



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

Rob Quick

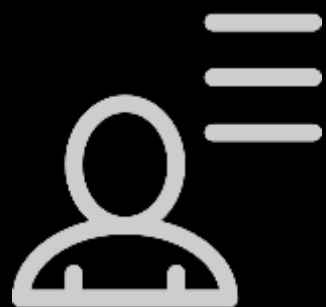
Indiana University &
Science Gateways Research Center (SGRC)

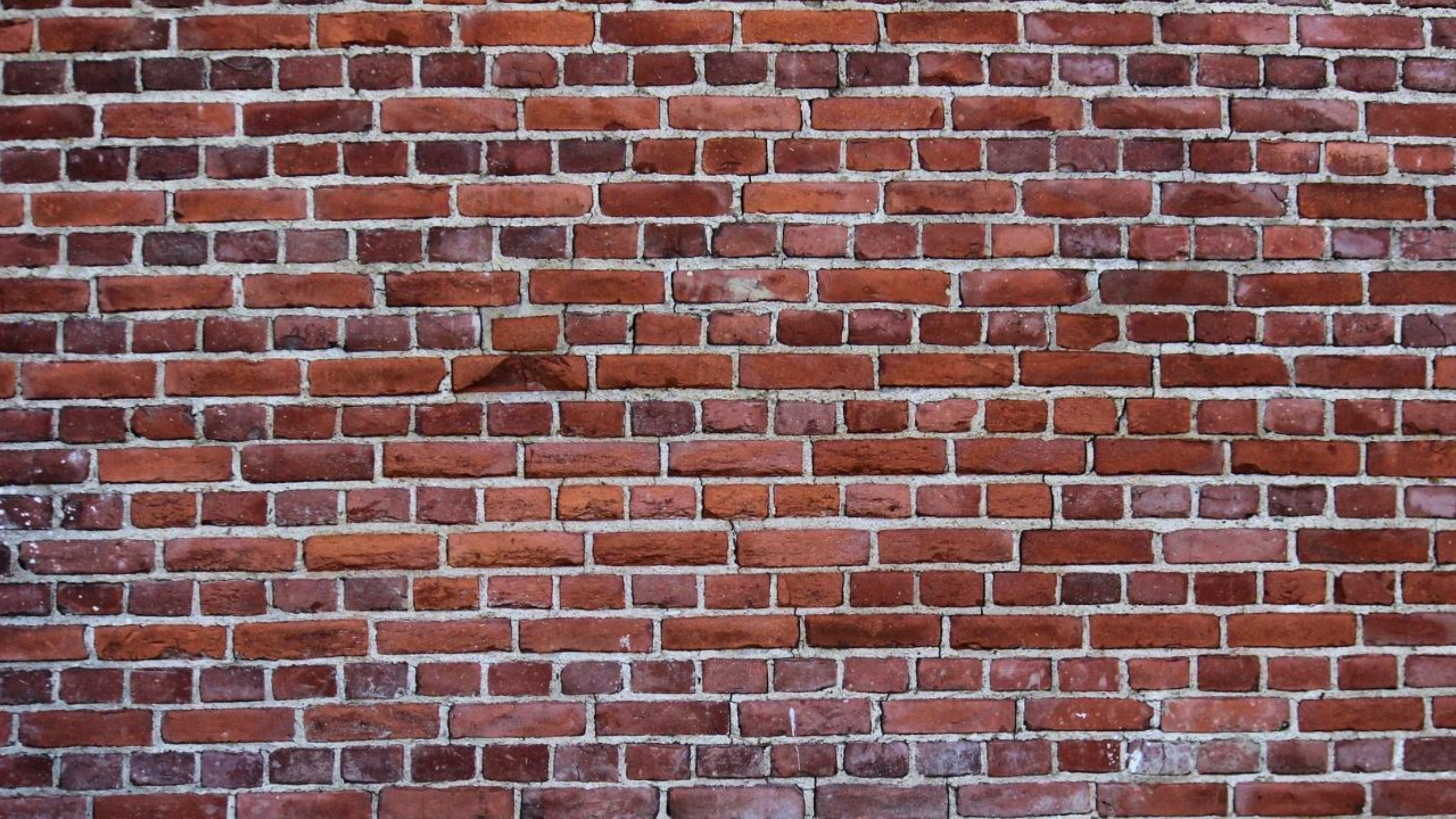
SGCI Slides Provided by Katherine Lawrence (University of Michigan)

