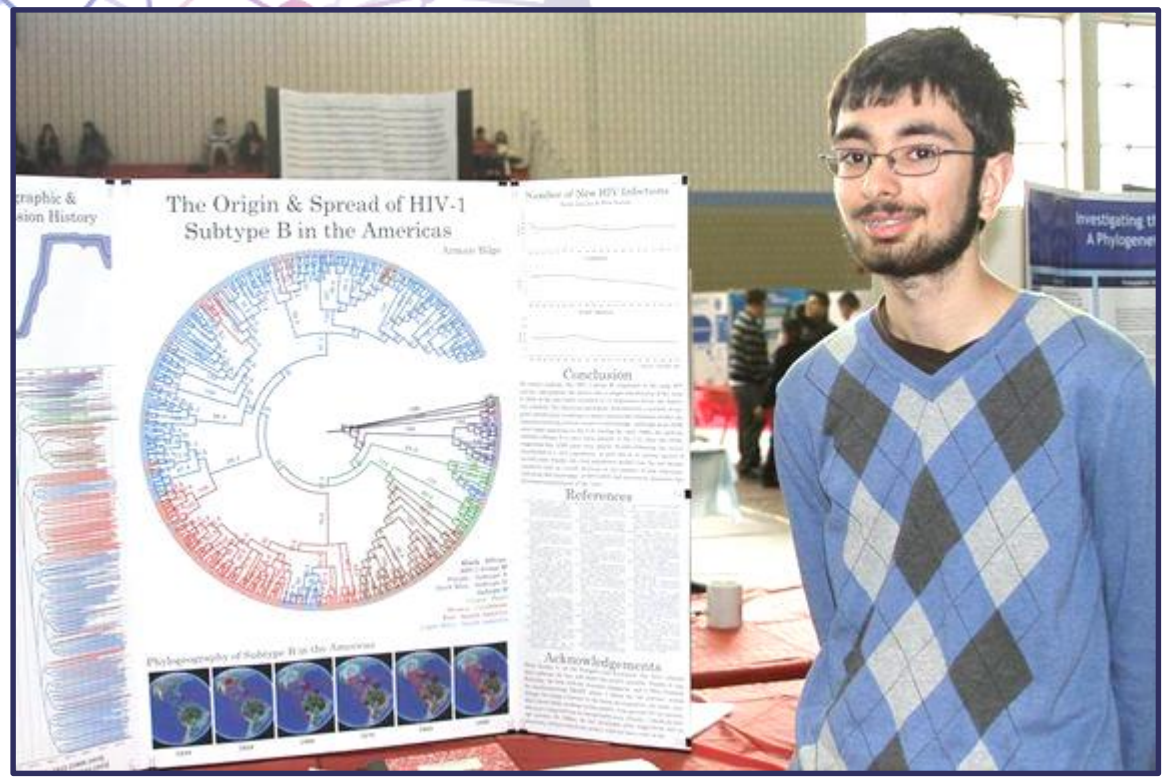
CIPRES: Cyberinfrastructure for Phylogenetic Research



Armand Bilge, 10th grader at Lexington High School, next to a poster explaining his award-winning research project, a map and timeline that identified when HIV arrived in the Americas.

- **1.36 million jobs** on TeraGrid/XSEDE submitted by **33,195 unique users**.
- Used for **curriculum delivery** by at least 93 instructors.
- Supported **4,500+ publications**.

