Cyberinfrastructure Landscape: Organizations

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OU Virtual Residency Workshop

June 27, 2023

Human Infrastructure - Organizations & Communities of Practice

- Growing cross - community networks in our evolving research computing landscape
- Building capacity for multi-dimensional services
  - Intersecting requirements for cybersecurity, research data policies, and open science initiatives
- Efforts toward professionalization

➢ This presentation is a sprint through an evolving ecosystem
➢ Please feel free to comment along the way – especially where I miss added value

CI Landscape - Complicated, Diverse, and Rapidly Changing

Starter Pack of Organizations

- XSEDE Campus Champions
- Campus Research Computing Consortium (CaRCC) People Network

- PEARC

Since 2008, a national community of practice, facilitating computing/data-intensive research and education
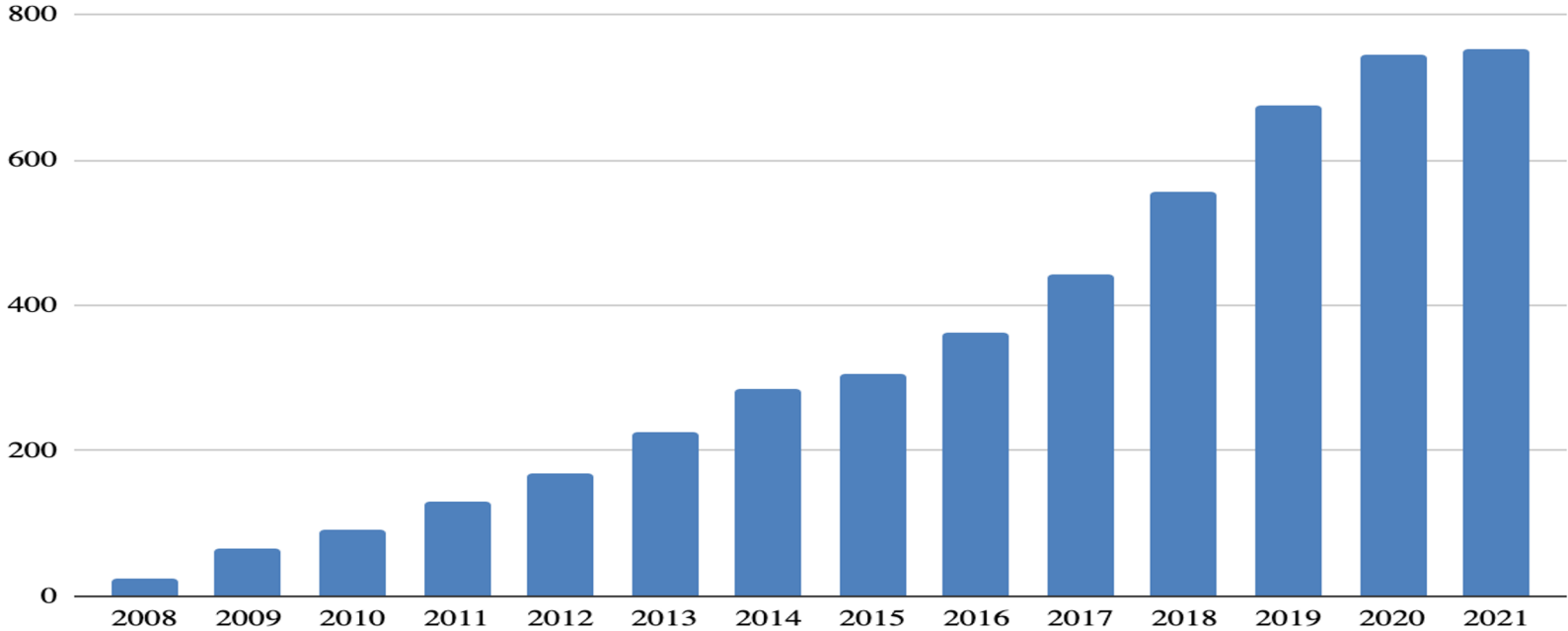

Every US state
Every EPSCoR jurisdiction

We help researchers do their research using cyberinfrastructure

https://campuschampions.cyberinfrastructure.org/

Growth of Champions

The Campus Champions Program fosters a dynamic, welcoming environment for a diverse community of research computing and data professionals sharing knowledge and experience in digital research infrastructure

There are over **780** Campus Champions

Including CI organization leaders, faculty, researchers, students, as well as research-enabling and systems professionals

At over **350** academic, non-academic, and not-for-profit research-focused institutions

ABOUT US ⌄   CHAMPIONS ⌄   COMMUNITY ⌄   GET HELP ⌄   TAGS

Become a Campus Champion

Become a Champion

- Click on Join the Champions to access the application (also accessible from Quick Links on the Campus Champions home page).
- Write to info@campuschampions.org if you have any questions about the program or the application form.

