

Panel

What's new with federated identity for science?

Ann West - Senior Director for InCommon Partnerships and Research for Internet2

Julian Race - IT Manager of R/V Sikuliaq & PI of SURF-IT

Mark Rank - Director of Compliance & Strategic Insights at Cirrus Identity

Jim Basney (moderator) - CILogon project lead at NCSA

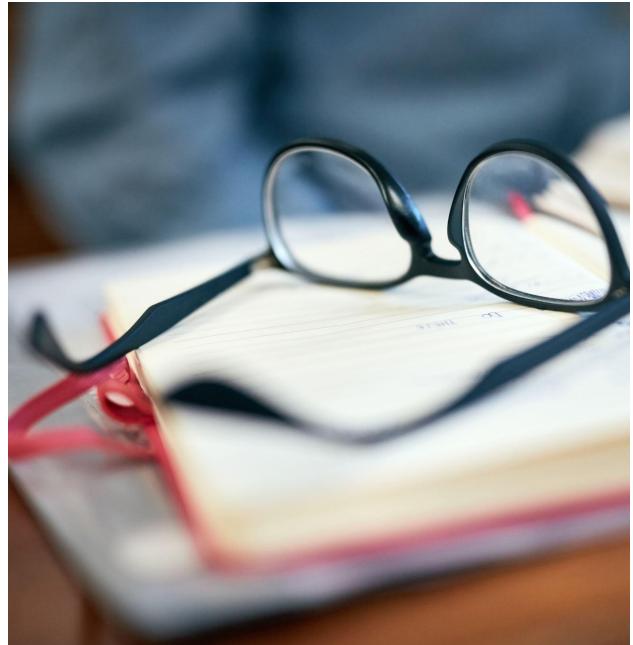


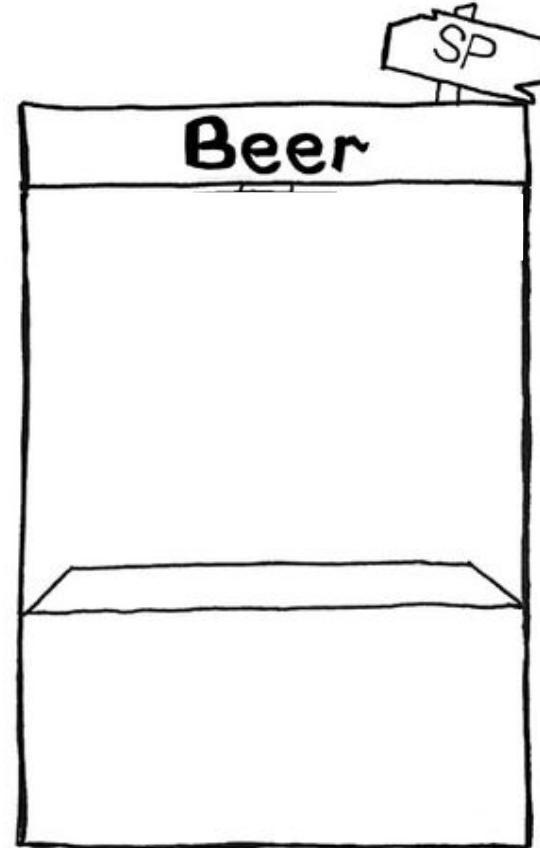
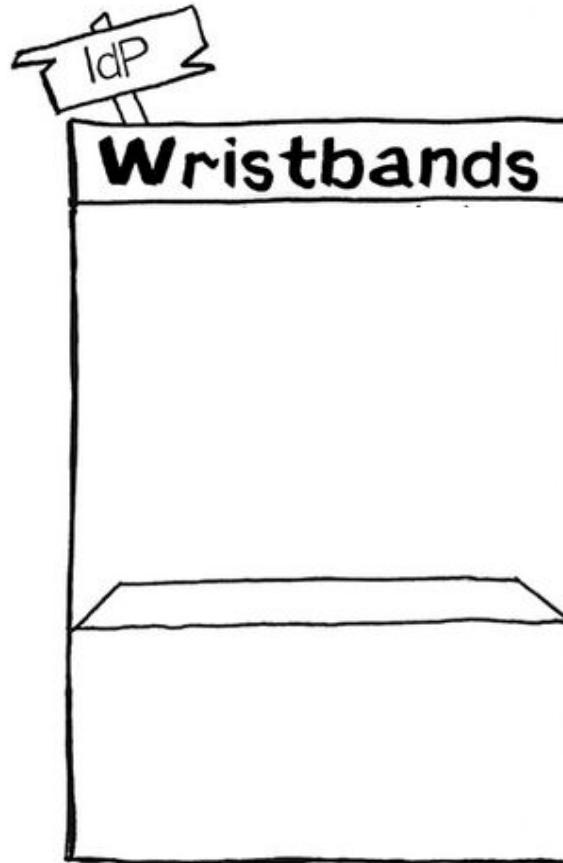
Ann West