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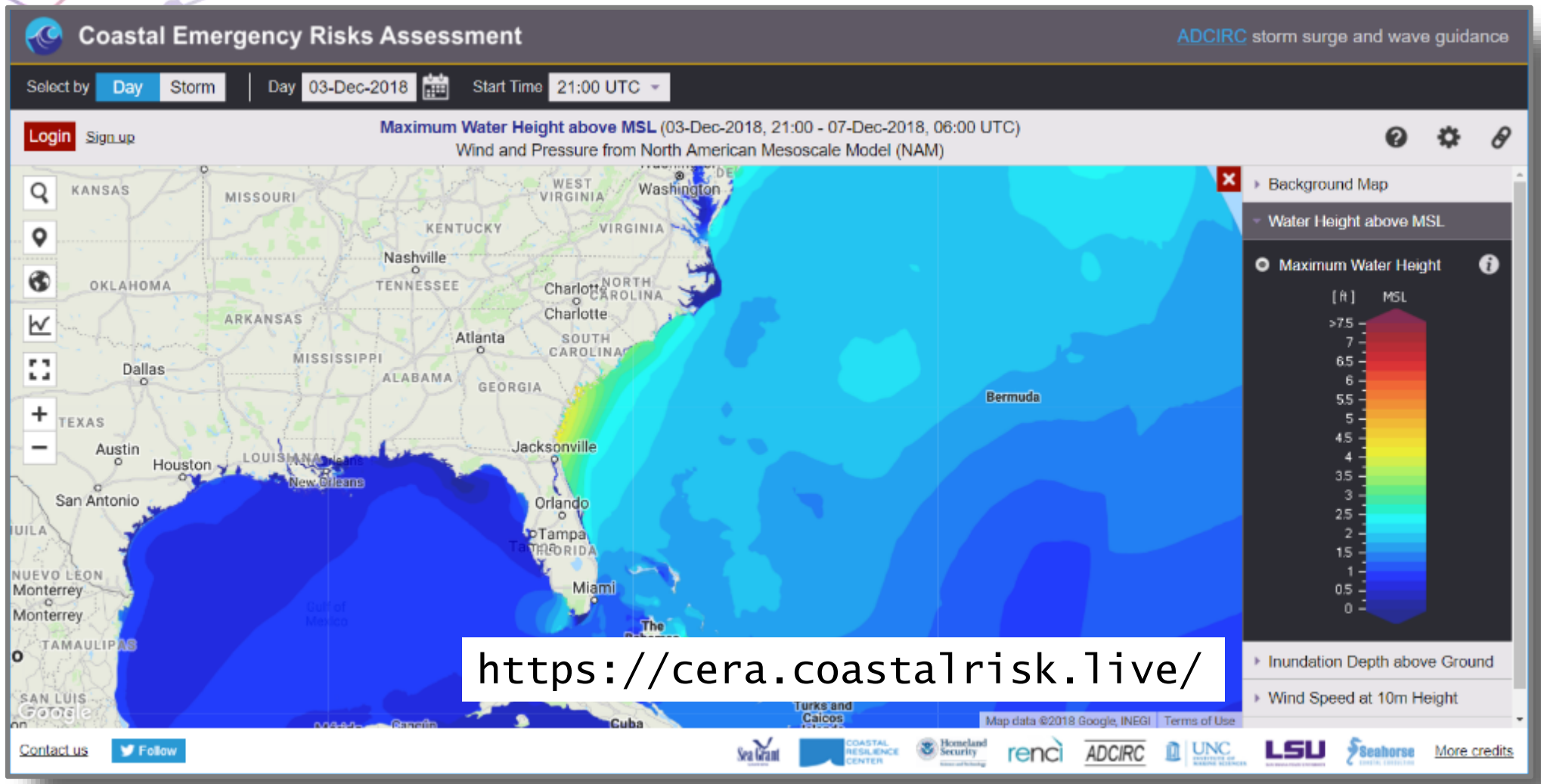
https://www.phylo.org/portal2

CERA:
Coastal Emergency Risks Assessment



Social Media Macroscope

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https://socialmediamacroscope.org

Citizen Science: Zooniverse and CitSci

Diverse Qualities

Users

- Researchers
- Educators
- Students
- Policy makers
- Citizen scientists

Functions

- Data collection from sensors or instruments
- Community resource sharing
- Analysis or computation
- Data sharing
- Platforms