In addition to traditional Campus Champions, the Champion Program includes the following types of specialized Champions:

- Student Champions - offering a unique student perspective on the use of digital resources and services.
- Champions Fellows - where Campus Champions partner with Extended Collaborative Support Services (ECSS) staff and research teams to work side by side on real-world science and engineering projects.

Write to info@campuschampions.org for more info about these exciting programs!

Campus Research Computing Consortium

An organization
advancing the frontiers of research
by **improving the effectiveness
of RCD professionals**,
including their
career development and visibility,
and their ability to
**deliver services & resources
for researchers**.

https://carcc.org/
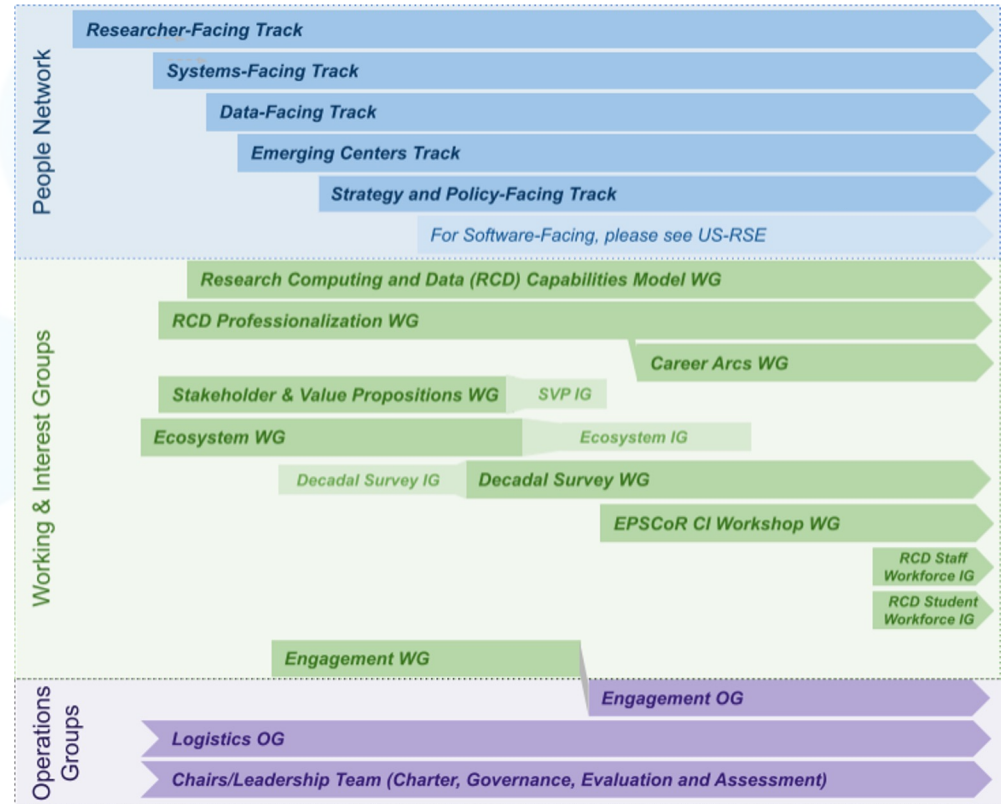
CaRCC's People Network = *Inclusive Community*

An ongoing "remote conference" to share/leverage expertise in various facings (Tracks)

Data-Facing:
Analysis, viz, workflows, curation, compliance, transfer

Researcher-Facing:
Consulting, bridging, facilitation, outreach, training

Software-Facing:
Develop or contribute to research software, scripts, workflows

Emerging-Centers:
Newer or emerging RCD service leaders & programs

Systems-Facing:
Hardware, networks, security, compliance, data centers

Strategy/Policy-Facing:
Institutional alignment, culture, funding, policy, community

Co-Coordinators: *Lauren Michael, UW-Madison*
Bob Freeman, Harvard Business School

CaRCC
Campus Research Computing Consortium

CaRCC Working Groups

Activities that connect Research Computing and Data (RCD) professionals & organizations to increase knowledge sharing & enable research innovation

RCD Professionalization
Develop and disseminate frameworks, models, and approaches that can be used by leaders in HR, IT, Research, etc. to support and elevate RCD roles.