sciencegateways.org

Award Number
ACI-1547611





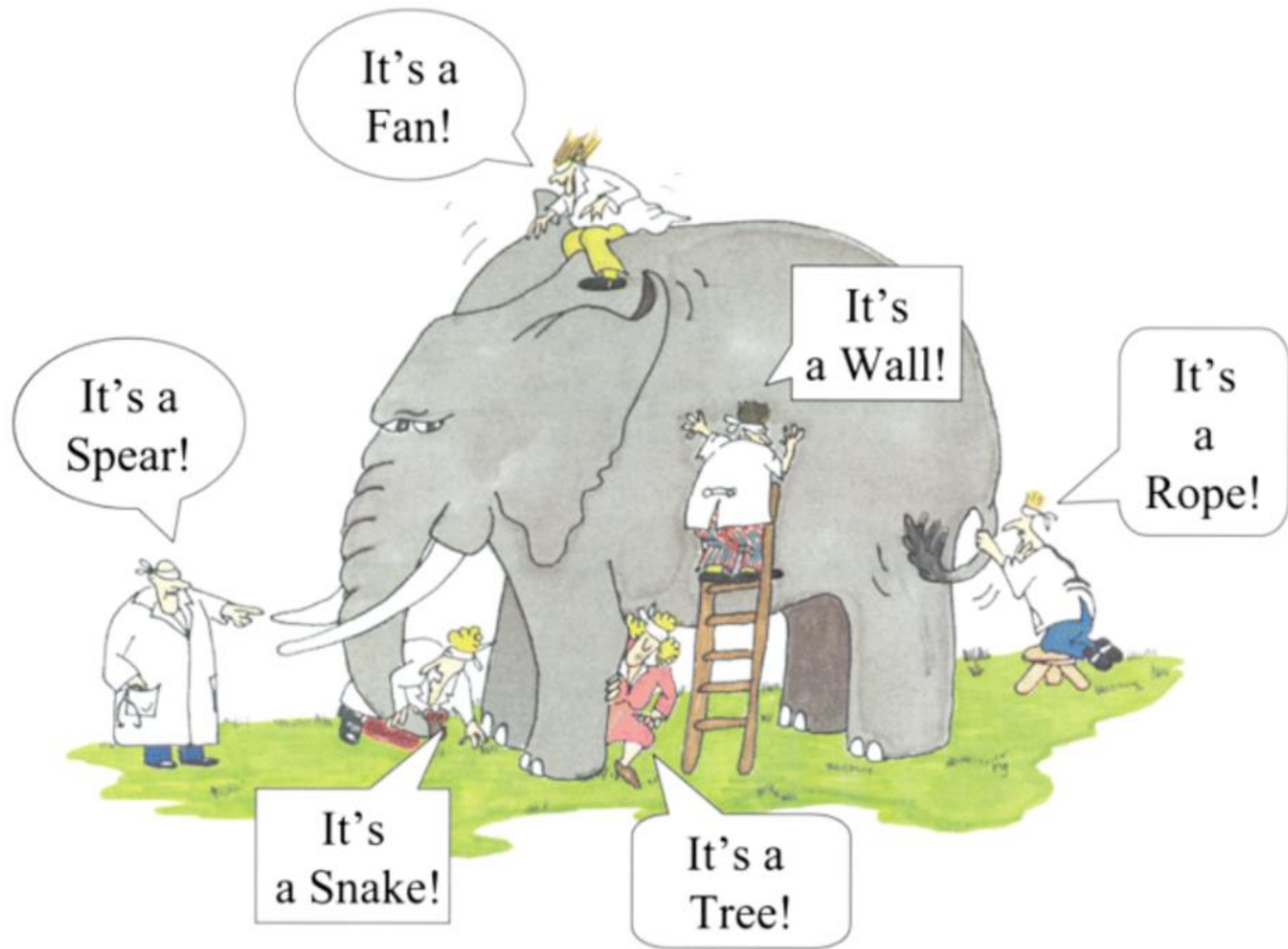


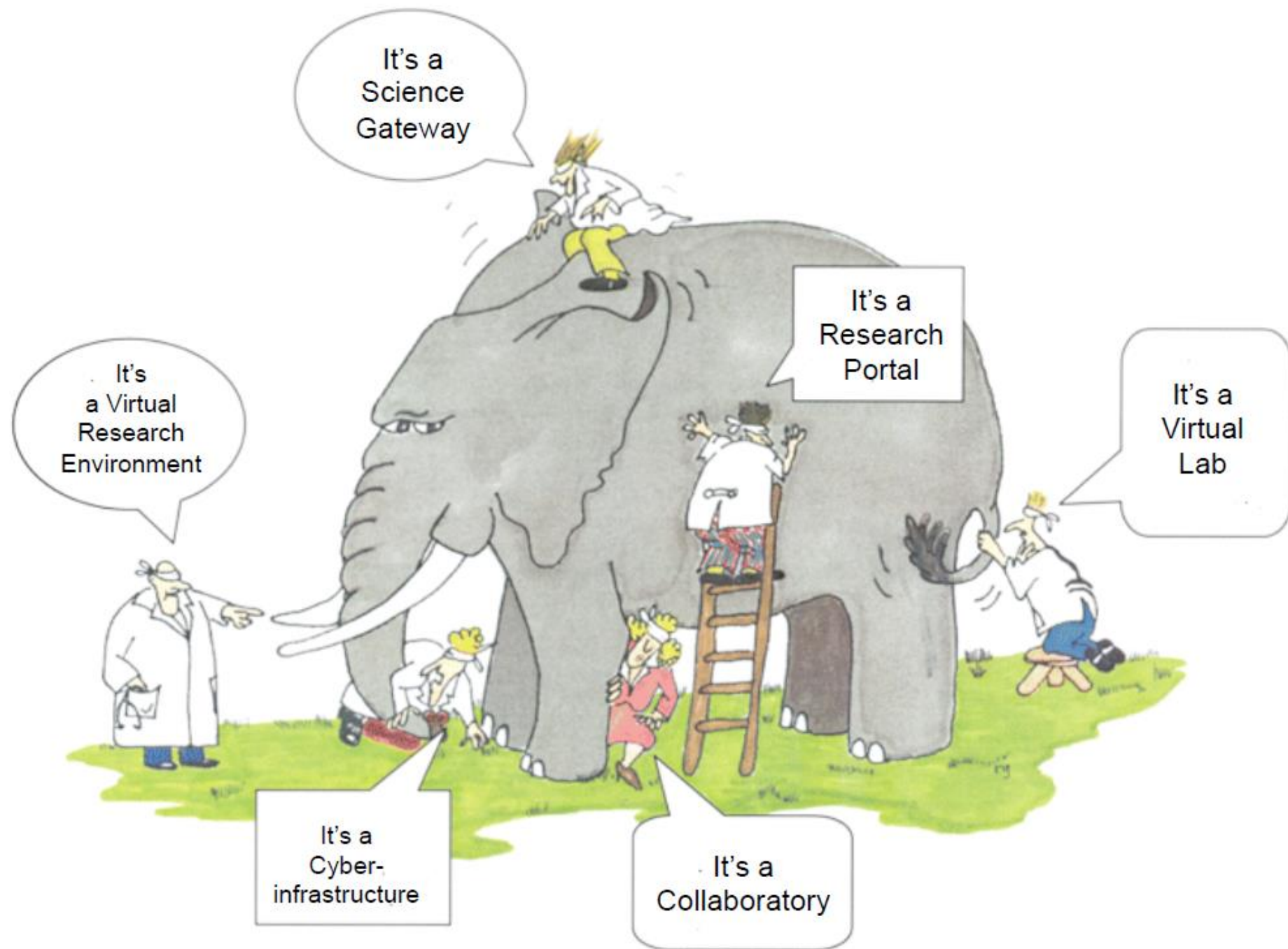


Science Gateways
Community Institute



What is a gateway?