Development Stage

- Nascent idea
- Startup
- Operational
- Mature

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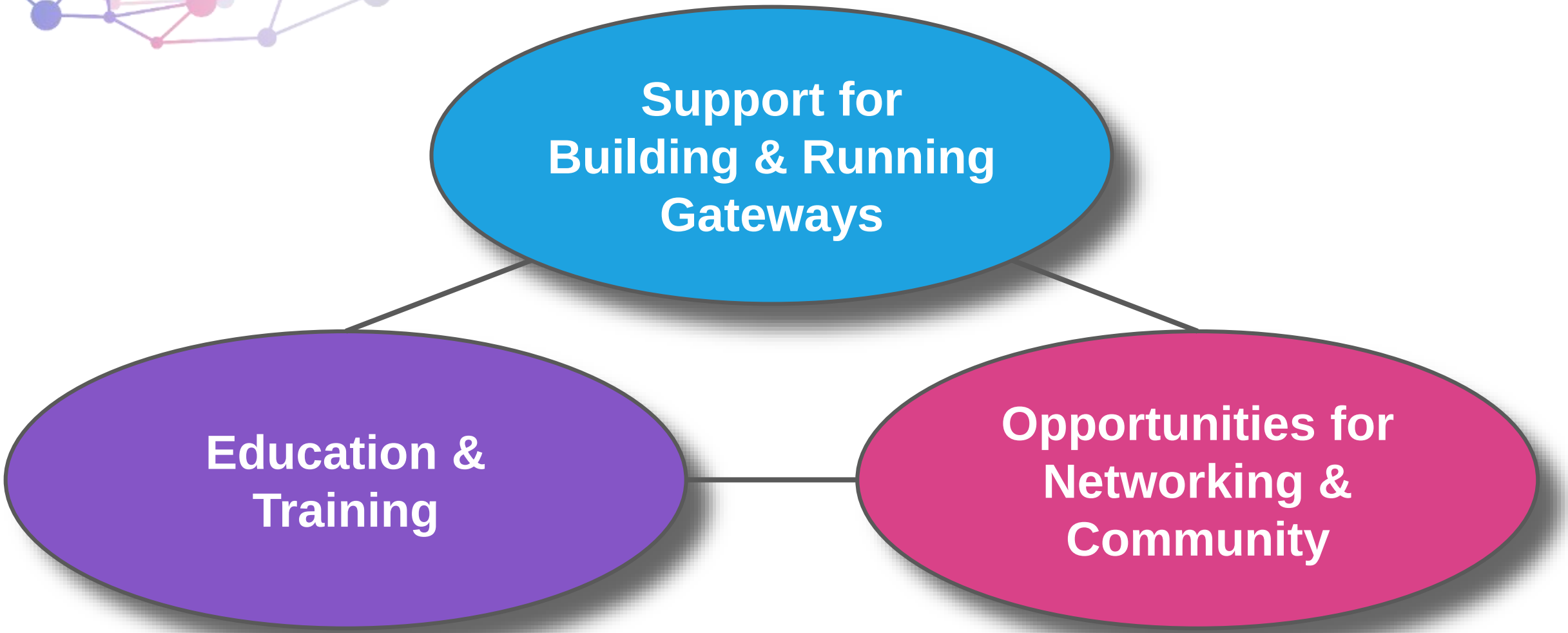
Services and Resources



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Support for Building & Running Gateways

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Education & Training: Face-to-Face