Tell us a Story...

Dr. Sara Smith at Amazing State University was checking on her new NSF award through [Research.gov](#). It was October and the leaves were just starting to turn. She had lots of planning to do and a meeting with her research/lab manager lead to talk through next steps.

Glancing through her email, she noticed a Dear Colleague letter from NSF requiring all users to add MFA to their login process. Sara knew she used MFA and her Amazing State credential to login to [Research.gov](#) through something called InCommon Federation. Does she have to do anything more?





Adapted from
Duo Security
Beer Drinkers
Guide to
SAML
<https://duo.com/blog/the-beer-drinkers-guide-to-saml>



Wristbands

Michigan State
Univ of Miami
Amherst College



Beer

Hosted Canvas LMS



NSF Research.gov



LIGO Collaboration



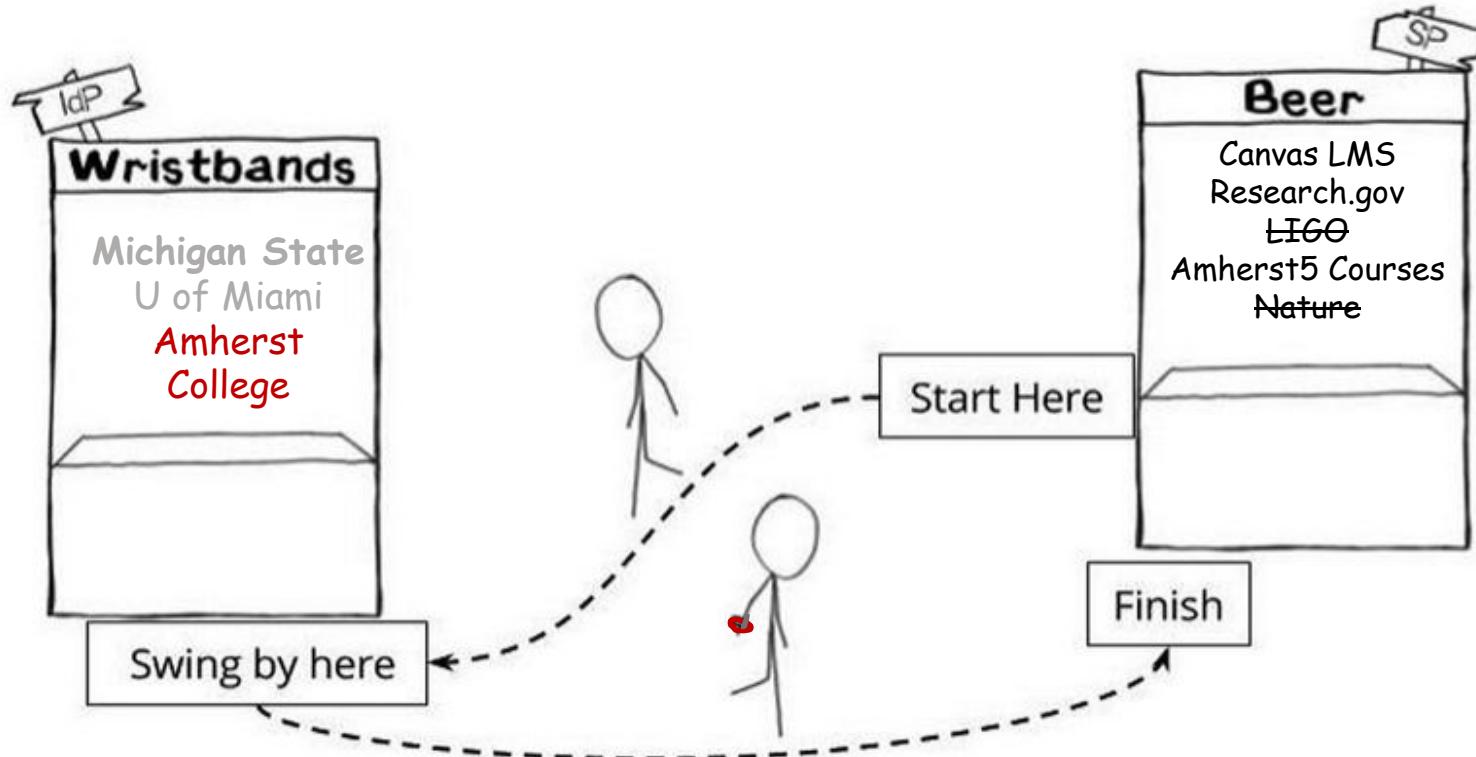
Amherst 5 Course



Sharing



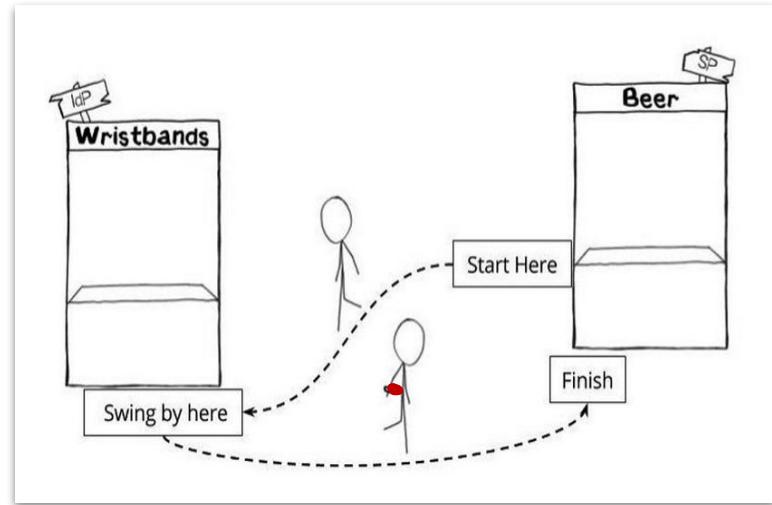
Nature Journal



Supports Many Different Contexts

Use your university “wrist band” (login credentials) to access services with **very** different privacy and security requirements

- Researchers want attribution
- Library users don’t
- NIH mandates multi-factor authentication and identity assurance
- Benelogic HR solution has special contract terms



How does it work?

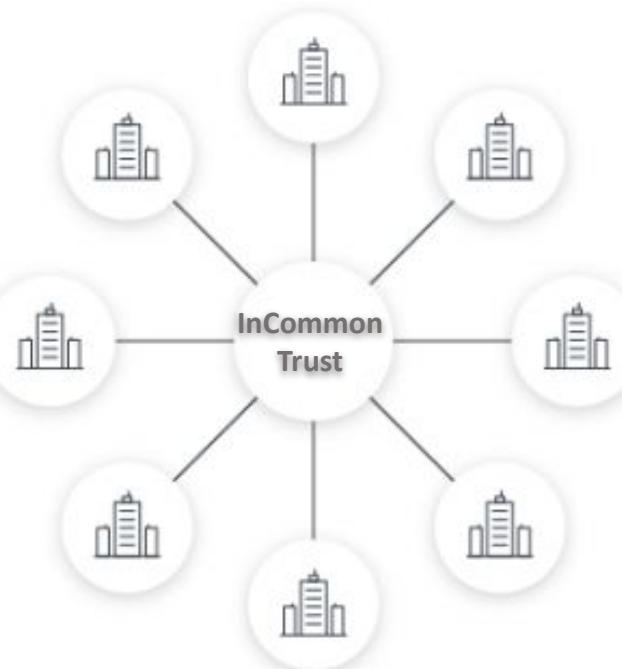
InCommon has a formal B2B relationship with all participating orgs

