

# How to ACCESS!

# Agenda

- Overview of the ACCESS project (15 minutes)
- Getting started (60 minutes) - Break
  - Account creation, using the website, the ACCESS User Portals
- Resource Providers & Allocations (45 minutes)
- Finding and Getting Help (30 minutes) - Lunch
  - Knowledge Base, Ask.CI, Documentation, Training, Affinity Groups, etc.
- Ticketing (30 minutes)
- User Tools (45 minutes) - Break
  - Open OnDemand, Pegasus
- Metrics of ACCESS Resources with XMod (30 minutes)
- MATCH Services & Community Engagement CCEP (15 minutes)
  - MATCHPlus, MATCHPremier, and CCEP
- Open ended Q&A (30 minutes) - Adjourn

# ACCESS Project Overview

# NSF ACCESS Program Structure

## ACCESS Services

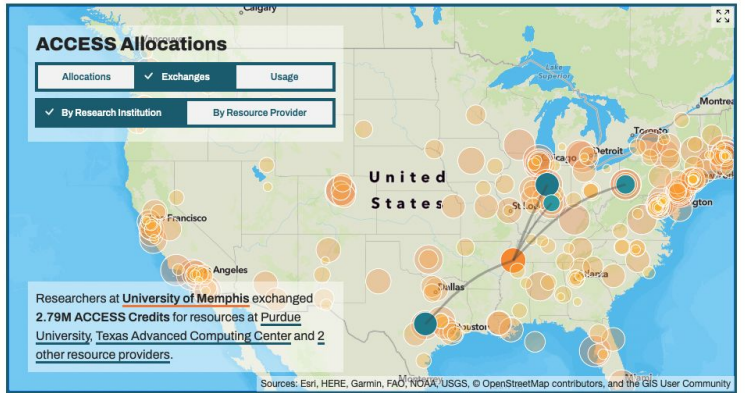


## ACCESS Coordination Office Services





# ACCESS Allocations



A map of allocations, exchanges, and usage since the start of the ACCESS program in September 2022. Values are displayed in ACCESS Credits, or ACCESS Credit equivalents for Maximize ACCESS requests and usage.

Interactive allocation activity map available at [allocations.access-ci.org](https://allocations.access-ci.org) (see Updates menu)

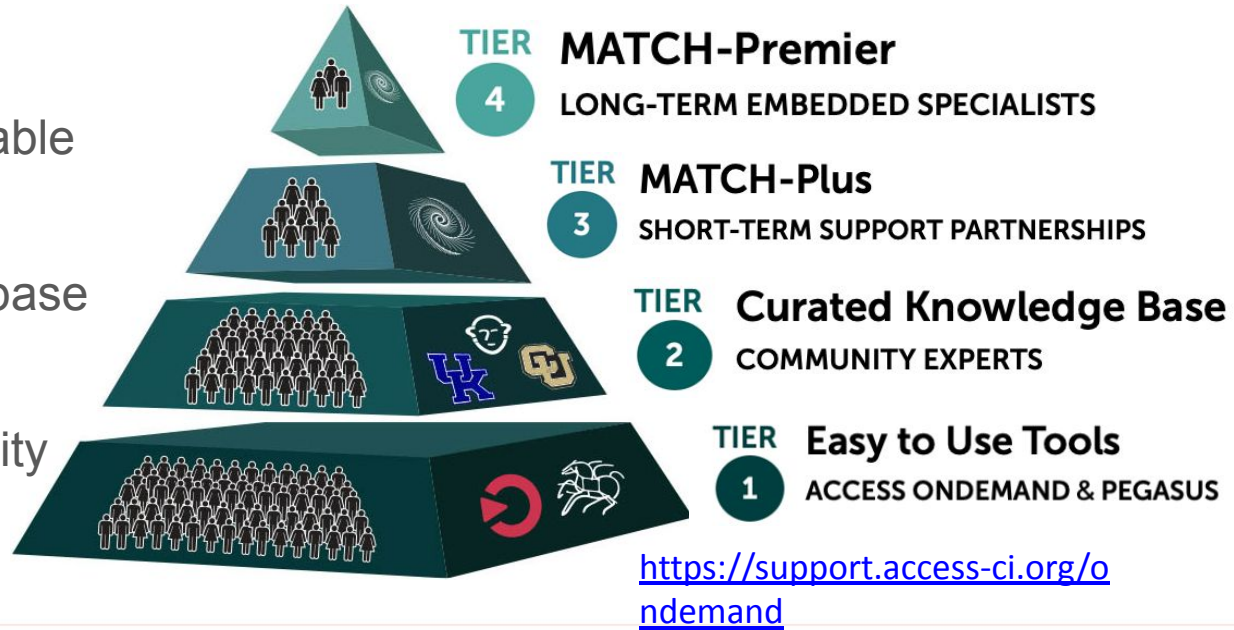
- Led by Pittsburgh Supercomputing Center, National Center for Atmospheric Research, and National Center for Supercomputing Applications
- Allocations Service goals are to create
  - an open, inviting, and democratized allocations marketplace
  - an efficient, scalable, and simplified request and review framework
  - a robust, decentralized, and flexible software platform
- Continuous Improvement and Diversity, Equity, and Inclusion efforts central to the project
  - DEI Facilitator on management team to ensure diverse, equitable, and inclusive spaces and services
- Five Innovative Pilots are advancing Allocations Services to integrate new resources and engage new communities

# Researcher Support Services

Shelley Knuth, Alana Romanella, Dylan Perkins (University of Colorado Boulder)  
Ewa Deelman, Mats Rynge (U. Southern California)  
John Goodhue, Julie Ma, Andrew Pasquale (MGHPCC)  
James Griffioen, Vikram Gazula, Tony Elam, Joel Adams (Univ. Kentucky)  
David Hudak, Alan Chalker (Ohio Supercomputer Center)

<https://support.access-ci.org/>

- Enable innovative research through equitable and scalable support
- Four tiers of support
- Tools, growing knowledge base
- Match-making with experts
- Student engagement
- Engagement from community
- CSSN incentives



# ACCESS Operations

## Principal Investigator

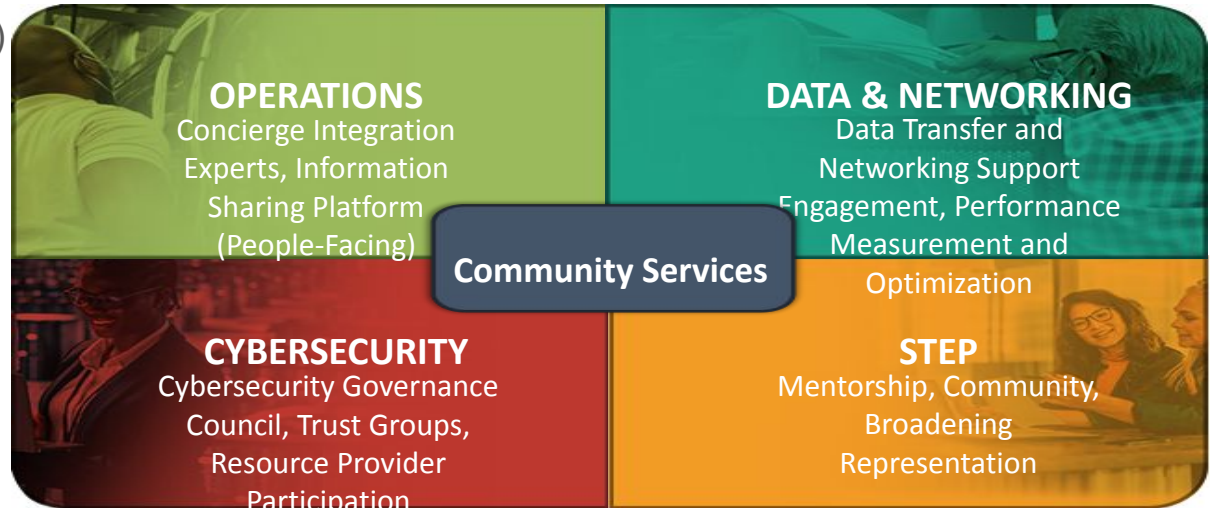
- Tim Boerner (NCSA)

## Co-Principal Investigators

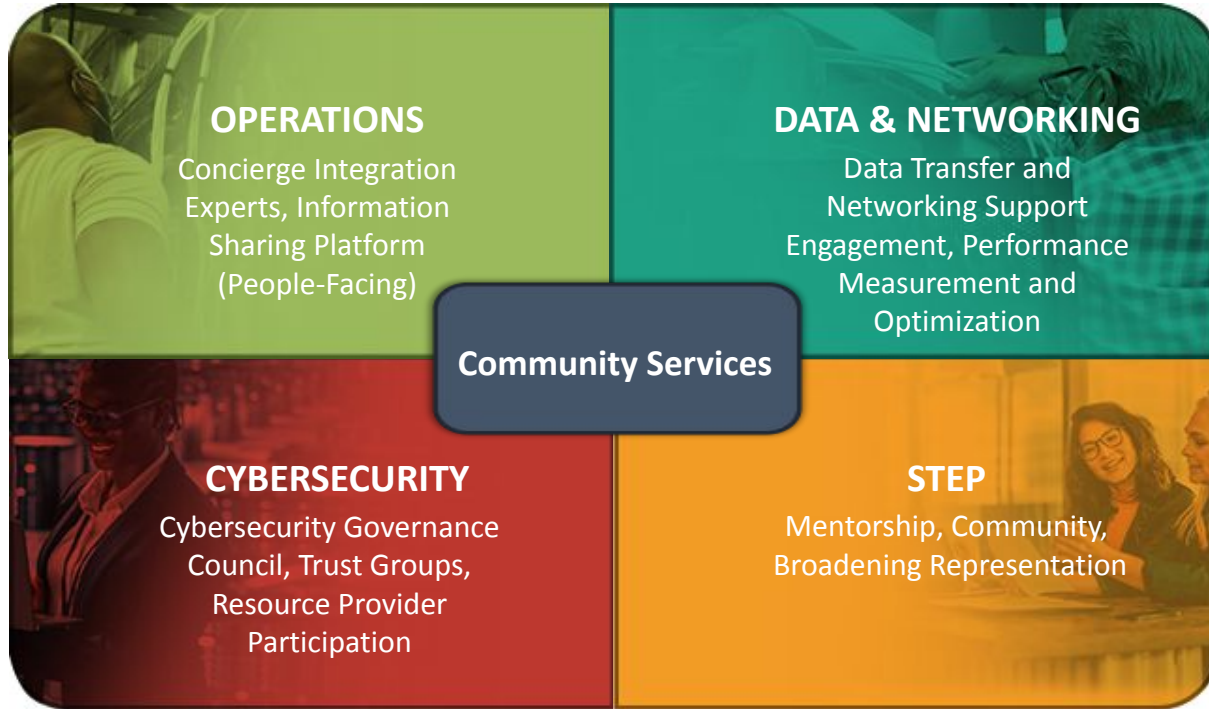
- JP Navarro (ANL/UChicago)
- Derek Simmel (PSC)
- Winona Snapp-Childs (IU)

## Deputy Project Director

- Leslie Froeschl (NCSA)



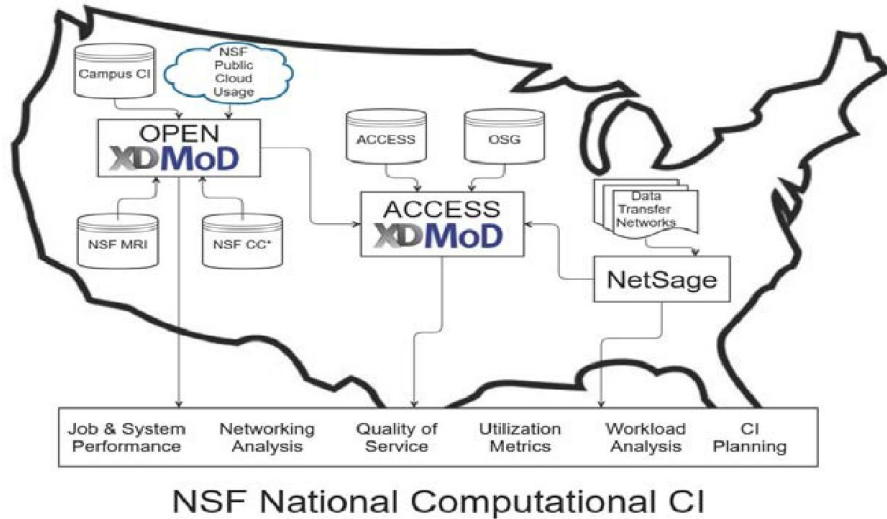
# ACCESS Operations



# ACCESS Monitoring & Measurement Services

Roswell Park (Furlani), Buffalo (White, Jones, DeLeon, Simakov), Tufts (Patra)

TACC (Barth, Harrell, Cawood), SDSC (Smallen), Case Western (Chaudhary), Indiana (Schopf)



- Continued development of XDMoD
  - Back by popular demand 😊
- Open XDMoD broader use
- New Open Data Analytics Framework
  - Jupyter Notebook, Python, etc
  - Creative, ad hoc analytics
- Analytics for National CI
- Workload performance analyses
- Network traffic leverage NetSAGE
- Application diagnose/optimize
- CI Simulator for predictive analysis
- Energy use pilot