RCD Career Arcs
Creates resources to explain RCD career options, help existing RCD professionals explore professional development and advancement, and aid in recruitment.

RCD Capabilities Model
Allows institutions to assess their RCD support, identify potential areas for improvement, and understand how the broader community views RCD support.

Engagement
Coordinate with working groups to increase visibility & participation in CaRCC, esp. with underserved & underrepresented persons and organizations.

https://carcc.org/working-groups/

The People Network - Growth and Engagement

- Membership growth continues 2-3x
- Call attendance > 1500/year
- All Tracks now have (or soon will) a Steering Committee!

Timeline of Mailing List Membership

CaRCC
Campus Research Computing Consortium
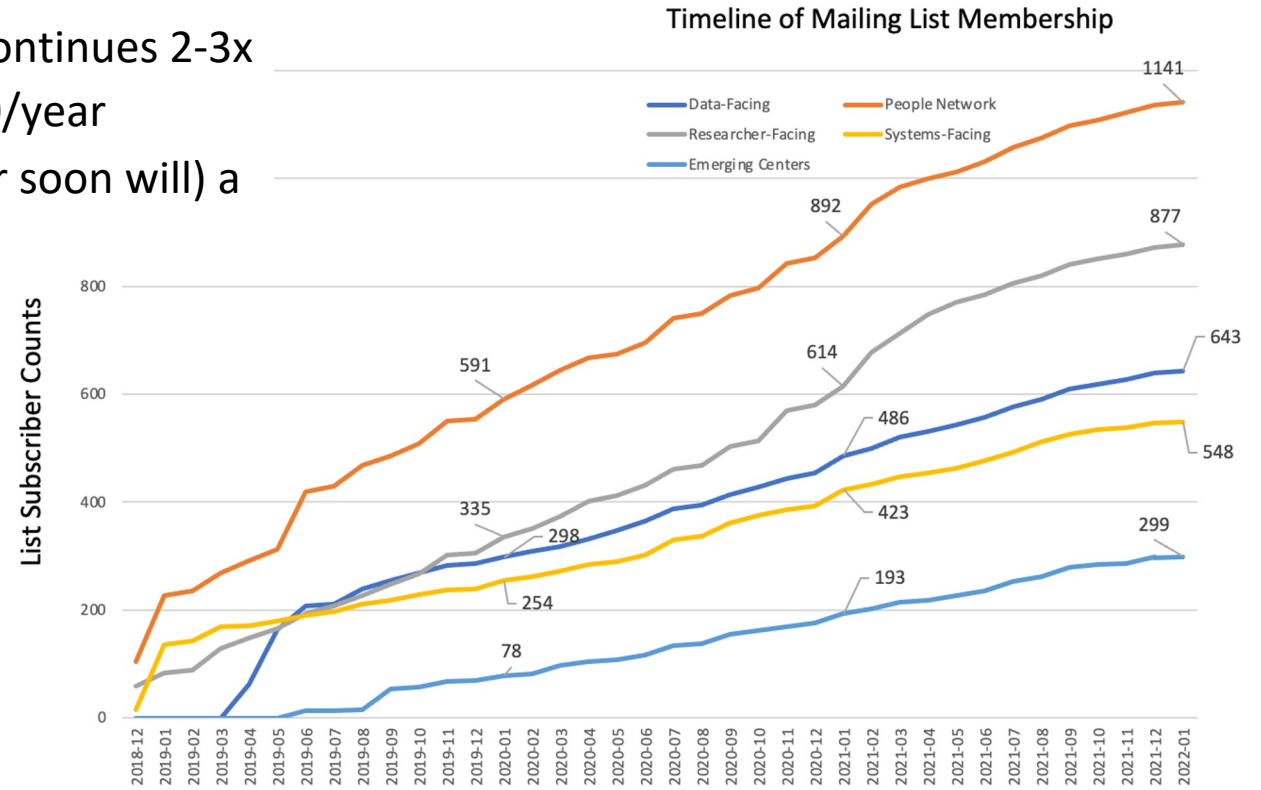
Get involved!