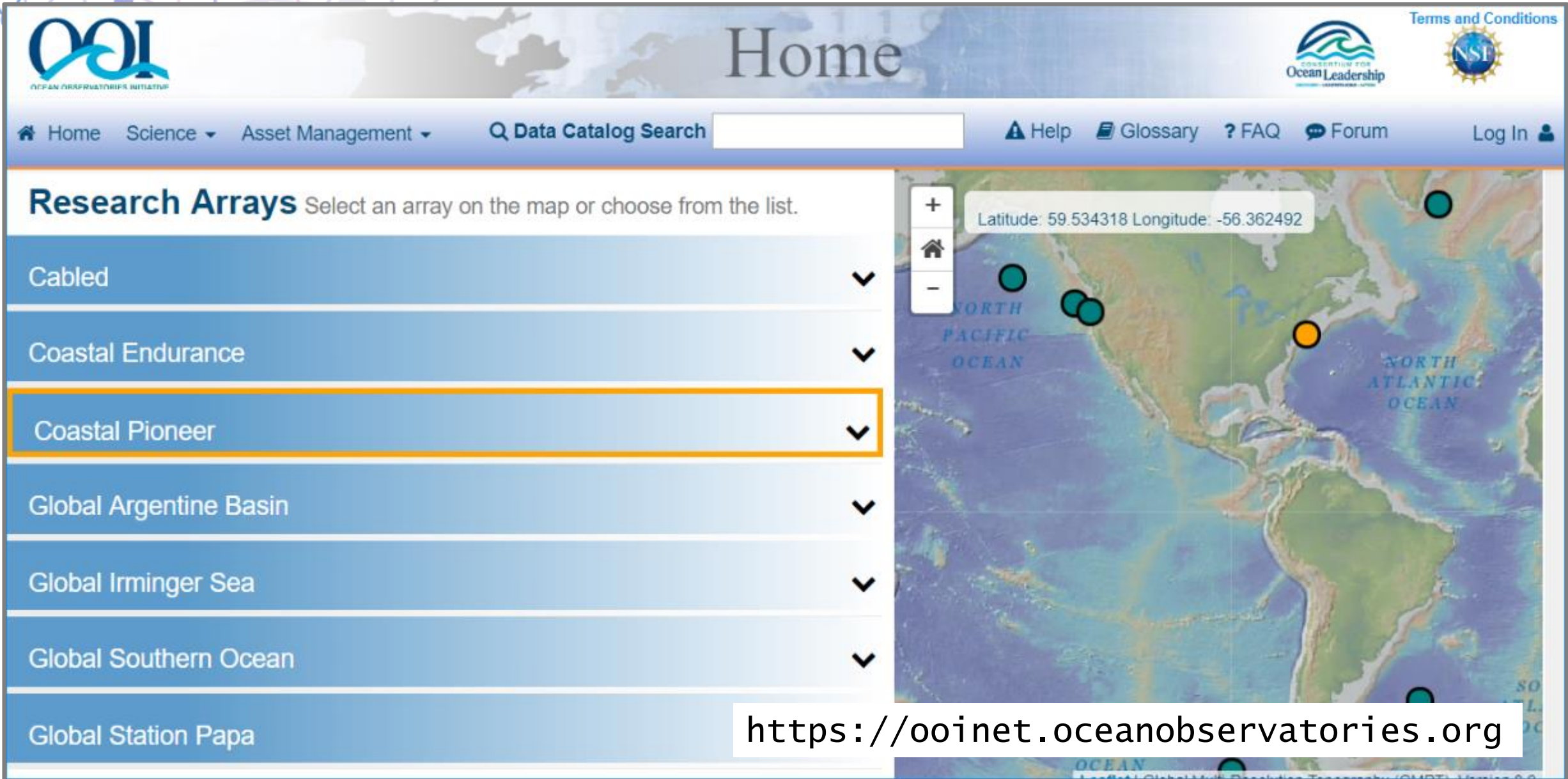


What is a gateway?

- 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



OOI: Ocean Observatories Initiative



The screenshot displays the OOI Home page. The header includes the OOI logo, the word "Home", and navigation links for Home, Science, Asset Management, Data Catalog Search, Help, Glossary, FAQ, Forum, and Log In. The main content area features a "Research Arrays" section with a list of arrays and a map of the North Pacific and North Atlantic Oceans. The "Coastal Pioneer" array is highlighted in the list. The map shows several research array locations marked with colored dots, with a tooltip displaying coordinates: Latitude: 59.534318 Longitude: -56.362492.

OOI
OCEAN OBSERVATORIES INITIATIVE

Home

Terms and Conditions

NSF

CONVENTION FOR Ocean Leadership

Home Science Asset Management Data Catalog Search Help Glossary FAQ Forum Log In

Research Arrays

Select an array on the map or choose from the list.

- Cabled
- Coastal Endurance
- Coastal Pioneer**
- Global Argentine Basin
- Global Irminger Sea
- Global Southern Ocean
- Global Station Papa

Latitude: 59.534318 Longitude: -56.362492

NORTH PACIFIC OCEAN

NORTH ATLANTIC OCEAN

<https://ooinet.oceanobservatories.org>



QUBES: Quantitative Biology Education Resources



QUBES

[Resources](#) [Community](#) [Services](#)