# OpenCI ACCESS Coordination Office

PI: John Towns (NCSA/Illinois)

co-PIs: Lizanne DeStefano (CEISMIC/Georgia Tech); Shawn Strande (SDSC/UCSD)

- Deep knowledge of XSEDE
- Emphasis on seamless transition
- 
- Facilitate shared governance via EC and EA
- Collaboration tools to support inter-track communications
- Branding
- Coordinate outreach, DEI, and evaluation efforts across the program
- Stakeholder communications on ACCESS impact & opportunities
- Informal co-advisors from 5 large programs





# ACCESS Governance

- Executive Council (EC)
  - established with formal charter
    - top-level coordination and governance
    - ensure high operational efficiency and user-centric performance
  - 5 PIs each with voting rights; some additional ex-officio roles
- External Advisory Board (EAB)
  - established with formal charter
    - advises EC with advice on the various services provided by ACCESS
  - currently discussing how various governance elements comprise and overall governance structure



Advancing  
Innovation

# Getting Started





# In This Section

- The access-ci.org website
- Getting an ACCESS account
- Portals
- Tag Taxonomy

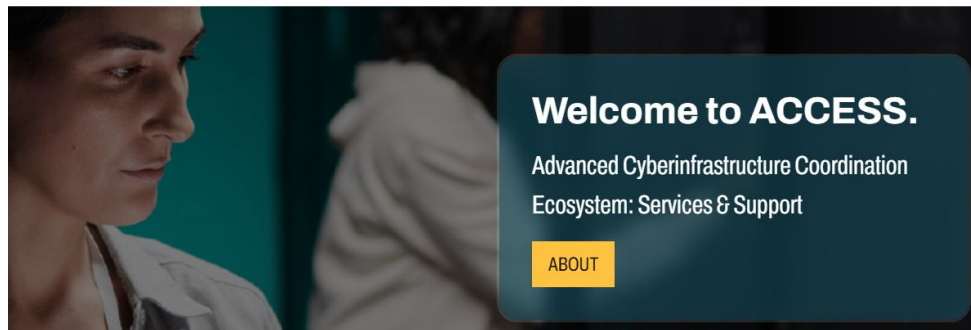
# The Website

<https://access-ci.org/>



# Getting an Account

- Can use an existing account
- Or get a new ACCESS account



# Getting an Account



Identity Management

## ACCESS User Registration

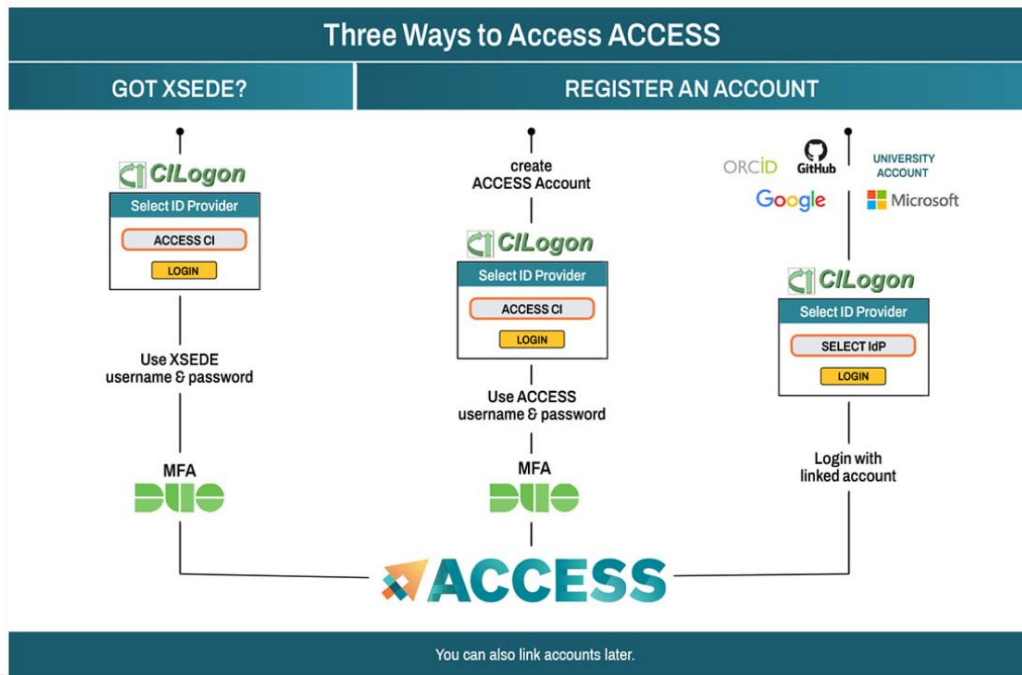
### XSEDE Users

- Your ACCESS ID is the same as your XSEDE Portal account. Please do not create a new ACCESS ID.
- You do not need to change your password or your Duo registration for ACCESS.
- Select the “ACCESS CI (XSEDE)” identity provider to log on using your XSEDE account.

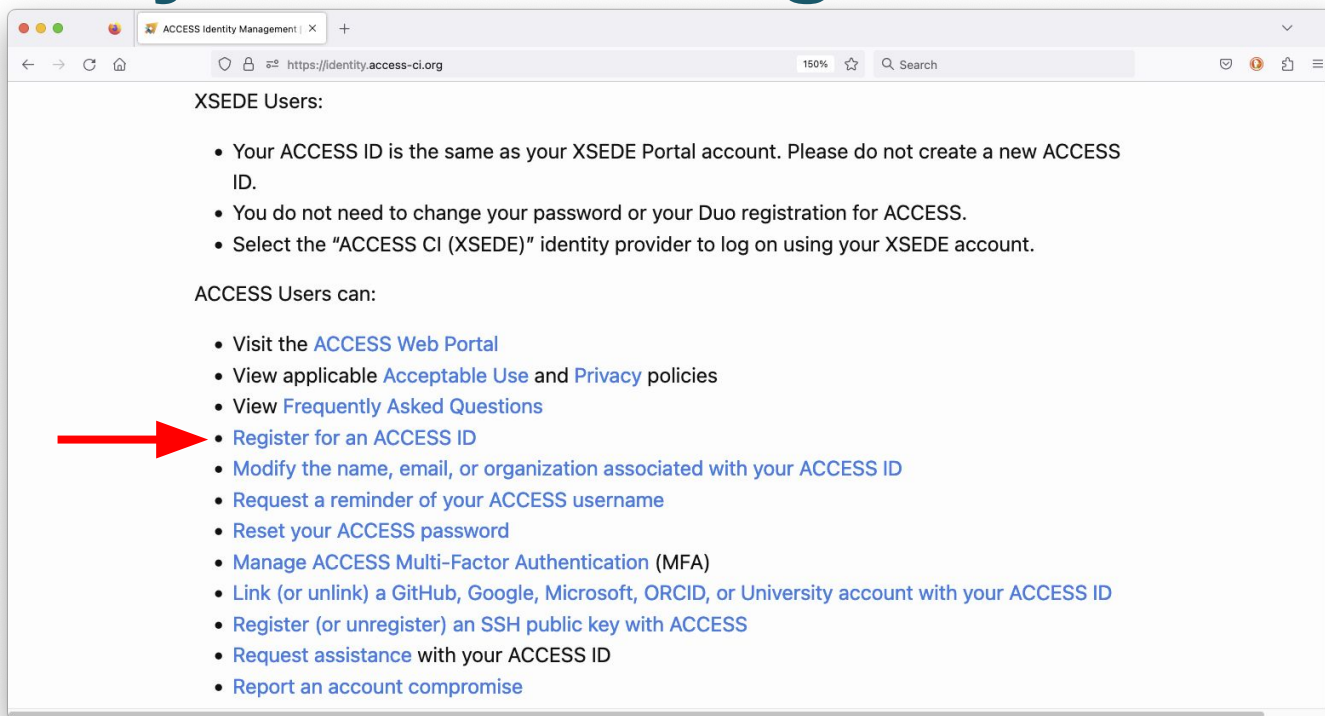
### Avoid Creating Duplicate Accounts



# Getting An Account



# identity.access-ci.org



ACCESS Identity Management | X

https://identity.access-ci.org

150% Search

XSEDE Users:

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ACCESS Users can:

- Visit the [ACCESS Web Portal](#)
- View applicable [Acceptable Use](#) and [Privacy](#) policies
- View [Frequently Asked Questions](#)
- [Register for an ACCESS ID](#)
- [Modify the name, email, or organization associated with your ACCESS ID](#)
- [Request a reminder of your ACCESS username](#)
- [Reset your ACCESS password](#)
- [Manage ACCESS Multi-Factor Authentication \(MFA\)](#)
- [Link \(or unlink\) a GitHub, Google, Microsoft, ORCID, or University account with your ACCESS ID](#)
- [Register \(or unregister\) an SSH public key with ACCESS](#)
- [Request assistance with your ACCESS ID](#)
- [Report an account compromise](#)

# registry.access-ci.org

The screenshot shows a web browser window displaying the ACCESS User Identity Dashboard. The browser's address bar shows the URL `https://registry.access-ci.org/registry/co_dashboards/dashboard/co:2`. The page features a navigation sidebar on the left with categories like 'People', 'Groups', 'Departments', 'Organizations', 'Email Lists', 'Jobs', 'Servers', and 'Configuration'. The main content area is titled 'ACCESS User Identity Dashboard' and includes a breadcrumb 'Home > Users'. Below the title, there is a section for 'Resource Providers and Tools' with five interactive cards: 'Allocations' (with a network icon), 'Password' (with a lock icon), 'Profile' (with a person icon), 'SSH Key' (with a key icon), and 'Support' (with a gear and hands icon). At the bottom of the page, there is a footer containing the ACCESS logo and 'Support' text, a paragraph of text about the project's funding by the National Science Foundation, a link for user assistance, and a copyright notice for 2022 ACCESS.

# Using your Account

- With your ACCESS account you can:
  - Manage your profile and interests
  - Join Affinity Groups
  - Submit a ticket
  - Request and manage your allocations
  - Add an event

Let's see a demonstration!

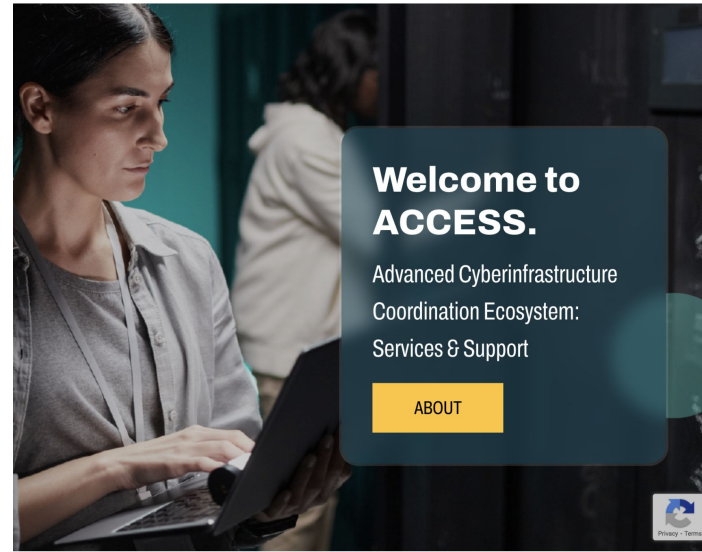
<https://access-ci.org/>



# The ACCESS User Portal

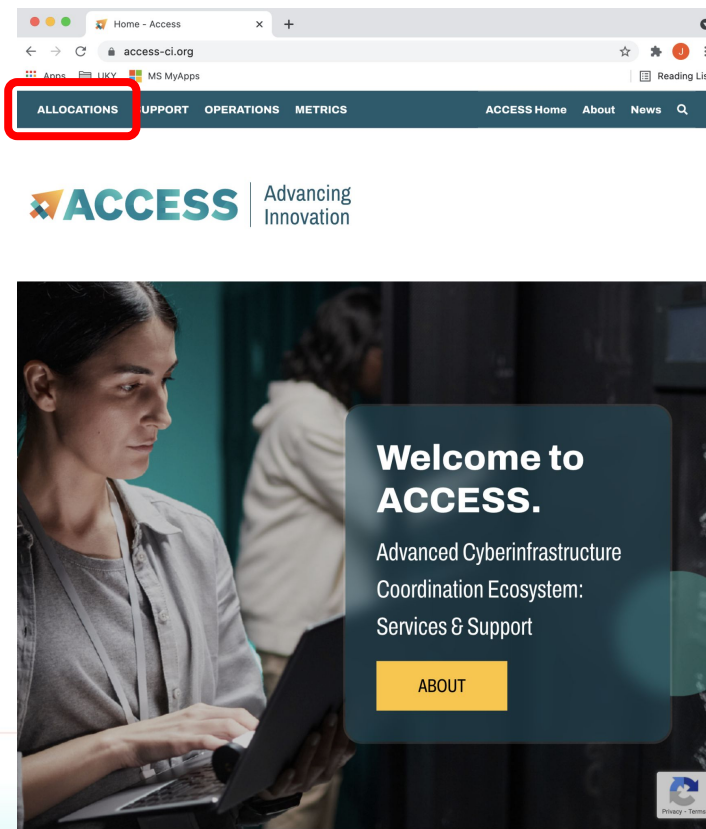
The site [access-ci.org](https://access-ci.org) is organized into four broad areas:

- **Allocations:** Requesting and administering Allocations
- **Support:** Documentation and support for ACCESS users
- **Operations:** Infrastructure support for RPs & developers.
- **Metrics:** Monitoring/measuring usage of ACCESS Resources.