Join

Keep up with what's happening in CaRCC:

Join our mailing lists

Come to our events

Contribute

To the People Network: Email **getstarted@carcc.org**

- Suggest call topics
- Volunteer to participate on a call panel, or lead, facilitate, or help organize a call
- Join a track steering committee
- Become a track coordinator

A working group: Email **getinvolved@carcc.org** to join a working group, or contact chairs of a group you are interested in.

https://carcc.org/how-to-join/

PEARC Conference Series

Computing for the common good

Portland Oregon | JULY 23-27

- ➤ PEARC is the de facto annual meeting for the RCD profession.
- ➤ PEARC is about the **people** and the **profession** (all the facings)
- ➤ PEARC is the publishing venue for RCD – think promotion!
- ➤ Full papers, short papers, posters, panels, Bird's of a Feather (BoF's) ++
- ➤ A lot of great content, not just a "hallway" conference.
- ➤ Take advantage of the workshops
- ➤ Build your professional network (it takes work)

Some facing specific groups:

- Software-Facing: US-RSE
- Systems-Facing: HPC Syspros
- Researcher-Facing: Virtual Residency Program (You are here!)
- Data-Facing: RDAP
- Strategy and Policy Facing: CASC + Educause RCD

The Coalition for Academic Scientific Computation is an educational nonprofit 501(c)(3) organization with 100+ member institutions representing many of the nation's most forward-thinking universities and computing centers. CASC is dedicated to advocating for the use of the most advanced computing technology to accelerate scientific discovery for national competitiveness, global security, and economic success, as well as develop a diverse and well-prepared 21st century workforce. In addition, CASC collaborates with the United Kingdom High Performance Computing Special Interest Group (HPC-SIG) to advance the use of scientific computing across all disciplines, and to support economic and workforce development in high performance computing-related fields.

10+ Years · 100 Members

Igniting Progress: From Big Data to Bold Solutions

CASC Coalition for Academic Scientific Computation
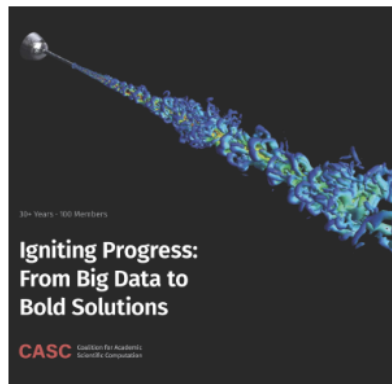
Research Computing and Data Community Group

This community group discusses IT support for institutional research missions. The two broad categories of issues are: IT support for research administration, and IT support for research activities. The former includes: pre- and post-award support, interacting with Federal grant systems, regulatory compliance, and intellectual property management. The latter includes: centralized vs. decentralized approaches, high performance computing, advanced networking, informatics and enabling multidisciplinary/interdisciplinary/inter-institutional work. We also meet at the EDUCAUSE annual conference.

Group Leaders

John Huffman
🏛 University of Delaware

Committee Member: 2022-Present

Susan Ivey
🏛 North Carolina State University

Committee Member: 2023-Present

Participate in This Group

To join, leave, and engage in this community, visit EDUCAUSE Connect.

VISIT EDUCAUSE CONNECT

Previous Community Group Archives

As planned with the launch of EDUCAUSE Connect, the CG discussion archives from our previous email list system have been decommissioned and are

Research Data Access and Preservation Association

Engaging a broad community of information professionals

Data managers	Curators	Librarians	Archivists
Researchers			
Educators	Students	Technologists	Data Scientists

- Advancing best practices for research data, access, and preservation

- Annual RDAP Summit - for reaching across disciplines, institutions, and organizations
  - Access to common solutions to issues surrounding research data management
  - Opportunities to expand professional networks
  - Acquire practical knowledge and skills

https://rdapassociation.org/

US Research Software Engineer Association (US-RSE)

What is US-RSE?

A community-driven organization of <u>people</u>:

- Writing and contributing research software
- Interested in research software engineer careers
- Identifying as RSE "allies"
- Sloan Funding - Get involved!