- Contract to ensure good behavior (e.g. privacy, IP, standards)
- Technology to simplify integration and increase security
- Policy to ensure trust (e.g. security incident response)

Provides a global “phone book” and toolkit

- Sets up secure, trusted and privacy-preserving access
- Ensures user is accessing the intended service
- Enables access across different policy and technology boundaries
- Enforces community standards

Establish trust once. Access globally.



InCommon by the Numbers

InCommon Federation: US

- 1,081 organizations
- 610 trusted login services
- 6,327 trusted services available for access

eduGAIN: Global Access

- 76 countries
- 6,121 trusted login services
- 9,958 trusted services available for access



eduGAIN October 2025 <https://met.refeds.org>

THE INCOMMON FEDERATION

Secure Access to 6000+ Academic & Research Services

Connect to the InCommon Federation for streamlined, secure access to a multitude of services for your students, faculty, researchers, and staff.

- Set it up once to save time working with several service providers
- Security and compliance requirements are built in
- No need for new passwords or separate accounts.



CAMPUS-WIDE CONNECTIONS

Consolidate access management for your services, resulting in fewer headaches for students, faculty, researchers, staff, and IT.



MULTI-INSTITUTION PARTNERSHIPS

Securely share access to resources across partner institutions, from remote learning to shared libraries, tools, HPCs, and instruments.

IT ORGANIZATIONS



SCIENTIFIC ORGANIZATIONS



ONLINE LIBRARIES



FEDERAL AGENCIES

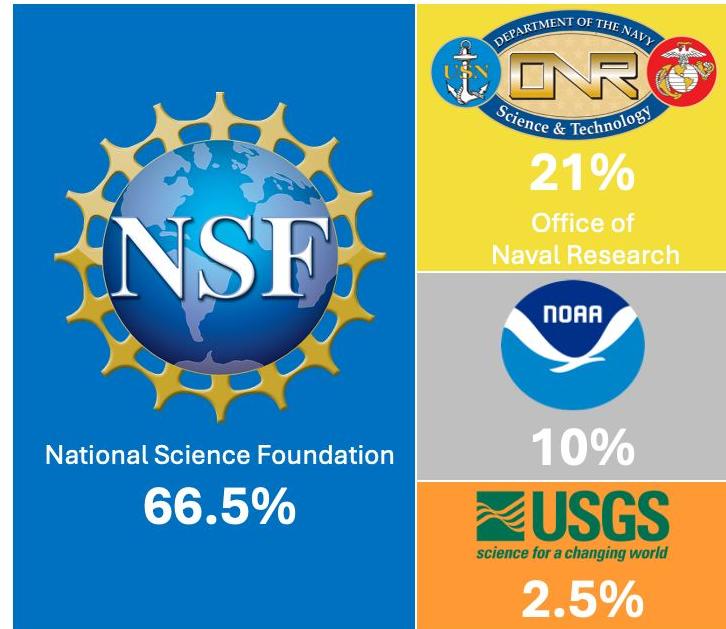


Built-in access to game-changing resources for scientific discovery, from cancer research to black holes.

Julian Race

US Academic Research Fleet

- NSF Major Facility
- 14 operating institutions:
 - 17 Research vessels/subs/etc
 - National Deep Submergence Facility
 - National Oceanographic Aircraft Facility
 - National Oceanographic Seismic Facility
- Vessels are either owned by one of the Federal agencies or by individual institutions.