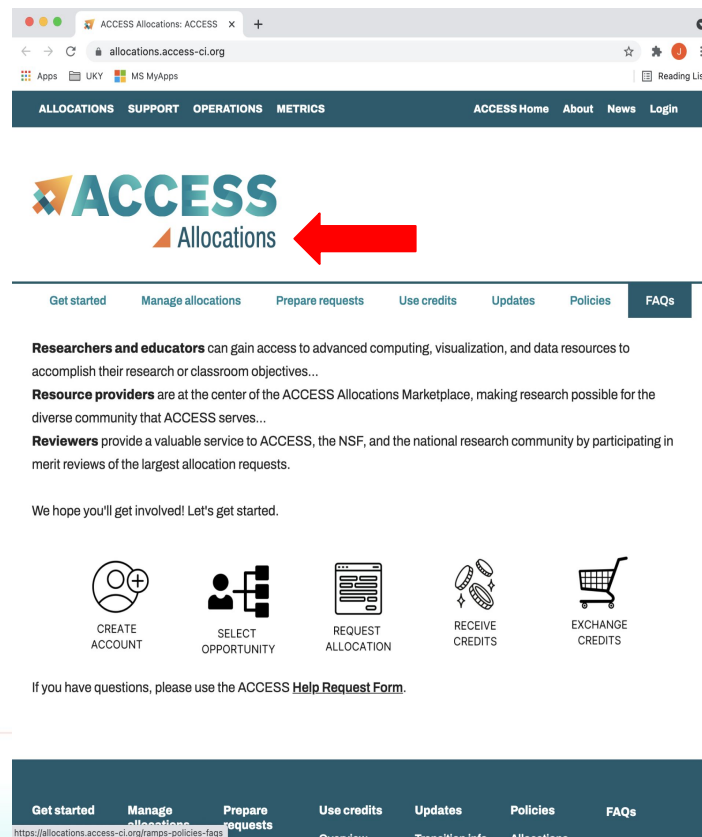
# The Four ACCESS Service Portals

- Each ACCESS service has its own portal that can be accessed from [access-ci.org](https://access-ci.org)
- E.g., clicking [Allocations](#) takes you to the Allocations portal: [allocations.access-ci.org](https://allocations.access-ci.org)



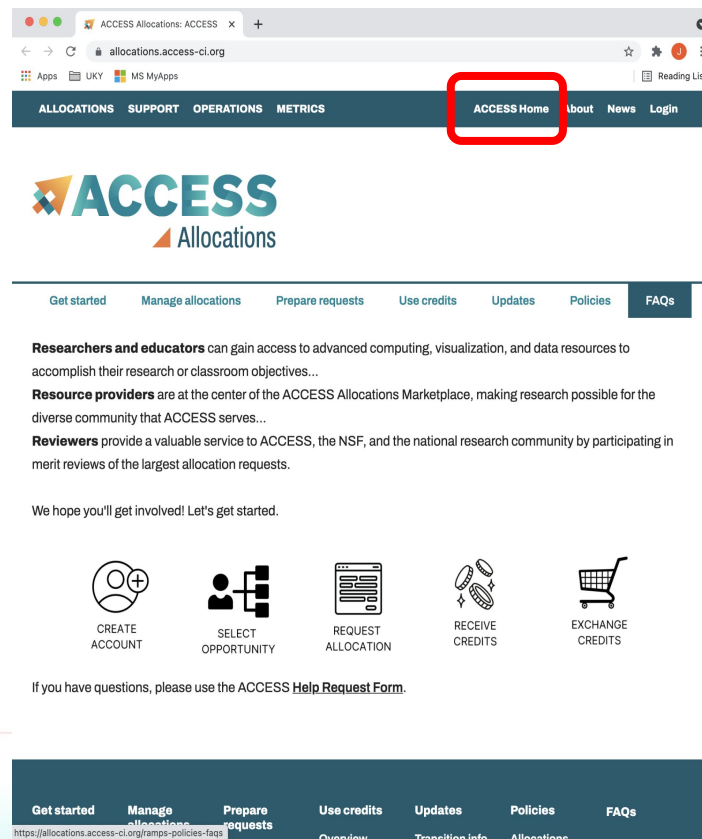
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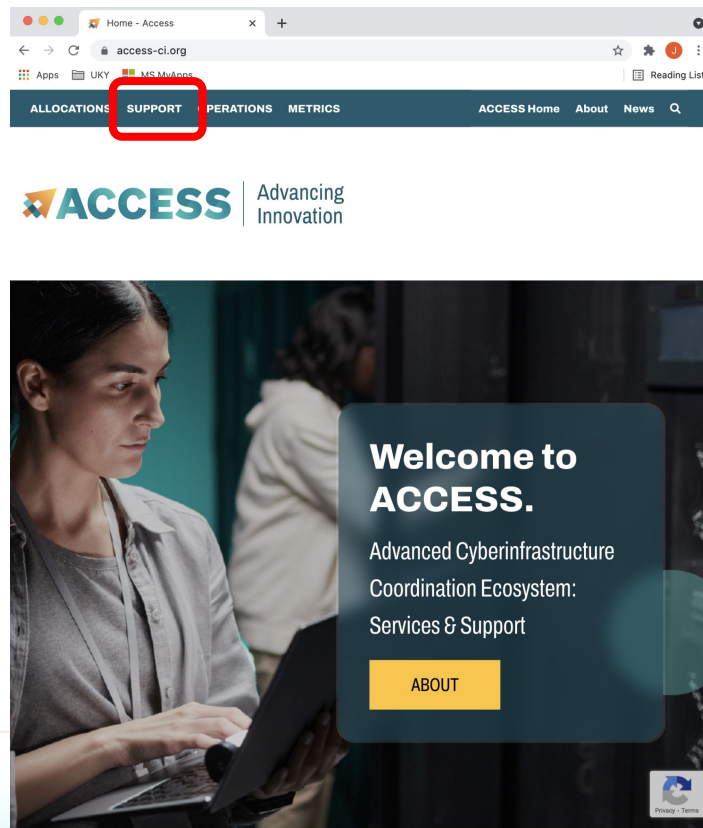
# The Four ACCESS Service Portals

- Clicking *Access Home* will always return you back to the top-level *access-ci.org* portal...



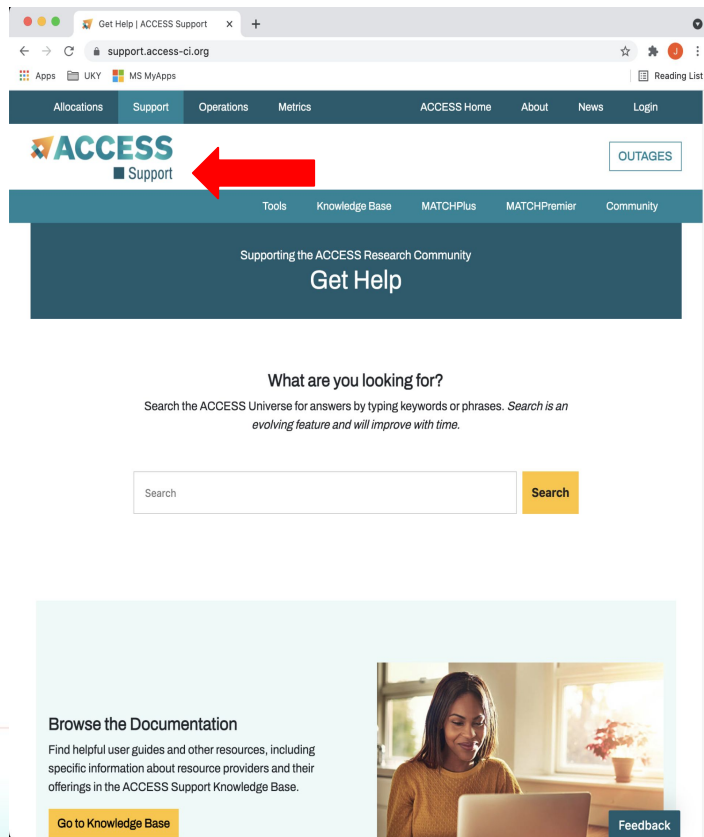
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- Likewise, clicking *Support* takes you to the Support portal: *support.access-ci.org*



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The screenshot shows the website support.access-ci.org. The browser address bar displays the URL. The top navigation bar includes links for Allocations, Support, Operations, Metrics, ACCESS Home, About, News, and Login. Below this, the ACCESS logo is followed by a 'Support' link, which is highlighted with a red arrow. Other navigation options include Tools, Knowledge Base, MATCHPlus, MATCHPremier, and Community. A search bar is present with the text 'What are you looking for?' and a 'Search' button. Below the search bar, there is a section titled 'Browse the Documentation' with a 'Go to Knowledge Base' button and a 'Feedback' button. The background of the lower section features an image of a woman working on a laptop.

# Troubleshooting Logon <https://cilogon.org/me>

**ACCESS** Powered By CILogon

### CILogon Attributes

This page allows you to view and (potentially) delete various cookies associated with the CILogon Service. There are three sections below.

- Browser Cookies** - These are "cookies" which are stored in your browser. They are used as preferences for the CILogon Service.
- Session Variables** - These are "short-lived" values related to your current CILogon session. Deleting any of these values may require you to re-logon.
- Environment Variables** - These are values set by the interaction between your browser and the web server. These are displayed mainly for information purposes.

You can delete cookies individually by checking the associated checkbox(es) and clicking the "Delete Checked" button. You can also delete groups of cookies by clicking the "Delete Browser Cookies" button, the "Delete Session Variables" button, or the "Delete ALL" button.

[Proceed to the CILogon Service](#) [Delete Browser Cookies](#) [Delete Session Variables](#) [Delete ALL](#) [Reload Page](#)

### Browser Cookies

<input type="checkbox"/>	<code>_cilogon_org</code>	<code>6c494d1f9fd5ba8</code>
<input type="checkbox"/>	<code>_shibsession_64656661756c7468747470733a2_f2f63696c6f676fe2e6f72672f73686962626f6c657468</code>	<code>_646b8ab15c0acd4ed4b07b33ae28e69</code>
<input type="checkbox"/>	<code>portalparams</code>	<code>portal=cilogon:/client_id/84b88ac2b1402a0082d4b62f6cb0c2f;https://registry.access-ci.org/secure/re-direct;openid email profile org.cilogon.userinfo, keepidp=, providerId=https://access-ci.org/ldp, ut=1689625523</code>



# Resource Providers & Allocations



# In This Section

- Resources Available
- Project Types
- Preparing Requests
- ACCESS Credits
- Using Credits
- Managing Allocations

# Resources: Multi-core Compute

- **Anvil (Purdue)** — 1,000 AMD Milan nodes, 128 cores per node, large memory nodes available
- **Bridges-2 (PSC)** — 504 AMD Rome nodes, 128 cores per node, large memory nodes available; extreme memory (4 TB) nodes allocated separately
- **DARWIN (U Delaware)** — AMD Rome nodes with 0.5 TB, 1 TB, and 2 TB memory options
- **Delta (NCSA)** — 124 AMD Milan nodes, 128 cores per node
- **Expanse (SDSC)** — 728 AMD Rome nodes, 128 cores & 1 TB NVMe per node
- **KyRIC (U Kentucky)** — Five large-memory (3 TB, 6 TB) nodes, 300 TB storage
- **Rockfish (Johns Hopkins U)** — 368 Intel Cascade Lake nodes, 48 cores per node; 10 large-memory nodes (1.5 TB) allocated separately
- **Stampede 2 (TACC)** — Intel Skylake & Knights Landing nodes (*retiring Sept 2023*)

# Resources: GPU Computing

- **Anvil GPU (Purdue)** — 16 nodes, 4 NVIDIA A100 GPUs each
- **Bridges-2 GPU (PSC)** — 24 nodes, 8 NVIDIA V100 GPUs & 7.68 TB NVMe per node
- **DARWIN GPU (U Delaware)** — Large-memory nodes with three different GPU architectures: AMD MI50, NVIDIA T4 & V100
- **Delta GPU (NCSA)** — 4 node configs: 100 nodes w/ 4x A100s; 100 w/ 4x A40 GPUs; five w/ 8x A100s; one w/ 8x AMD MI100 GPUs
- **Expanse GPU (SDSC)** — 52 nodes, 4 NVIDIA V100 GPUs each
- **Rockfish GPU (Johns Hopkins U)** — 10 nodes, 4 NVIDIA A100 GPUs and 1 TB NVMe each

# Resources: Novel Computing

- **ACES (Texas A&M U)** — Composable PCIe fabric with Intel Sapphire Rapids cores, Graphcore IPU, NEC Vector Engines, Intel Max GPUs, Intel FPGAs, Next Silicon co-processors, NVIDIA H100 GPUs, Intel Optane memory
- **FASTER (Texas A&M U)** — 180 nodes on a composable fabric, 2x Intel Ice Lake processors each, 260 NVIDIA GPUs (five different architectures)
- **Jetstream2 (Indiana U)** — Cloud environment with AMD Milan nodes, and 90 nodes with 4x A100 GPUs
- **Hive (Georgia Tech)** — 484 Intel Cascade Lake nodes. No allocation necessary for Hive Gateway access!
- **Ookami (Stony Brook U)** — 176 nodes with Riken/Fujitsu A64FX processors; additional nodes with AMD Milan, Thunder X2, and Skylake/V100 architectures
- **Open Science Pool (PATH)** — High-throughput computing environment leveraging fair-share access to contributed compute capacity

# Resources: Storage

- **Open Storage Network (OSN)** — Cloud object storage resource, comprised of geographically distributed pods, accessed via S3 interfaces
- **Ranch (TACC)** — Large-scale, tape-based archival storage system

Computer-linked storage options also available for *Jetstream2*, *Delta*, *Bridges-2*, *Expanse*, and *DARWIN* and are requested alongside compute allocations for those resources.