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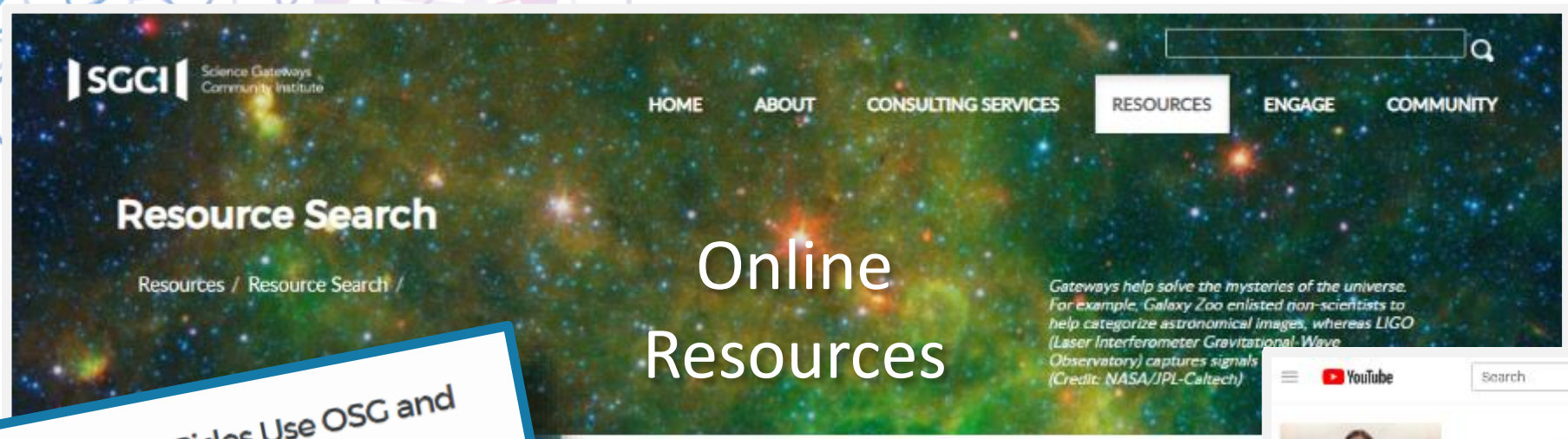
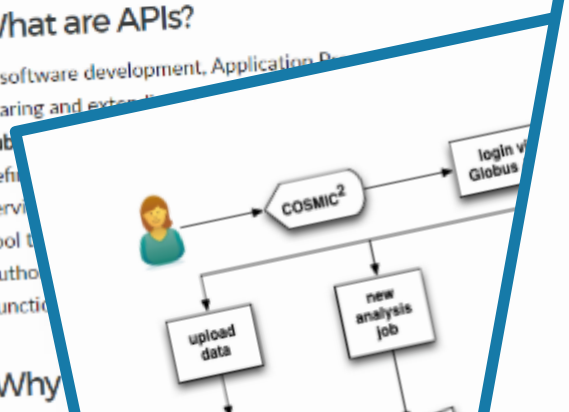