What is a Research Software Engineer (RSE)?
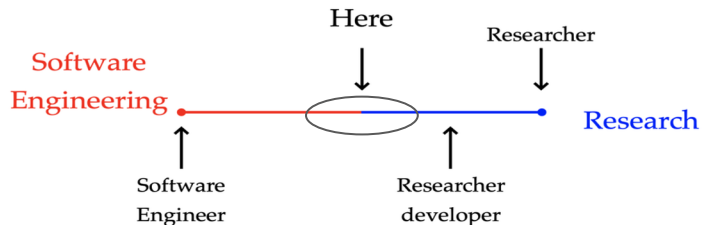
Simon Hettrick

US-RSE Mission

Community: Create a professional community to share knowledge, connections, and resources

Advocacy: Promote RSEs' impact on research, highlighting the critical and valuable role RSEs serve

Resources: Access to information and material to support individuals and RSE groups

Diversity, Equity, and Inclusion (DEI): Actively promote, encourage, and improve DEI

US-RSE Events

First US-RSE Conference ever!
https://us-rse.org/usrse23/
Events at PEARC23 and SC23
https://se4science.org/workshops/se4rs23/index.htm
https://us-rse.org/rse-hpc-2023/

Membership is FREE!
https://us-rse.org/join

https://us-rse.org   @us_rse   contact@us-rse.org

US RSE

About SIGHPC

SIGHPC is the first international group within a major professional society that is devoted exclusively to the needs of students, faculty, researchers, and practitioners in high performance computing. SIGHPC's mission is to help spread the **use of HPC,** help raise the **standards of the profession**, and help ensure a **rich and rewarding career** for people involved in the field.

The **HPC community** includes an incredibly wide range of individuals and organizations engaged in studying, developing, teaching, and supporting high performance computers, storage, networking, and software. It also encompasses those who are working to apply HPC across a broad spectrum of scientific, engineering, and business domains.

If you're interested in more information on how ACM SIGHPC is governed, refer to our **bylaws**.

- Bylaws
- Contact Us
- Elections
- Executive Committee
- FAQs
- Policies
- Our Logo
- Member Benefits

https://www.sighpc.org/home

SGX3 (Center of Excellence) and SGCI (Science Gateways Community Institute)

What is a science gateway?

Science gateways enable research, educational & engineering communities to share data, software, computing services, instruments, and educational resources in a virtual collaborative environment.