(Thanks UNOLS for the slides!)

Approx. Funding Breakdown

5 Global Class Vessels:



R/V Thomas G. Thompson
University of Washington
(UW)



R/V Roger Revelle
Scripps Institution of Oceanography
(SIO)



R/V Sikuliaq
University of Alaska
(UAF)



R/V Marcus G. Langseth
Lamont-Doherty Earth Observatory
(LDEO)



R/V Atlantis
Woods Hole Oceanographic Institution
(WHOI)

Global Class Vessels:

Range	World-wide
Size	238- 274ft
Science Berths	26-34
Endurance	Up to 45 days

RV Sikuliaq

Ships Particulars



Length: 79.6 m (261 ft)

Beam: 15.85 m (52 ft)

Draft: 5.715 m (19 ft)

Ice class: Polar Class 5

Speed: 14 knots in water,
2 knots in 2.5 feet (0.76 m) ice

Range: 18,000 nautical miles

Endurance: 45 days

Capacity

24 science berths

2-4 20-feet science vans

Crew: 20 (+/- 2)



4 Ocean / Intermediate Class Vessels:



R/V Kilo Moana
University of Hawaii
(UH)



R/V Atlantic Explorer
Bermuda Institute of Ocean Sciences
(BIOS)



R/V Endeavor RETIRED Oct. 2025
University of Rhode Island (URI)



R/V Sally Ride
Scripps Institution of Oceanography
(SIO)



R/V Neil Armstrong
Woods Hole Oceanographic Institution
(WHOI)

Ocean/ Intermediate Class Vessels:

Range	Ocean Basin
Size	170-238ft
Science Berths	20-25
Endurance	30 days

Regional Class Vessels:



R/V Hugh R. Sharp
University of Delaware

Regional Class:

Range	Shallow coastal bays/estuaries out to deep water beyond shelf
Size	145-184ft
Science Berths	16-20
Endurance	21 days



Oregon State
University



The **NEW** RCRV's

R/V Tanni / Oregon State University (OSU)

R/V Narraganset Dawn / University of Rhode Island (URI)

R/V Gilbert R. Mason / University of Southern Mississippi (USM)

6 Coastal / Local Class Vessels:



R/V F.G. Walton Smith
University of Miami



R/V Blue Heron
University of Minnesota, Duluth



R/V Robert Gordon Sproul
Scripps Institution of Oceanography (SIO)



R/V Rachel Carson
University of Washington (UW)



R/V Savannah
Skidaway Institute of Oceanography



R/V Pelican - LUMCON
Louisiana Universities Marine Consortium

Coastal/ Local Class Vessels:

Range	Great lakes, US estuaries and inner shelf regions
Size	66-125ft
Science Berths	6-16
Endurance	14 days or less

Mark Rank

Solutions for Research Collaboration

Cirrus Identity: 10+ years providing access solutions for the Research Community

Operate over 100 IdP Federation Adapters connecting institutions ranging from high research classified universities to small universities with aspiring research collaboration goals

Operate a number of Federation Proxies to connect research applications to collaboration participants at diverse universities

Provide integration options for ORCID or unaffiliated collaborators

Interests of End-Users, SPs, and IdPs - Positive

Aligning the interests

- End Users
 - Get on with the work
- Research Application Operators (aka SPs)
 - Broader group of possible collaborators
- Authenticating Organizations (aka IdPs)
 - Fostering collaboration at the institution

Interests of End-Users, SPs, and IdPs - Negative

Sources of friction

- End Users
 - Often caught between the application and the authenticating organization for support issues
- Research Application Operators (aka SPs)
 - Security and assurance
 - Uniformity not guaranteed
- Authenticating Organizations (aka IdPs)
 - Security and data governance
 - Competing priorities

Jim Basney

IAM for Research Collaborations

CILogon: 15+ year sustained effort to enable secure logon to scientific cyberinfrastructure (CI) for seamless identity and access management (IAM) using federated identities (SAML, OIDC, OAuth, JWT) so researchers log on with their existing credentials supporting 50,000+ active users from 700+ organizations around the world with onboarding/offboarding/attributes/groups/roles managed consistently across multiple applications