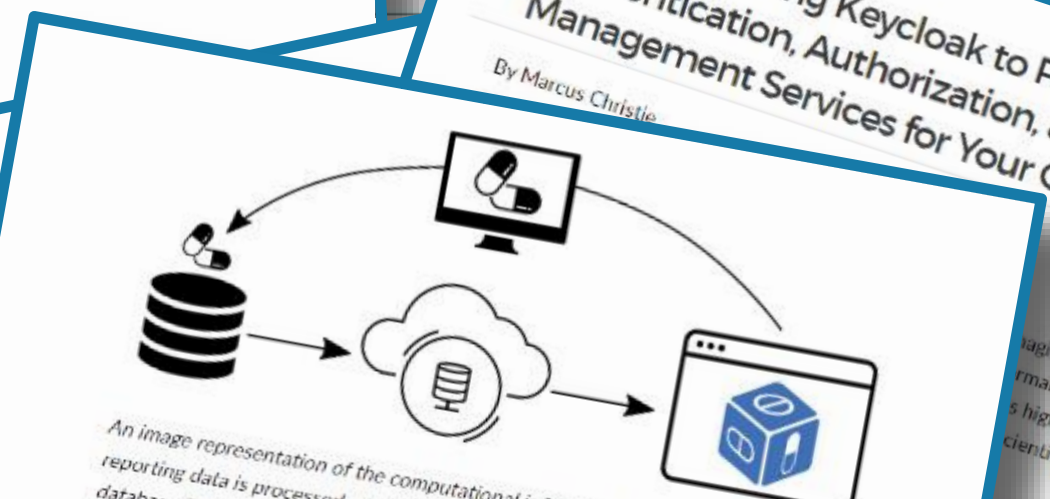
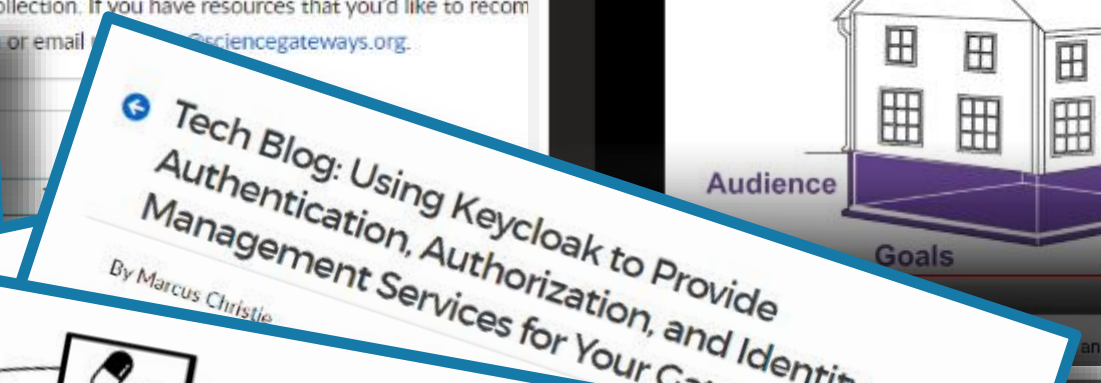
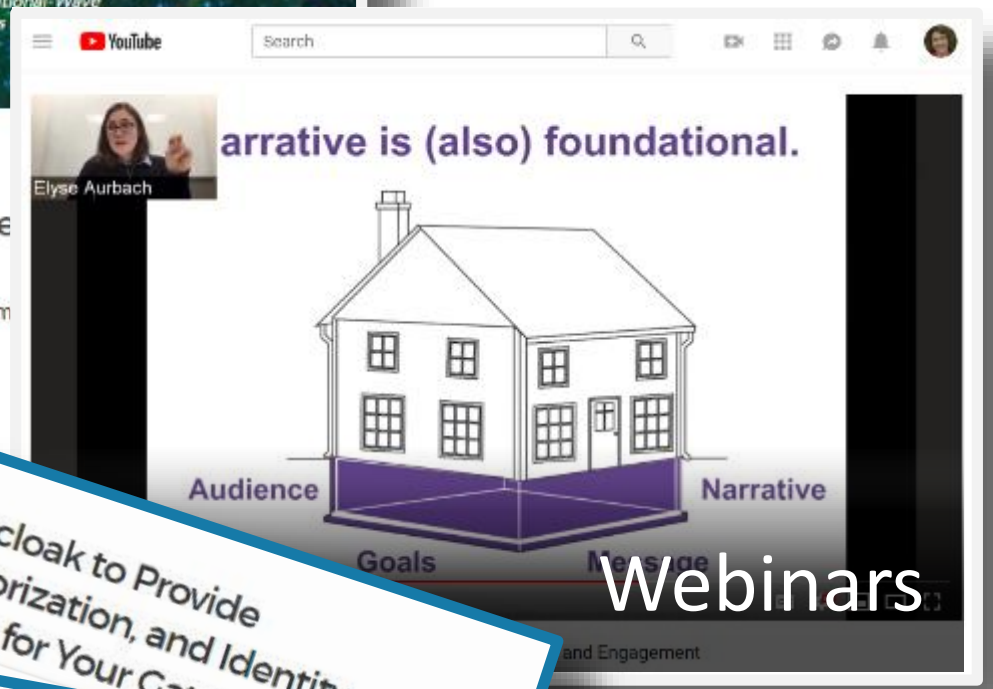
Education & Training: Online