SGCI
Science Gateways
Community Institute

Connecting People
Creating Solutions
Accelerating Discovery

Storybook
Support of over 200 projects

https://sciencegateways.org/about/storybook

THE LANDING HOTEL - PITTSBURGH

https://sciencegateways.org/gateways2023

Gateways 2023
October 30 – November 1, 2023
Pittsburgh, PA
Submission deadline: June 30, 2023
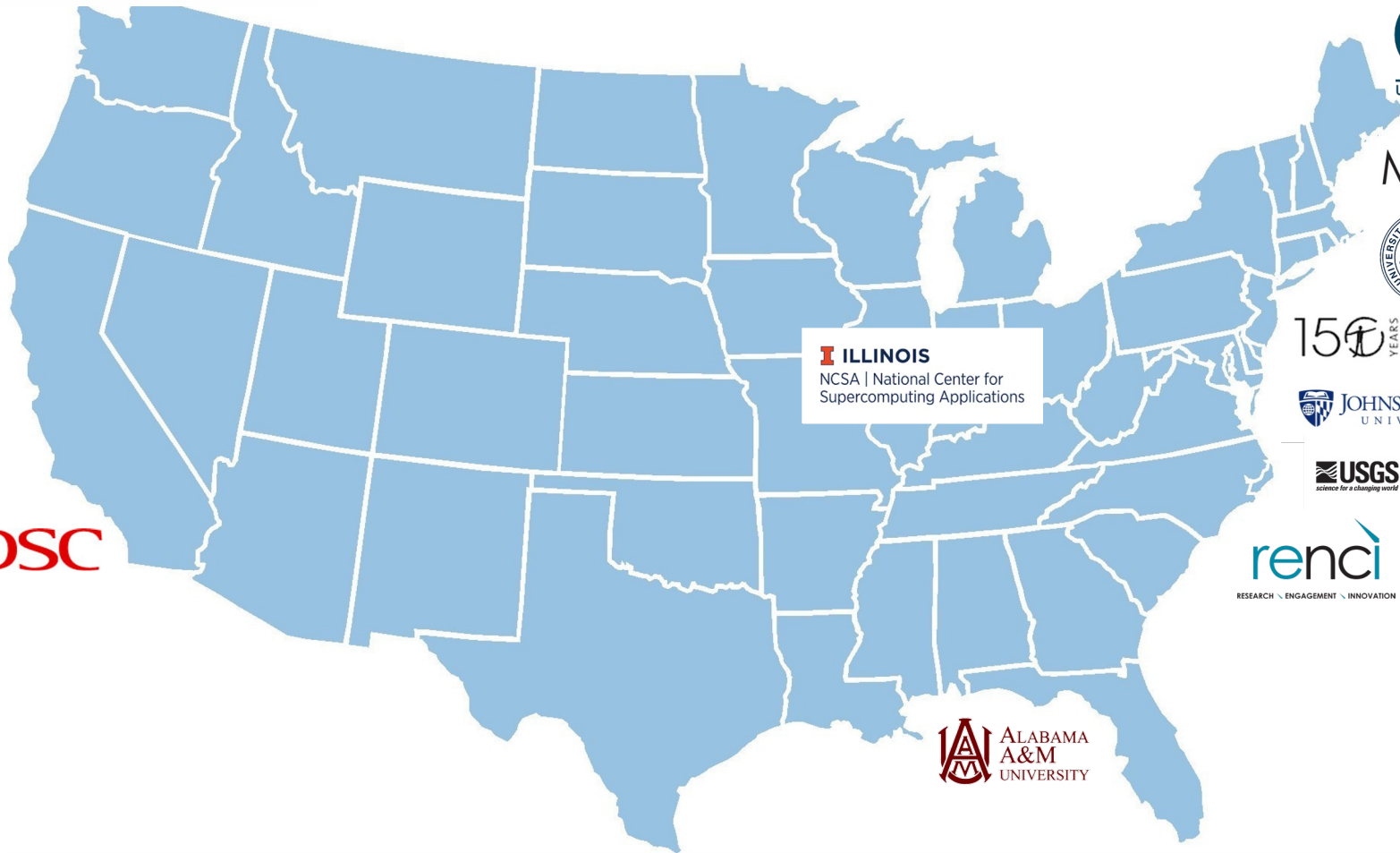
SGX3 funded

- UX evaluation and design engagements lasting up to 3 calendar months
- Technology evaluation and gap analysis
- Science Gateway architecture design
- Summer faculty and student internships
- Once annually Science Gateways Focus Week sustainability sessions
- Focus Week follow-on sustainability coaching
- Summer Coding Institutes
- Science Gateway Hackathons
- Young Professionals program
- Annual Conference

Client funded

- UX evaluation and design engagements beyond 3 calendar months
- Technology selection, expert science gateway software development, and expert science gateway hosting and operations
- Academic year intern placement
- Specially commissioned Focus Week sustainability sessions
- In-depth sustainability assessment and plan development

https://sciencegateways.org/

SGX3 | SGCI

Navigating the Major Facilities Data Lifecycle

National Science Foundation Cyberinfrastructure Center of Excellence (CI CoE)

NSF #2127548

CI Compass

RRC⊙P **Regulated Research Communi...**

Regulated Research Community of Practice (RRCoP)

NSF # 2201028

Who is RRCoP?

We are research institutions that support research subject to compliance regulations, working together to grow the knowledge pool and produce efficiencies.

Watch the four minute introduction   **[RRCoP Introduction]**

Our project deliverables include:

- Hosting Monthly Webinars
- Sharing Resources
- Workshops

Google

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https://www.regulatedresearch.org/

Academic Data Science Alliance
- **Website:** https://academicdatascience.org/
- **Community:** Data Facing
- **Tags:** community
- **Abbreviation:** ADSA

Ask.Cyberinfrastructure
- **Website:** https://ask.ci
- **Community:** Researcher Facing, Systems F...
- **Tags:** jobs, forums
- **Abbreviation:** Ask.CI

Association of Research Libraries
- **Website:** https://www.arl.org
- **Community:** Library
- **Tags:** library, jobs
- **Abbreviation:** ARL