# Allocations: Why & How

- *Allocation* — an amount of units on a resource that can be used over a defined period of time
- Resource providers use allocations to manage how — and how much — resource time is divided up among *projects*
  - *Projects* may have allocations on more than one resource
- Your project allocation(s) ensure you have access to the resources you need to accomplish your research & education objectives

To use resources in the ACCESS ecosystem, you need to start by requesting a project and getting an allocation.

# Allocations: Project Types

- **Explore ACCESS** — for getting started, evaluating resources, dissertations, small-scale activities
- **Discover ACCESS** — for modest-scale work, opportunity to request courtesy review of their plans
- **Accelerate ACCESS** — for more experienced researchers with mid-scale needs
- **Maximize ACCESS** — for largest-scale projects, continued close scrutiny of most demanding computational work

If you're not sure, *start here!* You can upgrade later when you know more about your needs and the resources.

# Allocations: Preparing Requests

- **Explore ACCESS**
  - Only requires an abstract, reviewed by RPs for suitability
- **Discover ACCESS**
  - One-page write-up, reviewed by RPs for suitability
- **Accelerate ACCESS**
  - Three-page proposal, subject to panel & RP review
- **Maximize ACCESS**
  - 10-page proposal & supporting material subject to panel & RP review

Check the website for details on how to prepare the documents required, and any special documents (e.g., a grad student project requires a letter from their advisor).

All requests require basic information about the project lead, the nature of the activities being pursued, supporting grant details (if any), and planned resource use.

Your abstract or write-up should touch on your project's goals, how you plan to use resources, and any software you need. Covering these topics helps us connect you with appropriate resources for your work.



# Allocations: ACCESS Credits

- ACCESS Credits are a universal unit designed to simplify a researcher's entry into the ecosystem
  - Allows you to defer resource selection “homework” until you have initial success with your request
- Credits are **exchanged** for resource-specific units after project is reviewed and awarded
  - For one or several resources, one exchange or several
  - Need not be compute-oriented resources



CREATE  
ACCOUNT



SELECT  
OPPORTUNITY



REQUEST  
ALLOCATION



RECEIVE  
CREDITS



EXCHANGE  
CREDITS

# Allocations: Using Credits

- Credit-based awards permit researchers to conduct non-trivial amounts of work
- You exchange ACCESS Credits for resource-specific units
  - One resource or several resources
  - Small amounts or larger amounts
- Exchange rates defined based on relative performance of resources
  - E.g., GPU-hours “cost” more than core-hours
- You can explore exchange rates at [allocations.access-ci.org/exchange\\_calculator](https://allocations.access-ci.org/exchange_calculator)

Project Type	ACCESS Credits
Explore ACCESS	400,000
Discover ACCESS	1,500,000
Accelerate ACCESS	3,000,000
Maximize ACCESS	n/a

1 ACCESS Credit defined as 1 core-hour on SDSC Expanse or PSC Bridges-2, with suitable adjustments for other resources and units, typically based on relative resource performance

# Allocations: Managing Projects

Once you've been awarded your project, there are several tasks you need to be aware of

- **Exchange** — You need to *exchange* ACCESS Credits into resource-specific units
- **Add Users**—You can share your allocations with collaborators and students by adding users to the corresponding resources
- **Supplement** — Once you've consumed your first allotment of credits, you ask for the second half via a *supplement*
- **Extension** — If the calendar end date of your project or supporting grant changes, you can request an *extension*
- **Transfer**—You can exchange resource units for units on other resources via a *transfer*

Exchange on ASC180064

To exchange ACCESS Credits for resource units, first select a resource from the list below and click the **Add Resource** button. Then enter the new total amount of resource units in the *Desired Balance* column or the number of ACCESS Credits to exchange in the *Cost of Change* column. Your remaining ACCESS Credits Available, displayed below, will update as you make changes. When you are finished, use the **Submit** button to send your exchange request for approval.

**990**

ACCESS Credits Available

Resource	Current Allocation	Desired Balance	Cost of Change
PSC Bridges-2 Regular Memory (Bridges-2)	10 Core-hours Allocated 0 Core-hours Used	10	Core-hours 0 Credits ▲ X
PSC Bridges-2 Storage (Ocean)	1 GB Allocated 0 GB Used	1	GB 0 Credits ▲ X

IACS at Stony Brook Oakami **ADD RESOURCE**

Comments

**Summary of Changes**  
You have not made any changes.

**SUBMIT** **RESET FORM**

# Allocations Demo: Explore ACCESS

1. Choose the project type that's right for you  
*Not sure? Start with Explore ACCESS. You can always upgrade later*
2. Find the resources that meet your needs  
*Check out the [Resource Catalog](#) and the [ACCESS Support knowledge base](#)*
3. Prepare and submit your request  
*You'll need a title, abstract, a CV (PDF only), and supporting grant details (if any)*
4. Exchange ACCESS Credits for Resource time  
*The Exchange interface or [Exchange Calculator](#) will help you with the math*
5. Add other users and start using the resources  
*Each user needs their own account. Check ACCESS Support site for [resource docs](#)*



Advancing  
Innovation

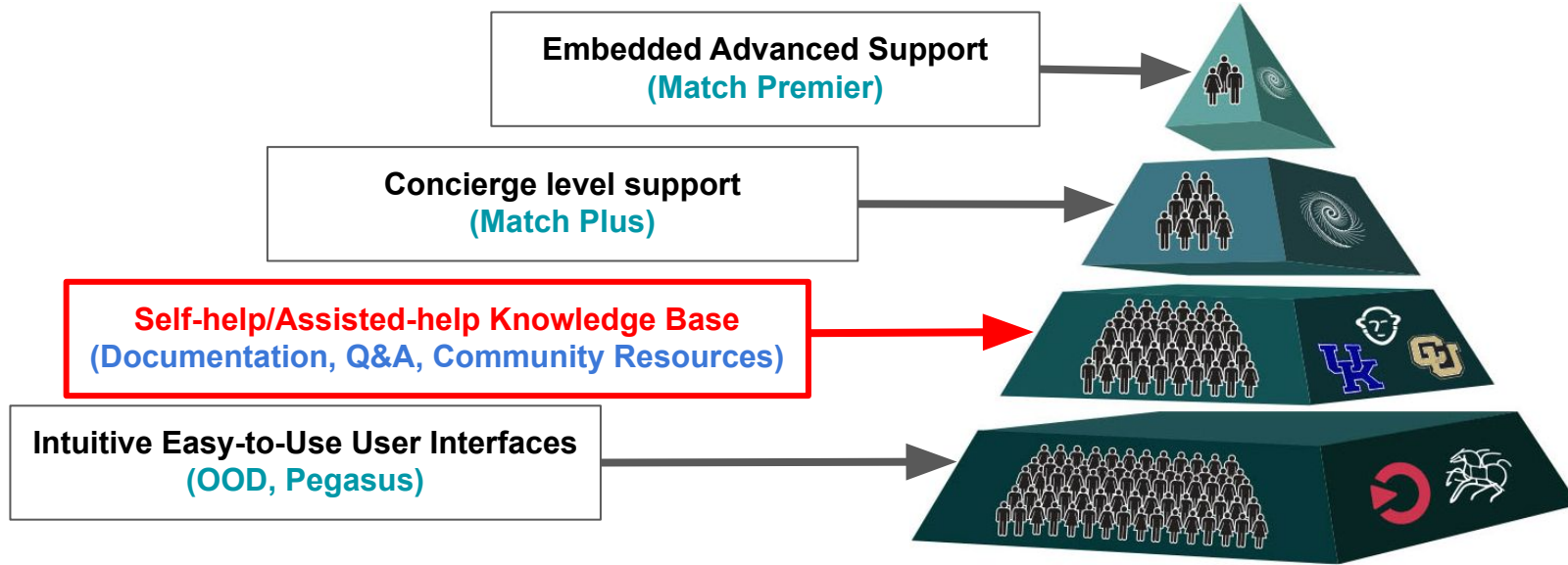
# Finding & Getting Help



# In This Section

- ACCESS Knowledge Base
  - Documentation
  - Q&A Forum
- Events & Training
- Affinity Groups

# Recall: The Support Pyramid



# ACCESS Knowledge Base Components

## Self-help Knowledge Base Components

- **Documentation** → **Confluence**
- **Community Contributed Information** → **Crowd-source Resources (Support Portal)**



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## Community/Expert-help Knowledge Base Components

- **Q&A Forums** → **Ask.CI**
- **Community Groups** → **ACCESS Affinity Groups (Support Portal)**

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## Community/Expert-help Knowledge Base Components

- Q&A Forums → **Ask.CI**
- Community Groups → **ACCESS Affinity Groups (Support Portal)**
- Ticket System → **Jira Service Management**

## RP and ACCESS Team Knowledge Base Components

- Documentation for RP/ACCESS → **Confluence Spaces, Shared Google Drives**
- Q&A Channels → **Slack**

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# ACCESS Knowledge Base Components

## Self-help Knowledge Base Components

- **Documentation** → **Confluence** ← **ACCESS Written or Reviewed**
- Community Contributed Information → Crowd-source Resources (Support Portal)

## Community/Expert-help Knowledge Base Components

- Q&A Forums → Ask.CI
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# Support Documentation

ALLOCATIONS SUPPORT OPERATIONS METRICS

ACCESS Home About News Login



LOGIN TO CREATE TICKET

Tools Knowledge Base MATCHPlus MATCHPremier Community

Supporting the ACCESS Researcher

Get Help

- Knowledge Base
- Documentation
- Q&A Forum
- Resources

## Latest News

**Upgrades to the ACCESS Ticketing System coming soon!**

**ICICLE now accepting applications for 2023 Educational Fellows Program**

**Neocortex Spring 2023 Call for Proposals Now Open**

**Upcoming Allocation Request Periods**

**SGX3 Summer Internships for Graduate Students**

All News

## Upcoming Events

4/05/2023  
**Automate Data Handling between ACCESS and On Campus Storage**

4/15/2023  
**Harnessing the Power of Cloud and Machine Learning for Climate and Ocean Advances**

4/20/2023  
**Expense: Introduction to Neural Networks, Convolution Neural Networks and Deep Learning**

4/24/2023  
**ACCESS HPC Workshop: Shared Memory Programming Using OpenMP**

All Events

Feedback

Spaces Apps Templates Create

Search

ACCESS Documentation ACCESS Documentation

Welcome to the **ACCESS Documentation** pages. These pages contain informative articles, training materials, users guides, and many other sources of information to help researchers make effective use of ACCESS resources and services.

Additional help can be found on the **ACCESS Q&A** user forums. For a complete list of ACCESS user support services including **ACCESS Chat Channels**, **ACCESS MATCH** services, **ACCESS Communities** and more please visit the **ACCESS Support Portal**.

Search the ACCESS Documentation:

Type question and hit return

Search

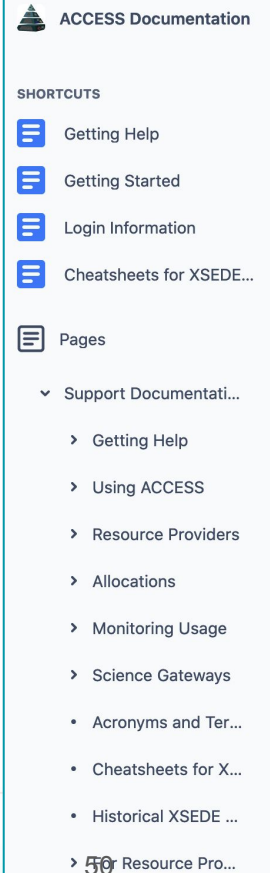
Browse the ACCESS Documentation:

- Support Documentation
  - Getting Help
    - ACCESS Support Tiers
    - Frequently Asked Questions (FAQs)
    - Frequently Used Links
    - Opening a Support Ticket
  - Using ACCESS
    - Getting Started
    - Login Information
    - Running Jobs
    - Using Storage Resources
    - File Transfer
    - Virtualization
    - Remote Visualization



# Support Documentation

- Hosted in Confluence to support shared editing
- All ACCESS team members and “RP Editors” can edit documents
  - Distributes the update effort
  - Distributes the responsibility, expertise, and trust
- Documents are edited in a “Pre-release” space
  - Allows for review by team members prior to publication
  - Allows documents to be worked on over time
- Changes are pushed out nightly to the “public” space  
(<https://access-ci.atlassian.net/wiki/spaces/ACCESSdocumentation/>)
  - Pages are anonymized before being published
  - Commenting/history is not available in the public space
- Currently hosts several hundred pages of documentation