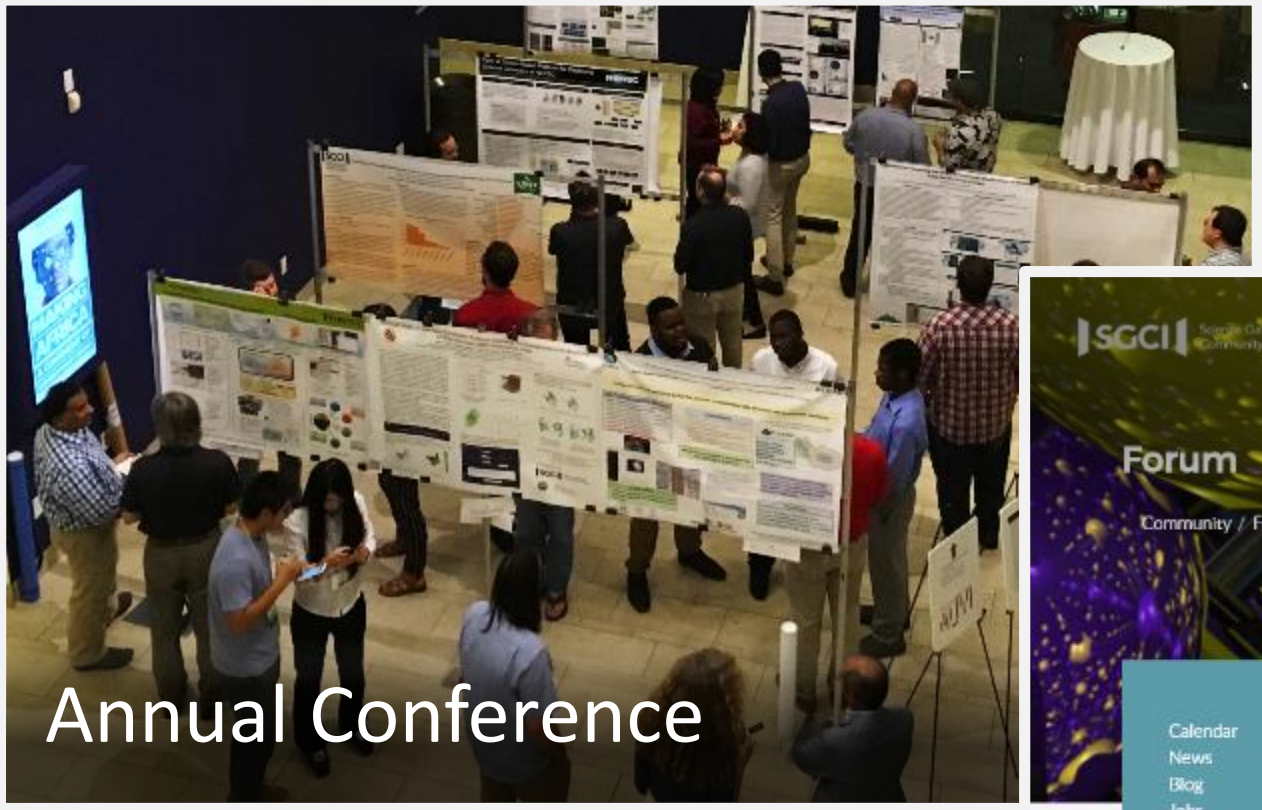


Jetstream

hubzero

globus

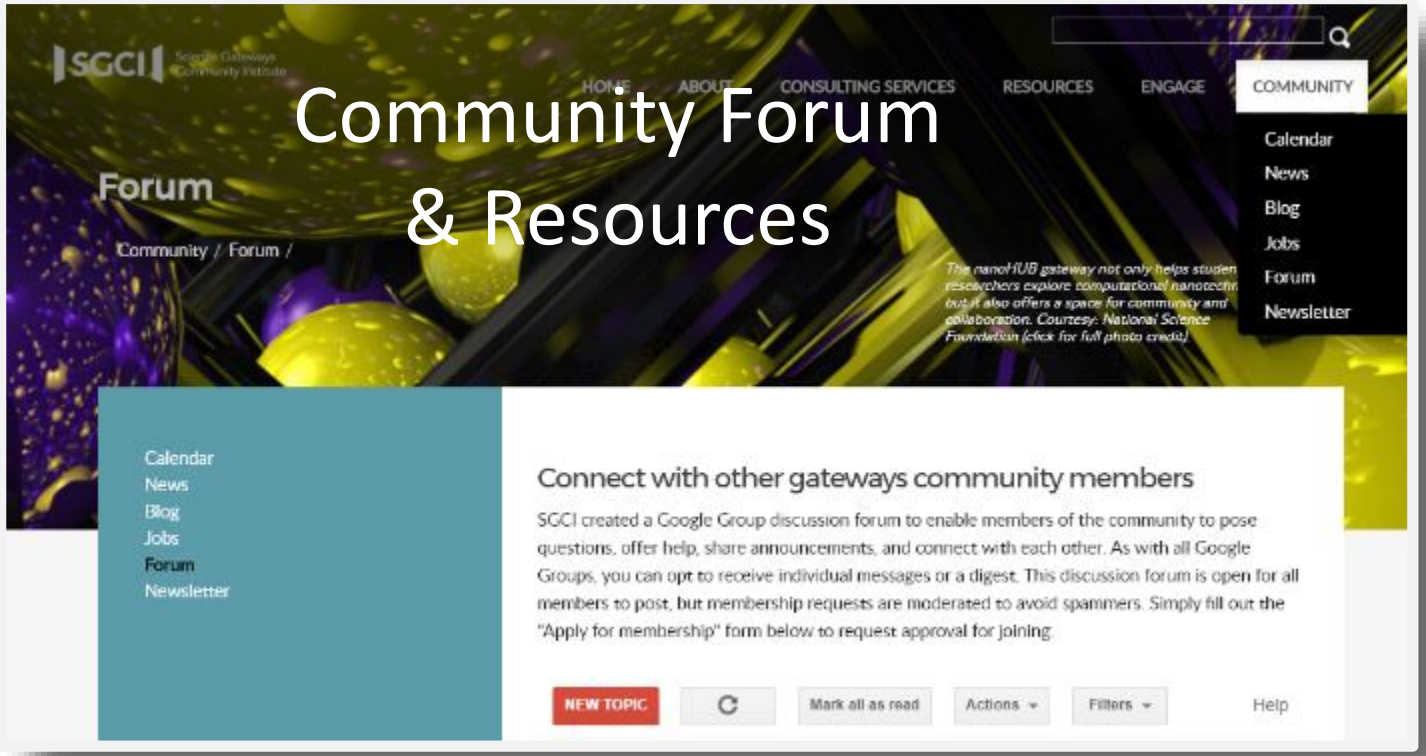
Opportunities for Networking & Community