[About](#) [News & Activities](#) [Help](#) — [Q](#) [Login](#)

The Power of Math × Biology × Community

QUBES is a community of math and biology educators who share resources and methods for preparing students to tackle real, complex, biological problems

UPCOMING

Apply now for one of our Spring 2019 Faculty Mentoring Networks

Check out our TEN Faculty Mentoring Networks that will be running this spring!

NIBLSE FMN: Bring Bioinformatics to You...

R for DBER FMN (Spring 2019)

BIOMAAP FMN (Spring 2019)


```

Converting ./tmp/iAClWNL... 2-19
Converted 1 files in 0.002 seconds.
--2018-09-11 13:52:04-- http://infomotions.com/alex/
Resolving infomotions.com (infomotions.com)... 162.243.47.94
Connecting to infomotions.com (infomotions.com)|162.243.47.94|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: './carrels/iAClWNL/cache/infomotions-com-1536688324.html'

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[<=>]

6,897

---K/s

in 0s

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2018-09-11 13:52:04 (286 MB/s) - './
6897]

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Connecting to infomotions.com (info
HTTP request sent, awaiting response
Length: unspecified [text/html]
Saving to: './carrels/iAClWNL/cache/

```

[<=>]

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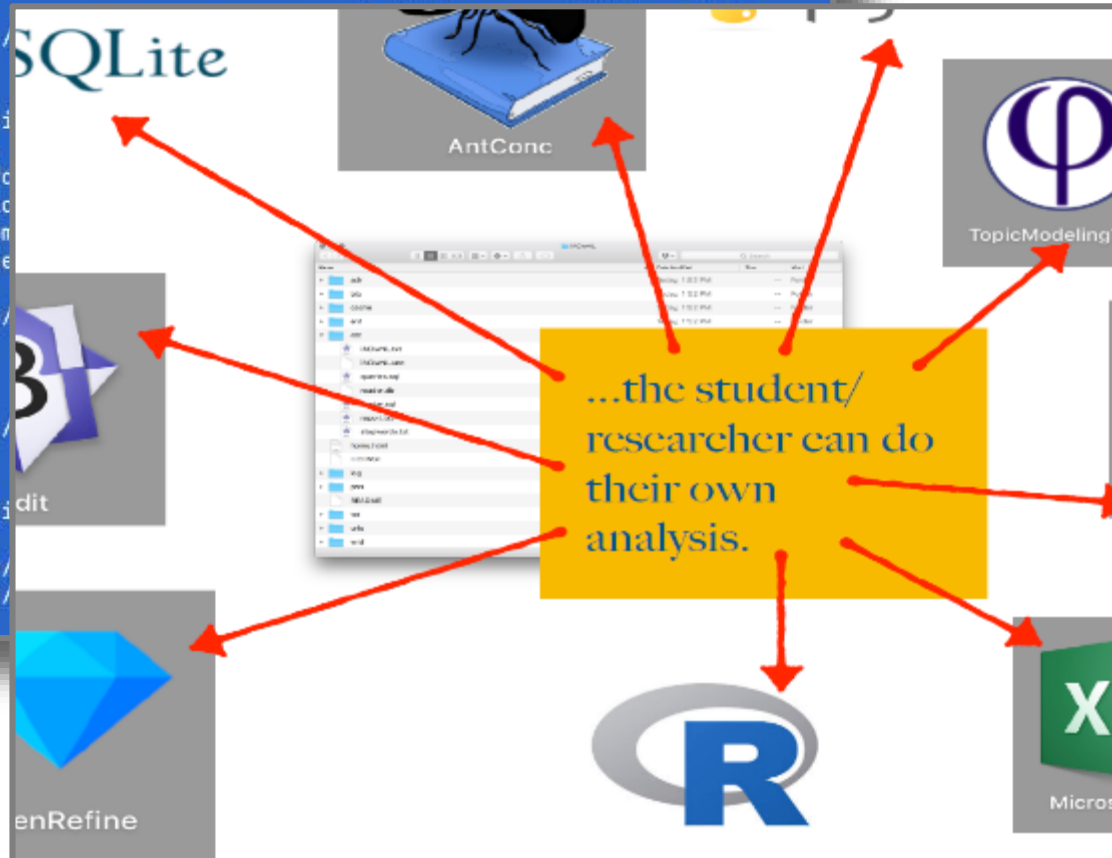
2018-09-11 13:52:07 (866 KB/s) - './
543433]