Campus Champions
- **Website:** https://campuschampions.org/
- **Community:** Researcher Facing, Systems F...
- **Tags:** jobs, community, discussion...
- **Abbreviation:**

Campus Research Comp... (CaRCC)
- **Website:** https://carcc.org/
- **Community:** Researcher Facing, Systems F...
- **Tags:** jobs, community, events
- **Abbreviation:** CaRCC

Coalition for Academic S... (CASC)
- **Website:** https://casc.org/
- **Community:** Strategy & Policy Facing
- **Tags:** community
- **Abbreviation:** CASC

Coalition for Networked I... (CNI)
- **Website:** https://www.cni.org/
- **Community:**
- **Tags:** library
- **Abbreviation:** CNI

Computational Science / ...
- **Website:** http://shodor.org/~aweeden/hp...
- **Community:**
- **Tags:** jobs, news, calendar
- **Abbreviation:**

CyberAmbassadors
- **Website:** https://colbrydi.github.io/cyber...
- **Community:** Researcher Facing
- **Tags:** NSF, training
- **Abbreviation:** CyberAmbassadors

Ecosystem for Research ...
- **Website:** https://www.errn.org/
- **Community:** RCD Professional
- **Tags:** regional
- **Abbreviation:** ERN

EDUCAUSE
- **Website:** https://www.educause.edu/
- **Community:**
- **Tags:** jobs
- **Abbreviation:** EDUCAUSE

EDUCAUSE Cloud Comp...
- **Website:** https://www.educause.edu/com...
- **Community:** Cloud
- **Tags:** cloud, sig
- **Abbreviation:** EDUCAUSE CCCG

Extreme Science and Eng... (XSEDE)
- **Website:** https://www.xsede.org
- **Community:** RCD Professional
- **Tags:** NSF
- **Abbreviation:** XSEDE

Florida LambdaRail (FLR)
- **Website:** https://flrnet.org/
- **Community:**
- **Tags:** regional, networking
- **Abbreviation:** FLR

Great Plains Network
- **Website:** https://www.greatplains.net/
- **Community:**
- **Tags:** regional, gpn
- **Abbreviation:** GPN

HPC-AI Advisory Council
- **Website:** https://www.hpcadvisorycouncil...
- **Community:**
- **Tags:**
- **Abbreviation:**

Internet2
- **Website:** https://internet2.edu/
- **Community:**
- **Tags:** networking
- **Abbreviation:** Internet2

Linux Clusters Institute (LCI)
- **Website:** https://linuxclustersinstitute.org/
- **Community:** Systems Facing
- **Tags:** training
- **Abbreviation:** LCI

Mid-Atlantic Research Inf...
- **Website:** https://www.marialliance.net/
- **Community:**
- **Tags:** state, VA, networking
- **Abbreviation:** MARIA

Minority Serving - Cyberi...
- **Website:** https://www.ms-cc.org/
- **Community:**
- **Tags:** NSF
- **Abbreviation:** MS-CC

National Consortium for ... (ncds)
- **Website:** https://datascienceconsortium...
- **Community:**
- **Tags:**
- **Abbreviation:** ncds

New York State Educatio...
- **Website:** https://www.nysernet.org
- **Community:** RCD Professional
- **Tags:** networking, state, NY
- **Abbreviation:** NYSERNet

OneOklahoma Cyberinfra...
- **Website:** https://www.oneocii.okepscor.o...
- **Community:** RCD Professional, Researcher
- **Tags:** state, OK, community
- **Abbreviation:** ONEOCII

Open Researcher and Co... (ORCID)
- **Website:** https://orcid.org/
- **Community:**
- **Tags:**
- **Abbreviation:** ORCID

Open Science Grid (OSG)
- **Website:** https://opensciencegrid.org/
- **Community:** RCD Professional
- **Tags:** compute
- **Abbreviation:** OSG

Practice and Experience i... (PEARC)
- **Website:** https://pearc.org/
- **Community:**
- **Tags:** conference
- **Abbreviation:** PEARC

RCD Community of Com... (CoCo)
- **Website:** https://communityofcommuniti...
- **Community:** Systems Facing, Software Fac...
- **Tags:**
- **Abbreviation:** CoCo

RCD Nexus
- **Website:** https://rcd-nexus.org
- **Community:** RCD Professional
- **Tags:** NSF, resources
- **Abbreviation:** RCDNexus