Annual Conference

TRUSTED CI
THE NSF CYBERSECURITY CENTER OF EXCELLENCE

XSEDE
Extreme Science and Engineering Discovery Environment



Community Forum & Resources

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Funded in August 2016:

- **63 gateways supported** with direct consulting services
- **1534 participants** in 42 educational and training programs & events
- **$47.7M in grants** awarded with a Letter of Commitment from SGCI (41% success rate)
- **498 gateways** and **87 software components** listed in our Catalog

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Ways that SGCI might be helpful for you

- **Consulting** expertise & direct support
  - Support and networking opportunities for building **campus-based development capacity**
- **Gateway Catalog** can help you find (or promote) projects hosted on your campus (https://catalog.sciencegateways.org)
- **Education & training:** Bootcamp, conference, webinars, online content
- **Community resources:** Forum, job postings (post your own), news & events

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Connect with us at sciencegateways.org

- Rob Quick rquick@iu.edu
- Sign up for our newsletter: https://sciencegateways.org/community/newsletter
- Email a question: help@sciencegateways.org
- Social media
  - Follow @sciencegateways on Twitter
  - http://sciencegateways.org/linkedin

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Other Related Projects

SCIENCE GATEWAYS RESEARCH CENTER

INDIANA UNIVERSITY

Pervasive Technology Institute

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XSEDE Extended Consulting and Support Services - Gateways

- Consulting for XSEDE Allocated projects interested in developing a gateway environments and communities.
- ~4 FTE Split up in 0.25 FTE consults
- https://www.xsede.org/ecosystem/science-gateways
- Very few currently requesting HTC resources.

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Campus Queue

- Locally hosted HTCondor Queue that is integrated with local CI (authentication, storage, policy, support, etc) but allows use of external resources.
- Successful at IU to move HTC work to local and national CI.
- Research proposal underway to look into solutions for scaling.

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Robust Persistent Identification of Data

- Testbed looking to provide the foundational services to provide a FAIR Digital Object Architecture.
- RPID project funded March 2017 - February 2019 (NSF 1659310) implemented PID and Data Typing Services
- Enhanced RPID project began October 2018 (NSF 1839013) adding repository mapping services and implementing the DOIP
- Fanciful way of viewing by George Strawn is 3 eras of computing.
  - 1950-1995 Many computers, many data sets
  - 1995-2025? One computer (“The network is the computer”), many data sets
  - 2025?- One computer, one data set
- https://rpidproject.github.io/rpid

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CODATA/RDA Schools of Research Data Science for LMICs