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Converting ./carrels/iAClWNL/cache/i
Converted 1 files in 0.02 seconds.
Warning: Unprocessed MIME-type(text/
Warning: Unprocessed MIME-type(text/

```



The Distant Reader

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

librarianship

what does this have to do with

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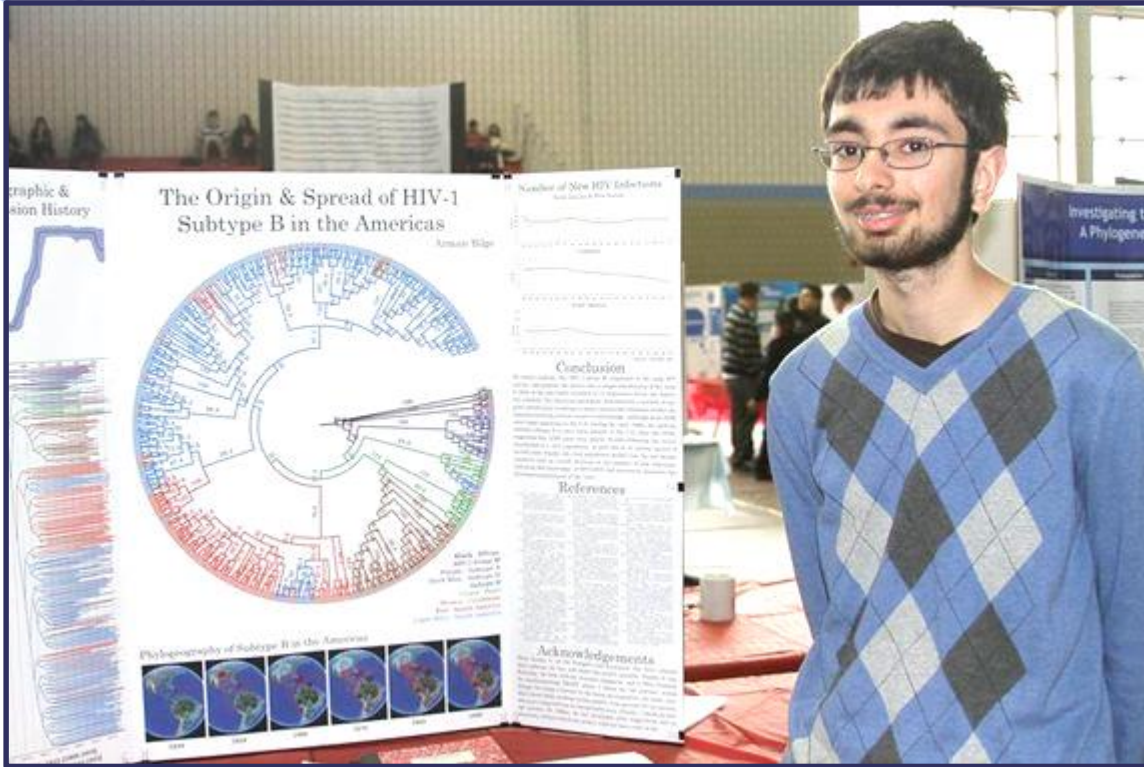
about books more and specific services a resources that you can

remain essentially unchanged when compared

collection organization preserv

it is the hows of the librarianship

CIPRES: Cyberinfrastructure for Phylogenetic Research

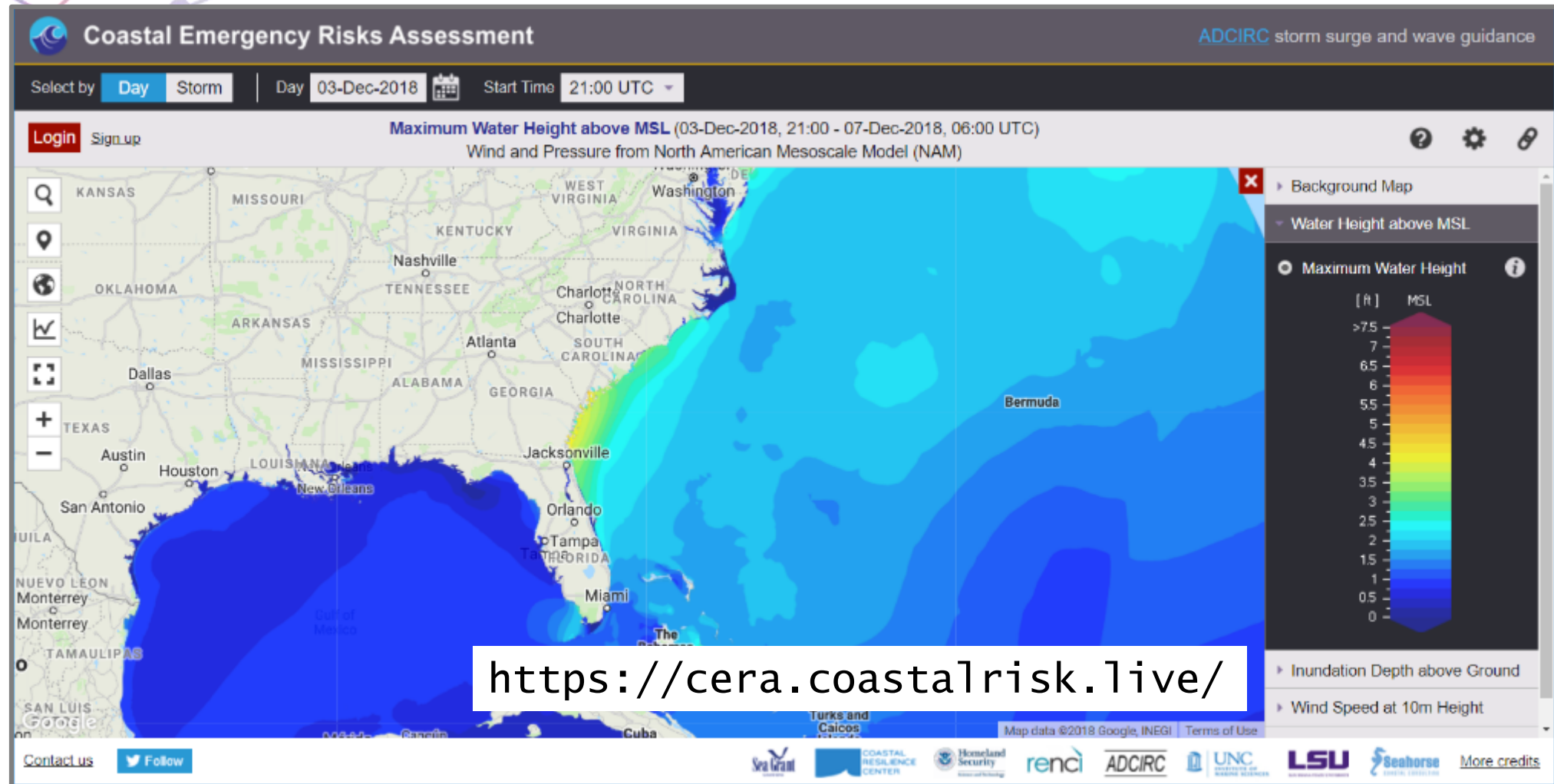


Armand Bilge, 10th grader at Lexington High School, next to a poster explaining his award-winning research project, a map and timeline that identified when HIV arrived in the Americas.



- **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**.

CERA: Coastal Emergency Risks Assessment



Social Media Macroscope



Citizen Science: Zooniverse and CitSci

<https://www.zooniverse.org/>

People

WHAT'S THIS?

Discover, teach

The Zooniverse enables everyone to participate in research in many fields across the world. The Zooniverse creates opportunities for everyone to contribute to real discoveries.