ACCESS Documentation

SHORTCUTS

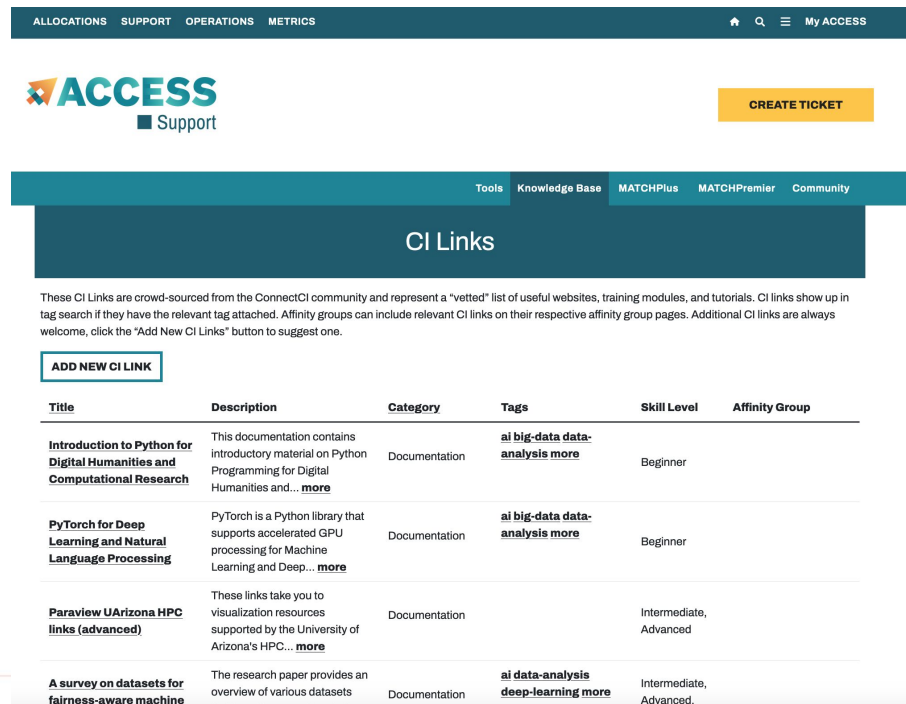
- Getting Help
- Getting Started
- Login Information
- Cheatsheets for XSEDE...

Pages

- Support Documentati...
  - Getting Help
  - Using ACCESS
  - Resource Providers
  - Allocations
  - Monitoring Usage
  - Science Gateways
  - Acronyms and Ter...
  - Cheatsheets for X...
  - Historical XSEDE ...
  - 50 Resource Pro...

# Community Contributed Information

- A key goal is to leverage information created by the Community and make them searchable by users
- ACCESS Support Team identified a list of [useful information resources developed and hosted by the community](#). CI Links are regularly scanned/indexed
- Community can contribute additional resource via the ACCESS Support Portal
- Community resources are not hosted by ACCESS, but rather direct users to the site
- Community resources are not reviewed or vetted by ACCESS team members – but are monitored and often used by team members
- Some early metrics
  - 52 new CI Links (+226%)



The screenshot shows the ACCESS Support Portal interface. At the top, there is a navigation bar with links for ALLOCATIONS, SUPPORT, OPERATIONS, and METRICS, along with a search icon and 'My ACCESS'. The main header features the ACCESS Support logo and a 'CREATE TICKET' button. Below this, a secondary navigation bar includes 'Tools', 'Knowledge Base', 'MATCHPlus', 'MATCHPremier', and 'Community'. The main content area is titled 'CI Links' and contains a paragraph explaining that these links are crowd-sourced from the ConnectCI community and represent a 'vetted' list of useful websites, training modules, and tutorials. It also includes an 'ADD NEW CI LINK' button and a table of CI Links.

Title	Description	Category	Tags	Skill Level	Affinity Group
<a href="#">Introduction to Python for Digital Humanities and Computational Research</a>	This documentation contains introductory material on Python Programming for Digital Humanities and... <a href="#">more</a>	Documentation	<a href="#">ai</a> <a href="#">big-data</a> <a href="#">data-analysis</a> <a href="#">more</a>	Beginner	
<a href="#">PyTorch for Deep Learning and Natural Language Processing</a>	PyTorch is a Python library that supports accelerated GPU processing for Machine Learning and Deep... <a href="#">more</a>	Documentation	<a href="#">ai</a> <a href="#">big-data</a> <a href="#">data-analysis</a> <a href="#">more</a>	Beginner	
<a href="#">Paraview UArizona HPC links (advanced)</a>	These links take you to visualization resources supported by the University of Arizona's HPC... <a href="#">more</a>	Documentation		Intermediate, Advanced	
<a href="#">A survey on datasets for fairness-aware machine</a>	The research paper provides an overview of various datasets that have been used to study	Documentation	<a href="#">ai</a> <a href="#">data-analysis</a> <a href="#">deep-learning</a> <a href="#">more</a>	Intermediate, Advanced,	

# Q&A Forums

- Builds on the success and enhances the Ask.CI system, integrating it into ACCESS Support Portal
- Has a large number of Community Q&A Forums where users can pose questions or answers based on their own experiences
- Some early metrics
  - 54 new topics on Ask.CI (+126%)
  - 154 new posts on Ask.CI (+121%)
  - 56 new signups to Ask.CI (+124%)
  - 30 new Ask.CI contributors (+115%)
  - 230k Ask.CI pageviews (+127%)

The screenshot shows the ASK.CYBERINFRASTRUCTURE forum interface. At the top, there is a navigation bar with the site name, a search bar, and links for 'Sign Up' and 'Log In'. Below the navigation bar is a welcome message and a list of topics. The topics are displayed in a table with columns for 'Topic', 'Replies', 'Views', and 'Activity'. Each topic entry includes a title, a category, a user profile picture, and the number of replies, views, and the time since the last activity.

Topic	Replies	Views	Activity
Choosing the ACCESS provider ■ ACCESS Support access, access-allocations	1	79	18h
Scratch tmp directory location ■ CSU Research Computing	3	92	20h
Why do I receive a QuotaExceededError when trying to open an HPC Interactive Desktop job? ■ University of Alabama at Birmingham ondemand, 0 votes	1	273	2d
Publicly accessible tutorials on working with very large geospatial data ■ Q&A data, geospatial, large-data-sets, 0 votes	4	146	7d
How do I request a Cheaha account? ■ University of Alabama at Birmingham account, researcher, 0 votes	1	292	15d
Code profiling w/ nvhpc ■ ACCESS Forums programming-for-hpc	1	92	16d
How do I renew my Campus Champions allocation? ■ ACCESS Support access-allocations	3	255	19d
HPC software management - how does your institution do it? ■ Discussion Zone software-installation	8	333	19d



# The Training Approach

## Community Driven Events

We very much want to encourage the community to drive the development of trainings and events. Anyone with an ACCESS account can create an event on the ACCESS Support portal. Incentives for hosting an event can be found in the CCEP program (more on this later).

---

### Posting Events

Do you have events or trainings you would like to share with the ACCESS community?

[ADD AN EVENT](#)

# The Training Approach

## Long-Standing Relationship with PSC

Pittsburgh Supercomputing Center has a long history of providing trainings/workshops to the research community. It made sense to work with them to maintain the relationship and for them to provide these monthly workshops.



# Industry Partners

HPE, IBM, Microsoft, Google, Dell, AMD, Amazon/AWS, Lenovo, NVIDIA, Intel and Globus

We received letters of support from several industry partners.

Globus and Nvidia are the first partners to provide training for ACCESS.

Have to be strategic about the content of training from Industry

- Audiences
- Sales



# The Approach - Industry

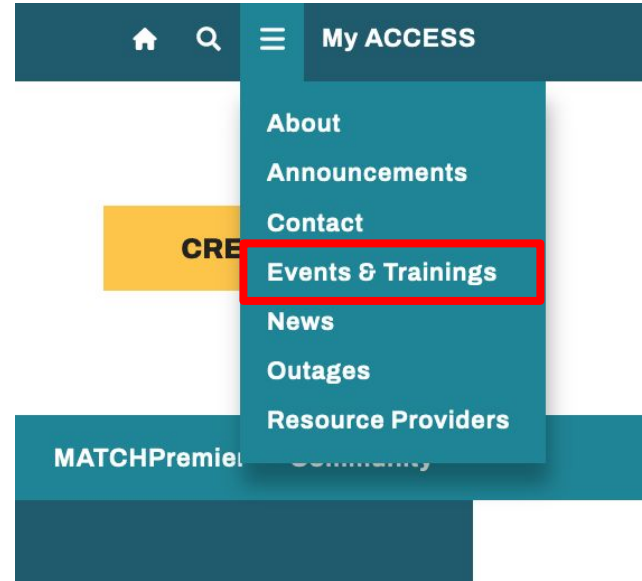
## Industry Training Policy

ACCESS Support (at its discretion) will only provide advertising / community awareness for industry training events. Industry training providers are responsible for handling all logistics for such events (including registration, account creation, content publishing, etc.).

Should Industry training providers have existing partnerships with research computing providers (whether affiliated with ACCESS or not), they are welcome to partner with them to deliver the training. ACCESS Support is willing to provide general input as to content that would be of interest to the ACCESS community.

# Finding Training & Events

- First click on the dropdown menu
- Then click on Events & Trainings
- You can also search the Knowledge Base for any keywords



# Events Pages



## Upcoming Events and Trainings

Title	Date	Time	Description
<b><u>Automate Data Handling between ACCESS and On Campus Storage</u></b>	4/05/2023	12:00 PM MDT - 12:30 PM MDT	As the volume of data generated continues to explode, the need to move data quickly and reliably for analysis, collaboration, and storage increases. Whether you want to move data off expensive instruments, sync data between local and remote resources, publish data to portals, or even archive data for long-term preservation, automating the data handling will

### Filter by

Event Type

- Any - ▾

Affiliation

- Any - ▾

Affinity Group

- Any - ▾

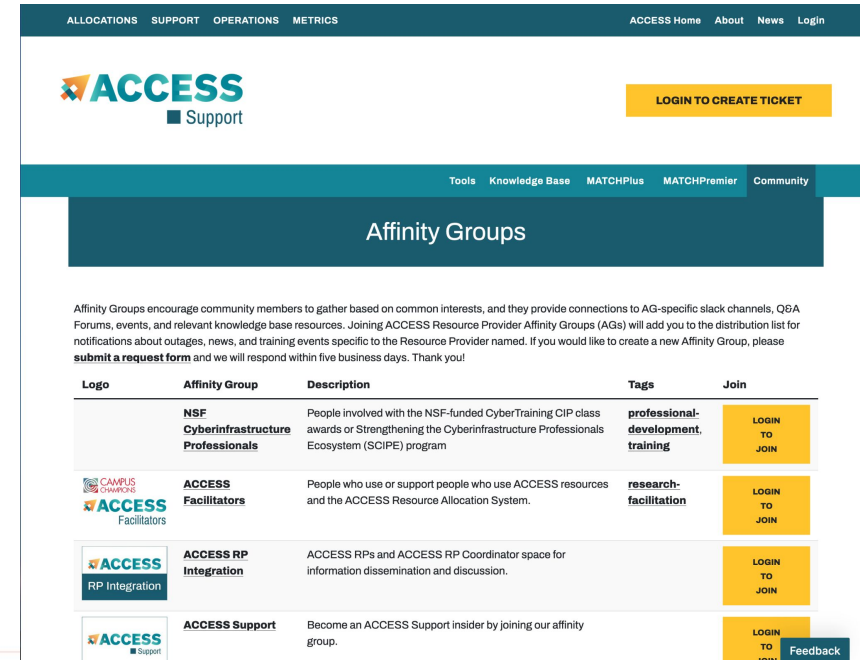
**APPLY**

# How to ACCESS! Morning Summary

- ACCESS Overview
- access-ci.org website
  - User portals
- Account creation, profiles, linking accounts
- Tickets
- Resource Providers
- Allocations
- Knowledgebase, documentation, trainings/events

# Affinity Groups

- Affinity groups have been developed as part of the CSSN to increase community involvement and exchange of ideas
- While not as focused on creating documentation, they do provide a source of knowledge that can be invaluable to user, particularly new users coming into the community






ALLOCATIONS SUPPORT OPERATIONS METRICS ACCESS Home About News Login

ACCESS Support LOGIN TO CREATE TICKET

Tools Knowledge Base MATCHPlus MATCHPremier Community

## Affinity Groups

Affinity Groups encourage community members to gather based on common interests, and they provide connections to AG-specific slack channels, Q&A Forums, events, and relevant knowledge base resources. Joining ACCESS Resource Provider Affinity Groups (AGs) will add you to the distribution list for notifications about outages, news, and training events specific to the Resource Provider named. If you would like to create a new Affinity Group, please [submit a request form](#) and we will respond within five business days. Thank you!

Logo	Affinity Group	Description	Tags	Join
	<b>NSF Cyberinfrastructure Professionals</b>	People involved with the NSF-funded CyberTraining CIP class awards or Strengthening the Cyberinfrastructure Professionals Ecosystem (SCIPE) program	<b>professional-development, training</b>	LOGIN TO JOIN
	<b>ACCESS Facilitators</b>	People who use or support people who use ACCESS resources and the ACCESS Resource Allocation System.	<b>research-facilitation</b>	LOGIN TO JOIN
	<b>ACCESS RP Integration</b>	ACCESS RPs and ACCESS RP Coordinator space for information dissemination and discussion.		LOGIN TO JOIN
	<b>ACCESS Support</b>	Become an ACCESS Support insider by joining our affinity group.		LOGIN TO JOIN

Feedback



# Self help Demo

Let's see a demonstration!