- Two week foundational course in data science targeting ECR in LMICs
- Open Science, Open Data, Data Ethics, DMP, UNIX, R, Git, Visualization, Security, Machine Learning/AI, Computational Infrastructures
- 2019 – 5 schools planned (Addis Ababa, Trieste, Kigali, San Jose, Abuja)
- 2020 – A dozen hosts at LMICs on 6 continents
- Special thanks to OSG Connect for its support
- http://www.codata.org/working-groups/research-data-science-summer-schools

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Come work at the SGRC

Full Stack Cloud Developer/Engineer

https://iujobs.peopleadmin.com/postings/72366

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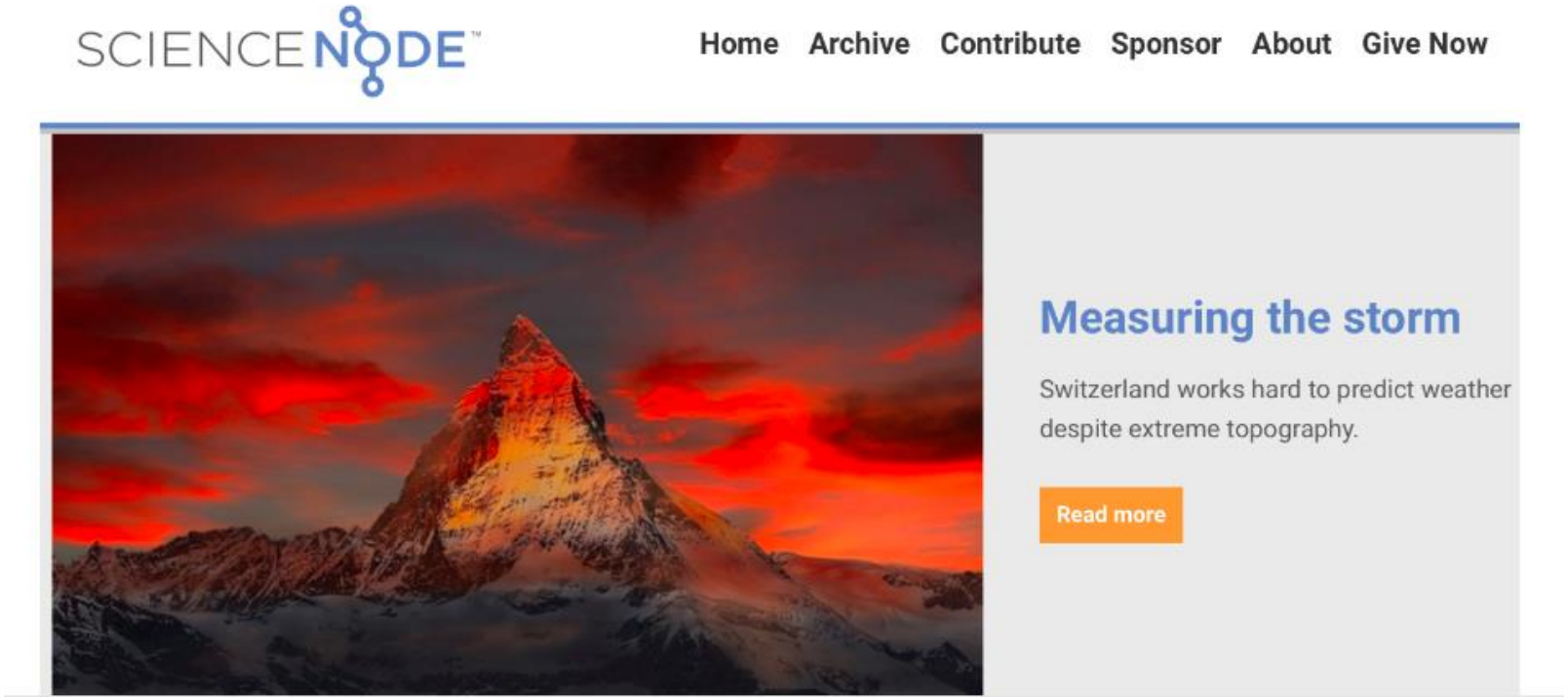
Science Node

Utterly shameless advertisement: follow @scinode on Twitter (it's free and it's great)



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