Sign in

Register

DO SCIENCE, ANYWHERE



CitSci.org

Login



About

Projects

Protocols

Partners

Features

Maps

Data

Blog

Want to learn more about citizen science from others in the field?

Click this banner to check out the

Rocky Mountain Citizen Science Conference

Helping you do great science

Create projects, build datasheets, collect data, and view results in real-time.

Sign Up

Create a Project

<https://www.citsci.org/>



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



Services and Resources



**Support for
Building & Running
Gateways**

**Education &
Training**

**Opportunities for
Networking &
Community**

Support for Building & Running Gateways



Consulting
Services



Gateway Catalog with
Projects and Software Components



Hosting Services

Education & Training: Face-to-Face



Conference & Tutorials

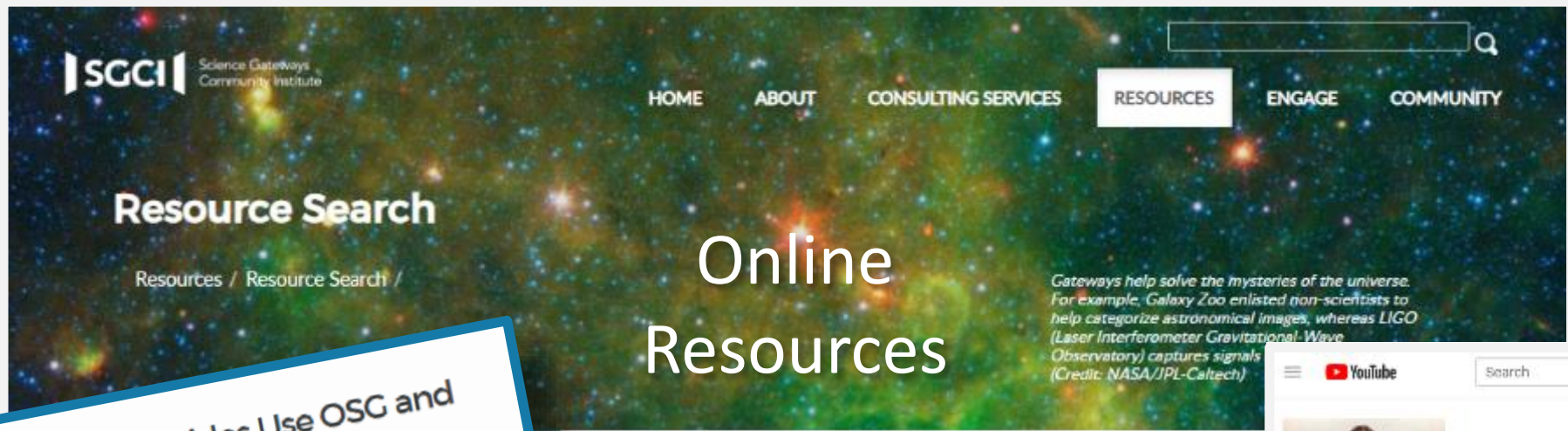


Bootcamp



Student Programs

Education & Training: Online



Online Resources

SGCI Helped nSides Use OSG and
orm to Augment Its Drug Side
se

Tech Blog: Benefits of Application Programming
Interfaces (APIs)

By Josue Balandrano Coronel

What are APIs?

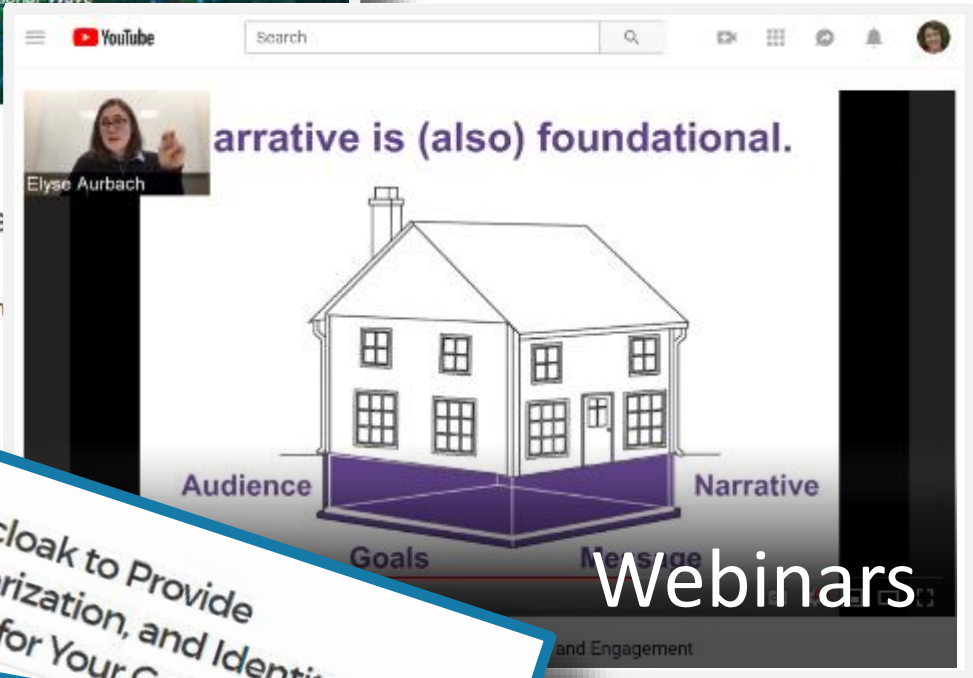