A screenshot of a web browser displaying the CILogon Enrollment Flows management interface. The URL is https://registry-beta.cilogon.org/registry/co_enrollment_flows/index/co4. The page has a blue header with the CILogon logo. Below it, a navigation bar includes "People", "Groups", and "Configuration". The main content area is titled "Enrollment Flows" and contains a table with the following data:

```
{  
  "subject_id": "jbasney@ncsa.illinois.edu",  
  "sub": "CIL1000109",  
  "idp_name": "National Center for Supercomputing Applications",  
  "eppn": "jbasney@ncsa.illinois.edu",  
  "iss": "https://cilogon.org",  
  "given_name": "James",  
  "nonce": "vfiJFbbYgaOzUC_I3e5gtgKCTIXneaNXF_woDUHLadg",  
  "eduPersonAssurance": ["https://refeds.org/assurance", "https://refeds.org/assurance/IAP/low",  
    "https://refeds.org/assurance/ID/unique", "https://refeds.org/assurance/ID/no-eppn-reassign",  
    "https://refeds.org/assurance/IAP/medium", "https://refeds.org/assurance/profile/cappuccino",  
    "https://refeds.org/assurance/IAP/local-enterprise"],  
  "acr": "https://refeds.org/profile/mfa",  
  "aud": "cilogon:test.cilogon.org/demo1",  
  "nbf": 1760367914,  
  "idp": "https://idp.ncsa.illinois.edu/idp/shibboleth",  
  "affiliation": "employee@ncsa.illinois.edu;member@ncsa.illinois.edu;staff@ncsa.illinois.edu",  
  "auth_time": 1760367756,  
  "name": "James Basney",  
  "isMemberOf": ["CO:members:all", "CO:members:active", "experiment312"],  
  "exp": 1760368814,  
  "family_name": "Basney",  
  "iat": 1760367914,  
  "email": "jbasney@illinois.edu",  
  "jti": "https://cilogon.org/oauth2/idToken/22e16a535275675f88453d769fc1d5b8/1760367914375"  
}
```

```
{  
  "subject_id": "jbasney@ncsa.illinois.edu",  
  "acr": "https://refeds.org/profile/mfa",  
  "eppn": "jbasney@ncsa.illinois.edu",  
  "eduPersonAssurance": ["https://refeds.org/assurance",  
    "https://refeds.org/assurance/IAP/low",  
    "https://refeds.org/assurance/ID/unique",  
    "https://refeds.org/assurance/ID/no-eppn-reassign",  
    "https://refeds.org/assurance/IAP/medium",  
    "https://refeds.org/assurance/profile/cappuccino",  
    "https://refeds.org/assurance/IAP/local-enterprise"],  
  "affiliation": "employee@ncsa.illinois.edu;member@ncsa.illinois.edu;staff@ncsa.illinois.edu",  
  "idp": "https://idp.ncsa.illinois.edu/idp/shibboleth",  
  "affiliation": "employee@ncsa.illinois.edu;member@ncsa.illinois.edu;staff@ncsa.illinois.edu",  
  "exp": 1700000000,  
  "family_name": "Basney"  
}  
  "isMemberOf": ["CO:members:all", "CO:members:active", "experiment312"],  
  "jti": "https://cilogon.org/oauth2/idToken/22e16a535275675f88453d769fc1d5b8/1760367914375"
```

Discussion

Panel: What's new with federated identity for science?

Contact: awest@internet2.edu
jbasney@illinois.edu
jwracemoore@alaska.edu
mark.rank@cirrusidentity.com

More info: edugain.org
fim4r.org
incommon.org
refeds.org
www.cilogon.org
www.cirrusidentity.com

Events/Training:
<https://incommon.org/academy/camp-meetings/basecamp/>
<https://events.internet2.edu/website/84273/about-techex25/>