<https://support.access-ci.org/>



Advancing  
Innovation

# Ticketing



# In This Section

- General tickets
  - Suggestions
- Cybersecurity tickets

# Creating a Ticket

Still need help?

## Open a Ticket

If you can't find the support you need via the documentation or community support forums, open a ticket for expert help. Our help desk will route your request to the appropriate team.

[CREATE A TICKET](#)




# Creating a Ticket

- Features to Highlight
  - Dropdown menu for issues
  - Keywords
  - Summary auto populate

## ACCESS Ticket Submission

Please use the form below to submit an ACCESS ticket.

What can we help you with?

 ACCESS User Support Request  
Need help using ACCESS? Select this to request assistance.

Email confirmation to \*

Your ACCESS ID \*

winona@access-ci.org

Enter your ACCESS ID

Your Name \*











Winona Snapp-Childs

Enter your name

Summary \*

ACCESS Support Issue \*

Description \*

Normal text ▾ **B** *I* ...  ▾         

Priority

Medium

Please select medium, low or lowest priority unless this is an emergency.

# Suggested Documentation

Summary

Help with

Suggested articles



## GETTING **HELP**

ACCESS is here to **help**, but also offers several methods for helping yourself, including:



## HOW TO GET **HELP** SUBMITTING AN ALLOCATIONS REQUEST

Under Problem Synopsis enter: Allocation request **help**.

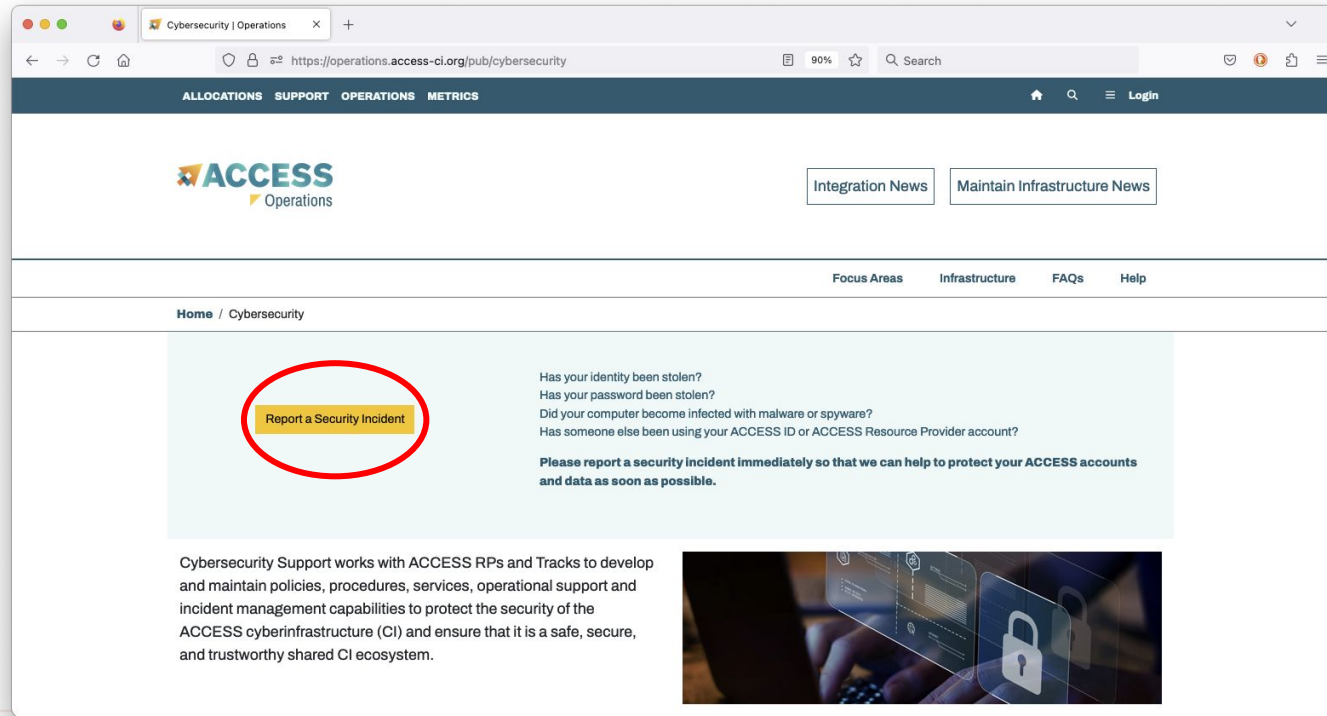


## ACCESS DOCUMENTATION

Additional **help** can be found on the ACCESS Q&A user forums. For a complete list of ACCESS user support services including ACCESS Chat Channels, ACCESS MATCH services, ACCESS Communities and more please visit the ACCESS Support Portal.

# ACCESS Cybersecurity

<https://operations.access-ci.org/pub/cybersecurity>



The screenshot shows a web browser window with the URL <https://operations.access-ci.org/pub/cybersecurity>. The page features a dark blue navigation bar with links for ALLOCATIONS, SUPPORT, OPERATIONS, and METRICS. Below the navigation bar is the ACCESS Operations logo and two buttons: 'Integration News' and 'Maintain Infrastructure News'. A secondary navigation bar includes 'Focus Areas', 'Infrastructure', 'FAQs', and 'Help'. The main content area is titled 'Home / Cybersecurity' and contains a light blue box with a yellow button labeled 'Report a Security Incident' circled in red. To the right of the button are four questions: 'Has your identity been stolen?', 'Has your password been stolen?', 'Did your computer become infected with malware or spyware?', and 'Has someone else been using your ACCESS ID or ACCESS Resource Provider account?'. Below these questions is a bolded instruction: 'Please report a security incident immediately so that we can help to protect your ACCESS accounts and data as soon as possible.' Further down, there is a paragraph of text and a small image of a person's hands typing on a keyboard with a digital overlay of a padlock and data.

ALLOCATIONS SUPPORT OPERATIONS METRICS

ACCESS Operations

Integration News Maintain Infrastructure News

Focus Areas Infrastructure FAQs Help

Home / Cybersecurity

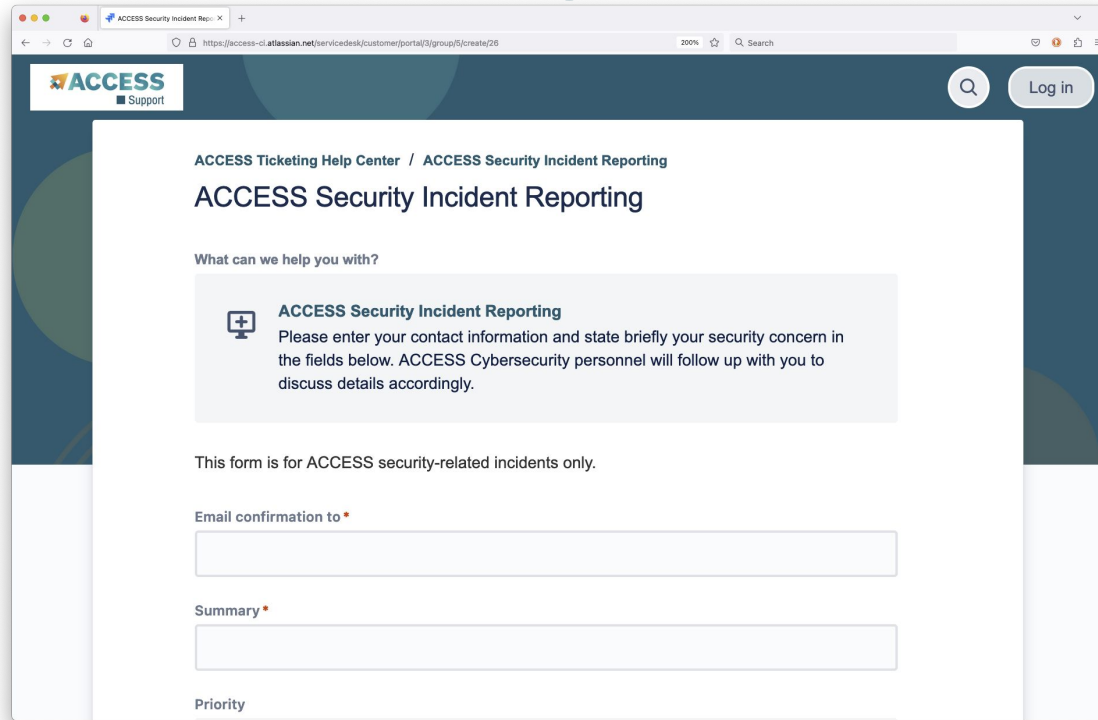
**Report a Security Incident**

Has your identity been stolen?  
Has your password been stolen?  
Did your computer become infected with malware or spyware?  
Has someone else been using your ACCESS ID or ACCESS Resource Provider account?

**Please report a security incident immediately so that we can help to protect your ACCESS accounts and data as soon as possible.**

Cybersecurity Support works with ACCESS RPs and Tracks to develop and maintain policies, procedures, services, operational support and incident management capabilities to protect the security of the ACCESS cyberinfrastructure (CI) and ensure that it is a safe, secure, and trustworthy shared CI ecosystem.

# Incident Reporting Form



The screenshot shows a web browser window displaying the ACCESS Security Incident Reporting form. The browser's address bar shows the URL: <https://access-cl.atlassian.net/service desks/customer/portal/3/group/5/create/26>. The page header includes the ACCESS Support logo, a search icon, and a "Log in" button. The main content area features the breadcrumb "ACCESS Ticketing Help Center / ACCESS Security Incident Reporting" and the title "ACCESS Security Incident Reporting". Below the title, a section titled "What can we help you with?" contains a card for "ACCESS Security Incident Reporting" with a plus icon. The card text reads: "Please enter your contact information and state briefly your security concern in the fields below. ACCESS Cybersecurity personnel will follow up with you to discuss details accordingly." Below this card, a note states: "This form is for ACCESS security-related incidents only." The form includes three input fields: "Email confirmation to\*" (with a red asterisk), "Summary\*" (with a red asterisk), and "Priority".



# Self help Demo

Let's see a demonstration!