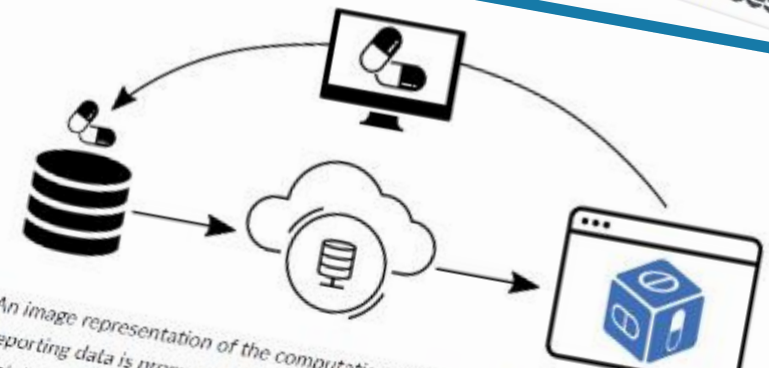
In software development, Application Programming Interfaces (APIs) are used for sharing and extending the functionality of a software application. They allow different software applications to communicate with each other, enabling data exchange and integration. APIs are essential for building complex systems and services that rely on multiple data sources and external components.

Why

Materials for all interests and levels of experience
Weld like a collection. If you have resources that you'd like to recommend, please email us at resources@sciencegateways.org.

Tech Blog: Using Keycloak to Provide
Authentication, Authorization, and Identity
Management Services for Your Gateway

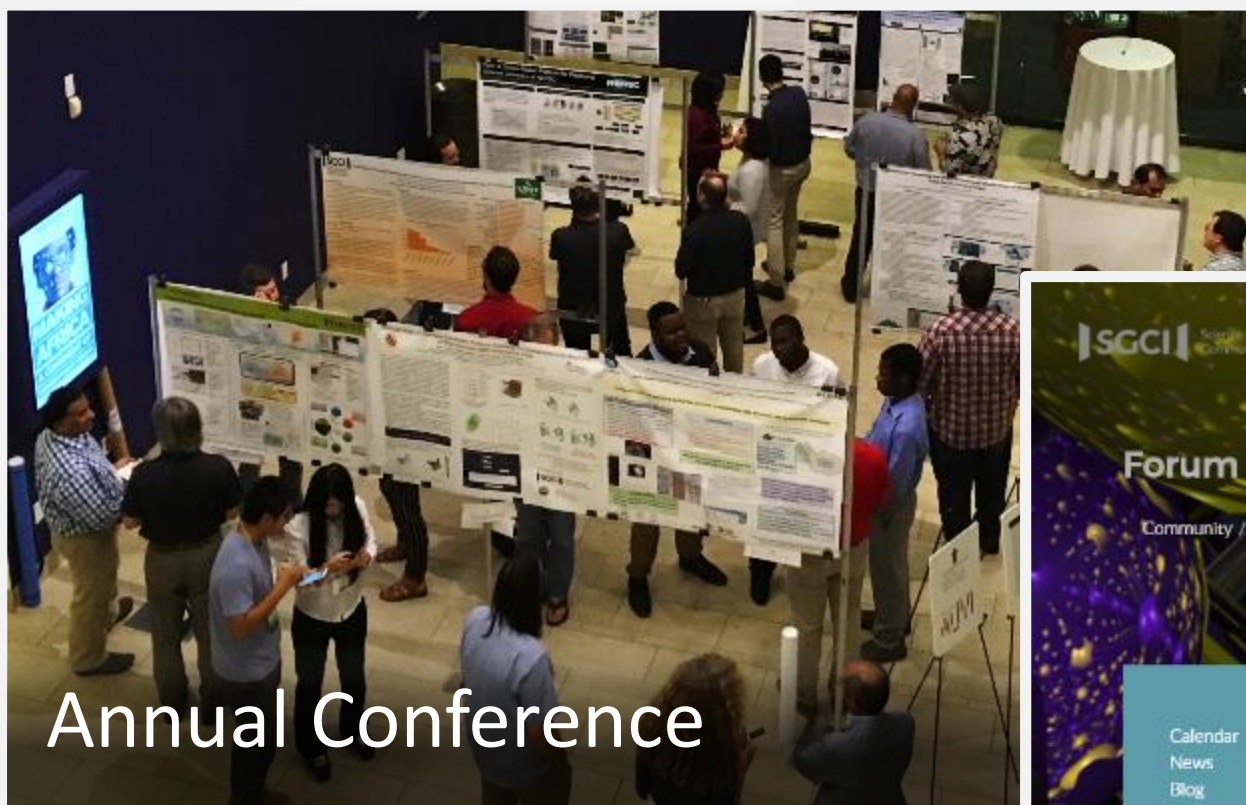
By Marcus Christie



Webinars



Opportunities for Networking & Community



Annual Conference



SGCI Science Gateways Community Institute

HOME ABOUT CONSULTING SERVICES RESOURCES ENGAGE COMMUNITY

Community Forum & Resources

Community / Forum /

Calendar
News
Blog
Jobs
Forum
Newsletter

Connect with other gateways community members

SGCI created a Google Group discussion forum to enable members of the community to pose questions, offer help, share announcements, and connect with each other. As with all Google Groups, you can opt to receive individual messages or a digest. This discussion forum is open for all members to post, but membership requests are moderated to avoid spammers. Simply fill out the "Apply for membership" form below to request approval for joining.

NEW TOPIC [refresh icon] Mark all as read Actions Filters Help





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



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



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](https://twitter.com/sciencegateways) on Twitter
 - <http://sciencegateways.org/linkedin>



Other Related Projects



SCIENCE GATEWAYS RESEARCH CENTER

INDIANA UNIVERSITY

Pervasive Technology Institute





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.



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.



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>



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>



Come work at the SGRC

Full Stack Cloud Developer/Engineer

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



Science Node

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Measuring the storm

Switzerland works hard to predict weather despite extreme topography.

[Read more](#)