Regulated Research Com...
- **Website:** https://www.regulatedresearch...
- **Community:**
- **Tags:** NSF
- **Abbreviation:** RRCoP

Research Computing and...
- **Website:** https://www.educause.edu/com...
- **Community:** Strategy & Policy Facing
- **Tags:** community, events, calls
- **Abbreviation:** EDUCAUSE RCD CG

Research Computing Tea...
- **Website:** https://www.researchcomputin...
- **Community:** Strategy & Policy Facing
- **Tags:** jobs, news
- **Abbreviation:**

Research Data Access & ... (RDAP)
- **Website:** https://rdapassociation.org/
- **Community:** Data Facing
- **Tags:** community
- **Abbreviation:** RDAP

Research Data Alliance (RDA)
- **Website:** https://www.rd-alliance.org/
- **Community:** Data Facing
- **Tags:** working groups, international
- **Abbreviation:** RDA

Research Software Allian... (ReSA)
- **Website:** https://www.researchsoft.org/
- **Community:** Software Facing
- **Tags:**
- **Abbreviation:** ReSA

Rocky Mountain Advance... (RMACC)
- **Website:** https://rmacc.org/
- **Community:**
- **Tags:** regional
- **Abbreviation:** RMACC

SC Conference Series
- **Website:** https://supercomputing.org/
- **Community:** Systems Facing, Strategy & P...
- **Tags:** conference
- **Abbreviation:** SC

Science Gateways Comm... (SGCI)
- **Website:** https://sciencegateways.org/
- **Community:** RCD Professional
- **Tags:** NSF
- **Abbreviation:** SCGI

ShowMeCI
- **Website:** https://showmeci.org/
- **Community:**
- **Tags:** state, MO
- **Abbreviation:** ShowMeCI

SigHPC
- **Website:** https://www.sighpc.org/
- **Community:**
- **Tags:** community
- **Abbreviation:** SigHPC

SIGHPC Education
- **Website:** https://sighpceducation.acm.org/
- **Community:** RCD Professional
- **Tags:** sig, community
- **Abbreviation:** SIGHPC

SIGHPC Syspros
- **Website:** https://sighpc-syspros.org/
- **Community:** Systems Facing
- **Tags:** community, slack, sig
- **Abbreviation:** Syspros

Sunshine State Educatio... (SSERCA)
- **Website:** https://sserca.flrnet.org/
- **Community:** RCD Professional
- **Tags:** networking, state, FL
- **Abbreviation:** SSERCA

The Carpentries
- **Website:** https://carpentries.org/
- **Community:** Researcher Facing, Research...
- **Tags:** community, training
- **Abbreviation:**

The Quilt
- **Website:** https://www.thequilt.net/
- **Community:** Software Facing
- **Tags:** networking
- **Abbreviation:** QUILT

United States Research S... (US-RSE)
- **Website:** https://us-rse.org/
- **Community:** Software Facing
- **Tags:** community, jobs, calls
- **Abbreviation:** US-RSE

University of Oklahoma V...
- **Website:** http://www.oscer.ou.edu/virtual...
- **Community:** RCD Professional
- **Tags:** events, training, community
- **Abbreviation:** VRP

Utah Education Network
- **Website:** https://www.uen.org/
- **Community:**
- **Tags:** networking, state, UT
- **Abbreviation:** UEN

Woman in HPC
- **Website:** https://womeninhpc.org/
- **Community:**
- **Tags:** community, calls, events
- **Abbreviation:** WHPC

Workflows Community In...
- **Website:** https://workflows.community/
- **Community:** Researcher
- **Tags:**
- **Abbreviation:**

ML Commons
Machine learning innovation to benefit everyone.

Things to consider

- Attend PEARC (http://pearc.org) at least once - this is the people conference.
- Attend SC (http://supercomputing.org/) at least once - this is the technology conference.
- Read about the RCD Facings (https://carcc.org/rcd-professionalization/facings/)
- Attend some training. (OU-VRP, CyberAmbassadors, RRCOP, CICompass)
- Join the community by joining various organizations based on your work and interests (facings) (CaRCC People Network, US-RSE, RDAP)
- Find your state and regional network and explore what they have to offer.
- Never stop learning!

Thank You

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