<https://support.access-ci.org/>

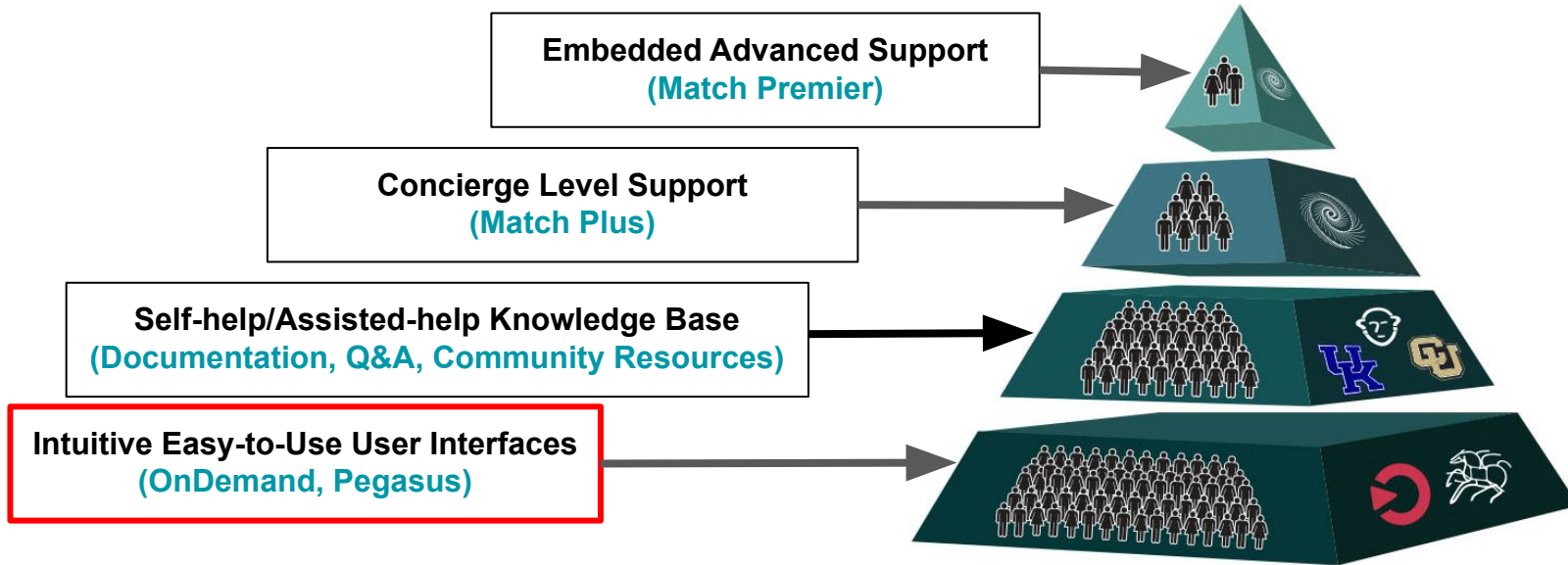
# User Tools

# In This Section

- Open OnDemand
- Pegasus
- XDMoD

# Recall: ACCESS Support

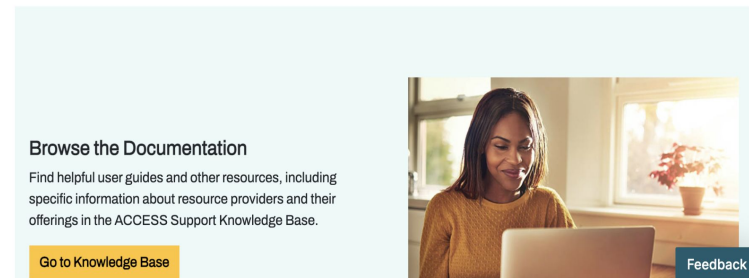
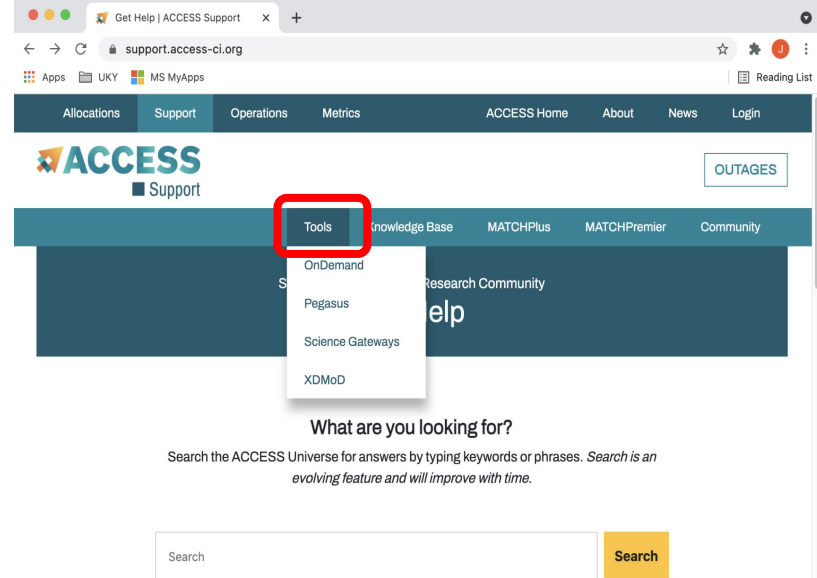
Integrating tools, information, community and experts



# Tools

Clicking the Tools menu exposes the following tools:

- OnDemand
- Pegasus
- Science Gateways
- XDMoD



# ACCESS Support Strategy

Reduce the need for support by simplifying access to resources



Powerful Tools  
& Workflows

## OnDemand

■ INTEGRATED WEB-BASED INTERFACES

Schedule jobs, manage files, create remote visualizations and use a host of other valuable services.



## Pegasus

■ AUTOMATED WORKFLOWS

Simplify complex data workflows on distributed computing resources, such as clusters, grids, and clouds.

**Pegasus is a user-side capability**

# ACCESS OnDemand Goals

Improve productivity for researchers by integrating Open OnDemand with ACCESS services (e.g, authentication, support portal, and metrics)

Decrease effort for resource providers to install, configure, and update OnDemand through managed releases with accompanying integration roadmaps

# Why Use Open OnDemand?

Access your organization's supercomputers through the web to compute from anywhere, on any device.



## Zero installation

Run Open OnDemand entirely in your browser. No client software installation required.

## Easy to use

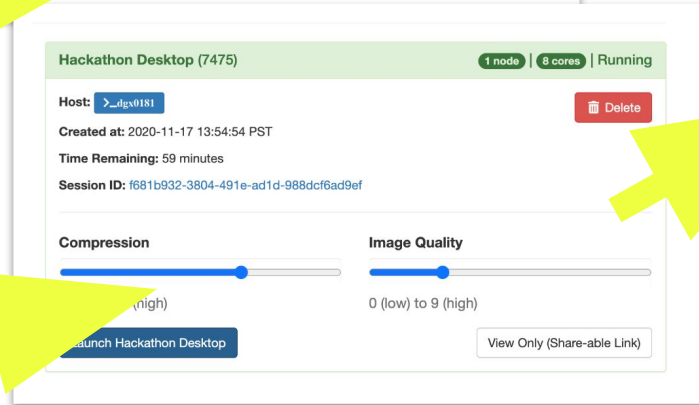
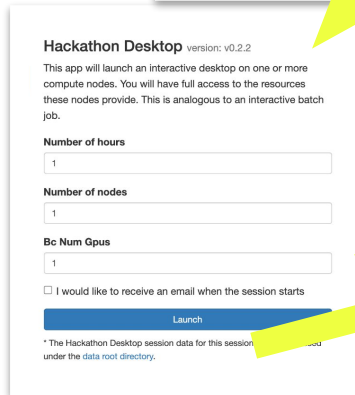
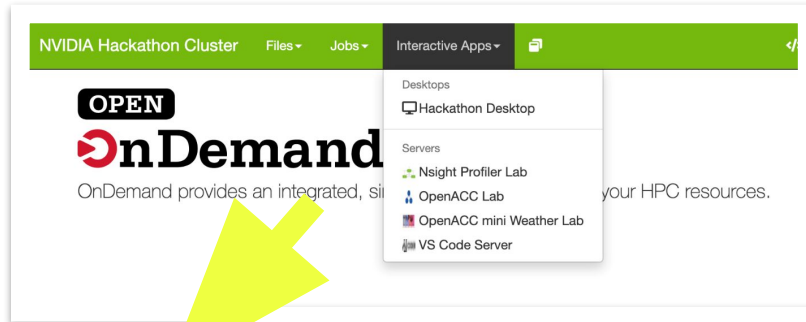
Start computing immediately. A simple interface makes Open OnDemand easy to learn and use.

## Compatible with any device

Launch on any device with a browser—even a mobile phone or tablet.



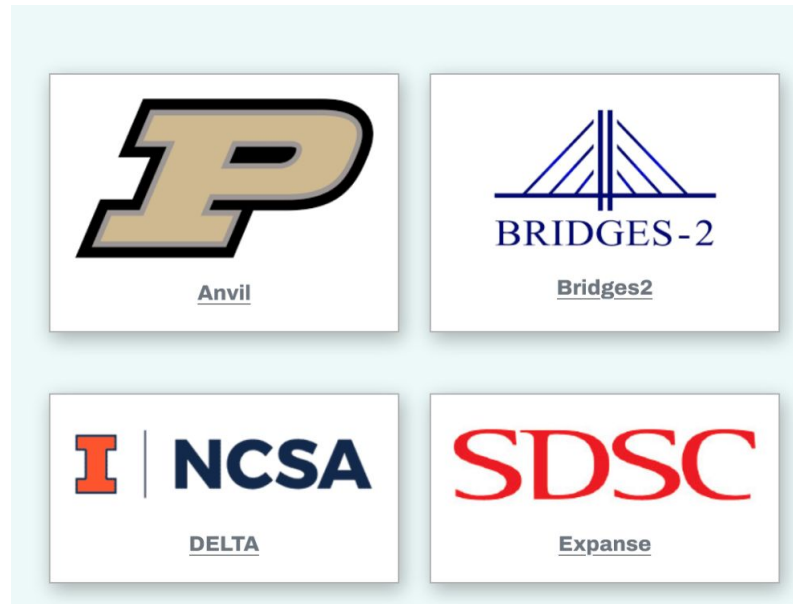
# Open OnDemand Desktop Example



# OnDemand Pilot

Initially targeted current OnDemand deployments on four ACCESS resources.

Held meetings with each RP to gather input on OnDemand



# OnDemand Deployments

Now deployed  
at 7 out of 12  
possible RPs



Hive



FASTER

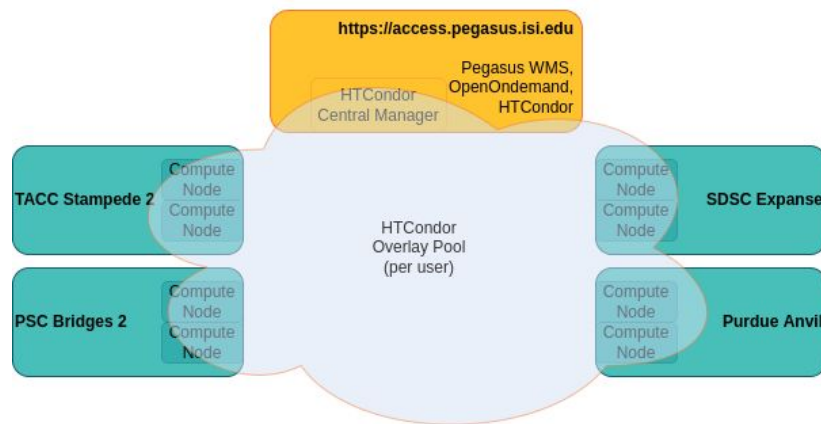
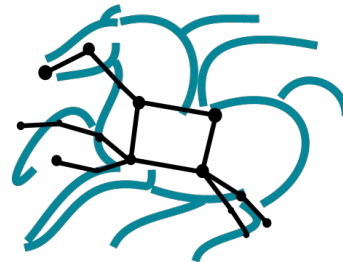
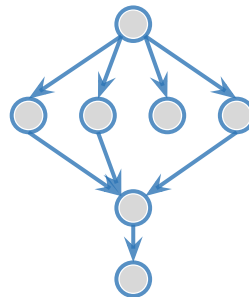


JOHNS HOPKINS  
UNIVERSITY

Rockfish

# ACCESS Pegasus

- ACCESS Pegasus, a complete hosted environment to run high throughput (HTC) workflows across multiple ACCESS resources.
- Includes OpenOnDemand web interface, Jupyter notebooks for workflow creation and management, and HTCondor Annex to submit pilot jobs to ACCESS resources.
- Provisionable resources:
  - *Purdue Anvil*
  - *SDSC Expanse*
  - *PSC Bridges 2*
  - *IU Jetstream2*
- HTCondor pool created dynamically across one or more of the above resources



# OpenOnDemand + Jupyter for Workflows

CI Login with your ACCESS ID and institutional login

All ACCESS users with an active allocation automatically have access

The image shows two overlapping browser windows. The background window is the ACCESS Pegasus dashboard, featuring a navigation bar with 'ACCESS Pegasus', 'Apps', 'Files', 'Clusters', 'Pegasus Apps', 'ACCESS', and 'My Interactive Sessions'. It includes a 'Pinned Apps' section with 'Jupyter Notebook' and 'Local Shell Access', and a 'Message of the Day' section with a 'Quickstart' guide. The foreground window is a Jupyter Notebook titled '04-Examples-Variant-Calling', displaying a workflow diagram with nodes and arrows, and a table of tools used in the workflow.

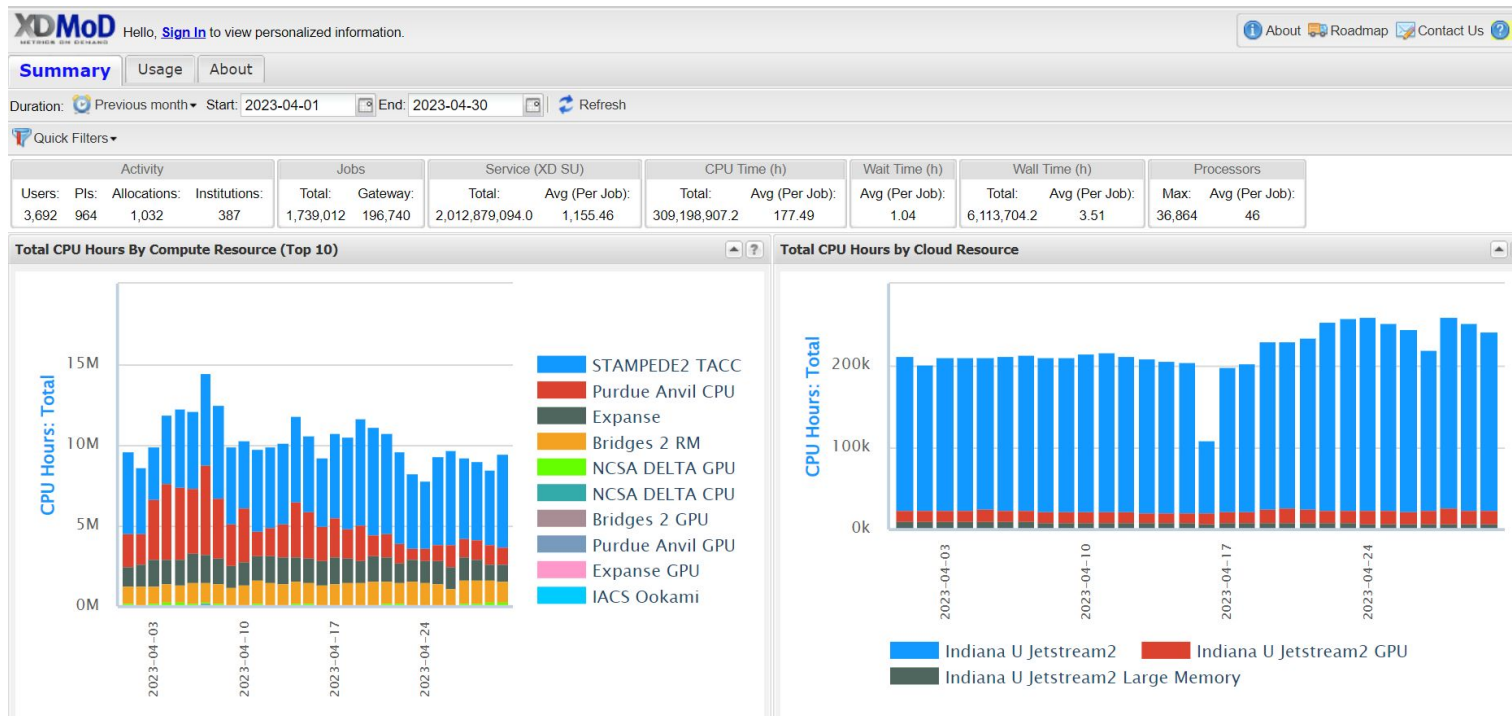
Job Label	Tool Used
bwa	bwa
fastqc_dump	fastqc_dump
align_reads	bwa
sam_2_bam_converter	sambtools

# Metrics with XDMoD

<https://metrics.access-ci.org/>

Launch ACCESS XDMoD

# Metrics with XDMoD



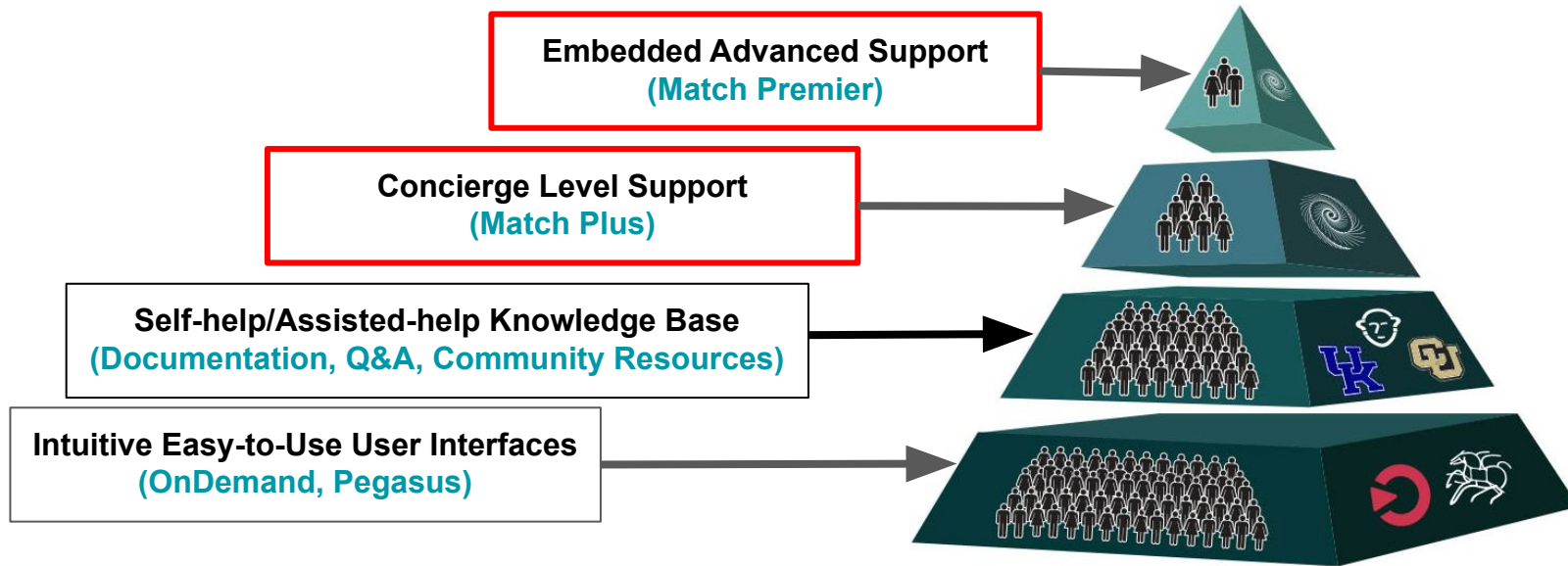
# ACCESS MATCH Services and Community Engagement



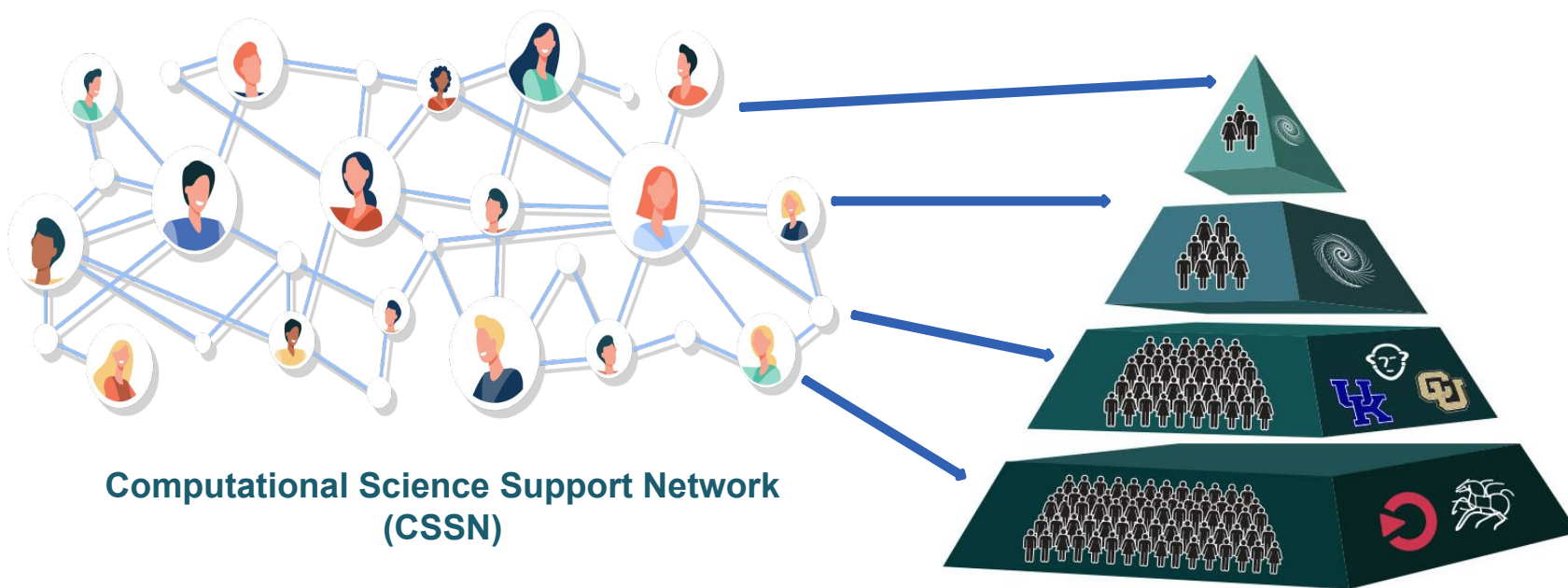
# In This Section

- CSSN
- MATCHPlus
- MATCHPremier
- CCEP

# Recall: The Support Pyramid



# Engaging the Community

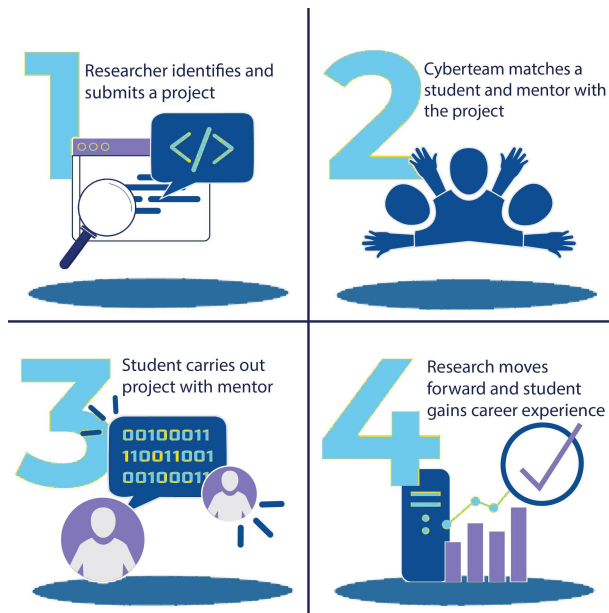


**Computational Science Support Network (CSSN)**

# MATCH Services

- Provide researchers with support when tools, self-service knowledge base and ticket submission options are not sufficient
- Create a scalable approach to providing support
- Proven methodology from Northeast and CAREERS cyberteams, adapted to national scale

# MATCH Plus Engagement Process



*Image courtesy of CAREERS Cyberteam*

Users often need short-term assistance transitioning to a new resource (e.g. local cluster to ACCESS resource), or removing a roadblock (e.g. replacing a stage in a workflow to better performance/scale)

What we provide:

- Researcher can submit a project via the MATCH Plus Page
- We match projects with a student and an experienced mentor
- This is a ~ 6-month engagement

## Apply for MATCHPlus

Receive expert CSSN research support

Collaborate with a mentor/student pairing

Work with subject matter experts

Benefit from support dedicated to advancing  
your scientific research

**REQUEST A PILOT  
ENGAGEMENT**

*Fill out our online form*

## Join our Mentors

Leverage your expertise

Mentor a student research facilitator

Help advance scientific breakthroughs

Help drive evolving and emerging research

**BECOME A MENTOR**

*Fill out our online form*

## Be a Student-Facilitator

Gain cutting-edge research experience

Work with a CSSN mentor and expert

Help drive scientific research

Showcase your expertise, learn new skills  
and gain experience

**JOIN MATCHPLUS**

*Fill out our online form*

<https://support.access-ci.org/matchplus>

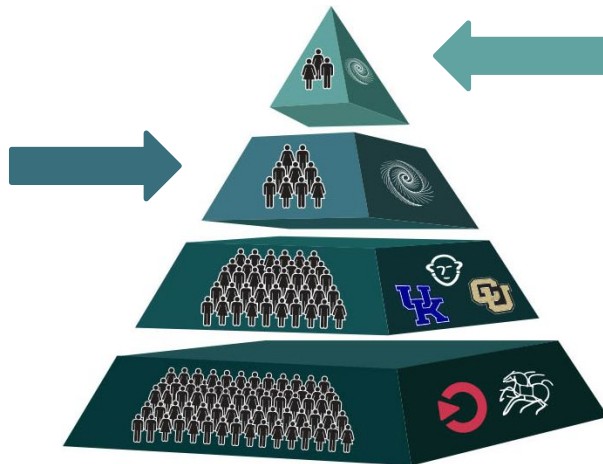
# MATCH Engagements

$$M_{+} = R + S + M$$

## MATCH Plus

Researchers assisted by a student and their mentor

 < 6 MONTHS, “funded” by ACCESS Support



$$MP = R + C$$

## MATCH Premier

Researchers assisted by an expert consultant

 6+ MONTHS, funded by researcher

# CSSN Community Engagement Program (CCEP) Evolution/Creation

- ❖ Community Engagement & Building
- ❖ Travel Rewards for Contributions
- ❖ Multiple Tiers (\$750-\$2500)
  
- ❖ Open to all:
  - 18+
  - New and existing ACCESS users
  - US-based institution





# CCEP Opportunities for Travel Grants

## Community Grants

- ❖ Pre-planned, pre-approved efforts
- ❖ Submit a lightweight written outline of proposed work
- ❖ Reviewed by Community Grants committee

## Contribution Rewards

### Tier 1

- ❖ Contributions to the knowledgebase of existing literature and links
- ❖ Ask.CI Contributions

### Tier 2

- ❖ Committee Involvement
- ❖ Student Mentorship



## Community Grants

Plans to create **NEW** documentation, videos, tutorials or live events **must be approved before work is started**. Submissions will be reviewed once a month by the community grants committee.

### TIER 1 (\$1,000)

- ✓ One contribution

#### Contribution examples:

- o An extensive page of technical documentation
- o A step-by-step written tutorial
- o A recorded workshop or tutorial

### TIER 2 (\$2,500)

- ✓ One contribution
- ✓ AND one live community event

#### Live Community Event examples:

- o A workshop or tutorial
- o A DEI meeting
- o A gathering of students/faculty/staff to promote awareness and use of ACCESS resources

Apply two months prior to the conference of your choosing.

Visit here to apply:

<https://support.access-ci.org/ccep-pilot>

1:1 office hours to assist with submissions is available:

[alana.romanella@colorado.edu](mailto:alana.romanella@colorado.edu)



## Community Contribution Rewards

Please contribute first, then apply for your reward.

Submissions will be reviewed once a month by the Ask.CI committee.

### TIER 1 (\$750 / \$1000 / \$2500)

#### Contributions to the Knowledge Base CI Links, or Ask.CI

- ✓ At least 3 contributions in 12 months (\$750)
- ✓ At least 6 contributions in 12 months (\$1000)
- ✓ At least 9 contributions in 12 months (\$2500)

#### TIER 1 contribution examples:

- o Post a topic or reply on [Ask.CI](#)
- o Submit an already completed tutorial, documentation, or training to [ACCESS Support CI Links](#)
- o Submit a website that contains helpful HPC/research computing documentation to [ACCESS Support CI Links](#)

### TIER 2 (\$2,500)

- ✓ Mentor a student for 6 months as part of an active MATCHPlus award\*
- or
- ✓ Serve on the MATCH Steering, Ask.CI, or Community Grants committees\*

\* Due to overwhelming interest in mentoring students and serving on our committees, we have closed applications for mentor and committee positions at this time. We will reopen applications in June. Thank you for making our pilot a success!

