

HIGH PERFORMANCE RESEARCH COMPUTING

ACES: Applying for Allocations - ACCESS, NAIRR, TAMUS/ TAMU

HPRC Short Course
September 9, 2025



High Performance
Research Computing
DIVISION OF RESEARCH



ACES
ACCELERATING COMPUTING
FOR EMERGING SCIENCES

Outline

- Introduction to ACES
- Obtaining an ACCESS ID/Account
- ACCESS Project Types
- Exchanging ACCESS Credits for ACES Service Units
- NAIRR Pilot Projects
- Getting Started on the TAMU ACCESS & NAIRR Clusters

Introduction to ACES



ACES



- ACES is a Dell cluster with a rich accelerator testbed
 - NVIDIA H100 and A30 GPUs
 - Intel Max GPUs (PVC)
 - Graphcore IPUs (Intelligence Processing Units).
 - Intel FPGAs (Field Programmable Gate Arrays)
 - NEC Vector Engines
 - NextSilicon co-processors

<https://hprc.tamu.edu/kb/User-Guides/ACES>

ACES System Description

Component	Quantity	Description
Sapphire Rapids Nodes: Compute Nodes Data Transfer Nodes Login & Management Nodes	110 nodes 2 nodes 5 nodes	96 cores per node, dual Intel Xeon 8468 processors 512 GB DDR5 memory 1.6 TB NVMe storage Compute: NVIDIA Mellanox NDR 200 Gbps InfiniBand adapter DTNs & Login & Management nodes: 100 Gbps Ethernet adapter
Ice Lake Login & Management Nodes	2 nodes	64 cores per node, dual Intel Xeon 8352Y processors 512 GB DDR4 memory 1.6 TB NVMe storage NVIDIA Mellanox NDR 200 Gbps InfiniBand adapter
PCIe Gen4 Composable Infrastructure	50 SPR nodes	Dynamically reconfigurable infrastructure that allows up to 20 PCIe cards (GPU, FPGA, etc.) per compute node
PCIe Gen5 Composable Infrastructure	60 SPR nodes	Dynamically reconfigurable infrastructure that allows up to 16 H100s or 14 PVCs per compute node
NVIDIA InfiniBand (IB) Interconnect	110 nodes	Two leaf and two spine switches in a 2:1 fat tree topology
DDN Lustre Storage	2.5 PB usable	HDR IB connected flash and disk storage for Lustre file systems

The Launch Cluster

- Dell Linux cluster
- 45 compute nodes (8,640 cores)
 - 35 compute nodes with 384 GB memory
 - 10 GPU compute nodes with 768 GB memory two NVIDIA A30s
- 2 login nodes
 - Both with 384 GB memory
 - Second login node has one NVIDIA A30
- More info:
<https://hprc.tamu.edu/kb/User-Guides/Launch/Hardware/>



Obtaining an ACCESS ID/Account

ACCESS Allocations

What is an **allocation**?

To get started, you need an ACCESS project and some resource units you can spend. **Your ACCESS project and resource units are what we refer to as an Allocation.** An allocation is your project to use a portion of a shared resource.

Through ACCESS, you can get an allocation to use computing and data resources to accomplish your research or classroom objectives.

GET YOUR FIRST PROJECT
HERE

Which **resources**?

We've got modeling and analysis systems, GPU-oriented systems, large-memory nodes, storage, and more. Resource providers have designed their systems to serve a wide range of research and education needs — including yours!

LEARN MORE ABOUT
RESOURCES

Ready to get **started**?

It costs you nothing (really!), and you don't need an NSF award. To begin, you just need to

LOGIN

or

Create an Account

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

ACCESS New User Registration

Get Started

ACCESS is a large, distributed ecosystem. We want to make it easy for you to get started. We've compiled information and quick links just for you.

I'm a researcher

Get cutting-edge
cyberinfrastructure for
your research.

I'm an educator

Bring supercomputing
into your classroom.

I'm a graduate student

Learn how to become
eligible for ACCESS
allocations.

I'm a resource provider

Manage and optimize
your resource.

I represent a program or organization

See what ACCESS can
do for your research
community.

Are you a student at least 18 years
of age and interested in a career in
cyberinfrastructure?

[Explore the Student Training and
Engagement Program](#)

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

ACCESS New User Registration

Two Options for New User Registration

If you don't already have an XSEDE or ACCESS account, there are two registration options:

1. **Register with an existing identity**: Using an existing University account when registering with ACCESS simplifies the sign-up process and enables you to log in to ACCESS using that existing account. With this option, creating an ACCESS-specific password is optional during registration, and you will also have the option to create an ACCESS-specific password later if needed.

If your University is not included in the listing or you have trouble logging in with your University account, please use the other registration option.

2. **Register without an existing identity**: With this option, you'll be prompted to enter all your registration info and select an ACCESS-specific password and set up **Duo MFA for ACCESS**. You can **link** a GitHub, Google, Microsoft, ORCID, or University account later if desired.

When configuring Duo MFA, we recommend that you **install the Duo security app** on your phone and configure it to use Duo Mobile / **Duo Push**. We do not recommend the **Phone Call** option, because it is unreliable.

<https://operations.access-ci.org/identity/new-user>

ACCESS New User Registration



Getting Started with ACCESS

[Home](#) [User Guides](#) [Software](#) [Helpful Pages](#) [FAQ](#)

Helpful Pages

[How to Connect](#)

[Getting Started with ACCESS](#)

[myproject for Project Allocations](#)

[File Transfer](#)

[Extra Storage Options](#)

[tamubatch utility](#)

[Hosting a Credit-Bearing Course](#)

[Batch Job Translation Guide](#)

Create your ACCESS ID

Fill in your details and proceed through the next several steps.

ACCESS Registration

Please click the button to begin and complete the form. You will be asked for your name and an email address.

BEGIN ➡

Name*

Given Name *

<https://hprc.tamu.edu/kb/Helpful-Pages/ACCESS-ID/#create-your-access-id>

ACCESS Project Types

ACCESS Projects

Get Your First Project

Getting a project is the first step toward accomplishing your research, development, or instructional goals. Follow these steps to get your first project and use resources in the ACCESS ecosystem.

Create an ACCESS Account and Log In



Choose the Project Type that's Right for You



Find the Resources that Fit Your Needs



Prepare and Submit Your Request



Exchange Credits for Resource Time



Add Users & Start Using Resources!



<https://allocations.access-ci.org/get-your-first-project>

Four Project Types

- [EXPLORE](#) — Great for resource evaluation, graduate student projects, small classes and training events, benchmarking, code development and porting, and similar small-scale uses.
- [DISCOVER](#) — Designed for research grants with modest resource needs, Campus Champions, large classes and training events, graduate student projects, benchmarking and code testing at scale, and gateway development.
- [ACCELERATE](#) — Best for experienced users with mid-scale resource needs, consolidating multi-grant programs, collaborative projects, preparing for Maximize ACCESS requests, and gateways with growing communities.
- [MAXIMIZE](#) — The choice for large-scale research activities that need more resources than the limit for Accelerate ACCESS projects.

<https://allocations.access-ci.org/project-types>

Comparison of Project Types

Project Type	Explore	Discover	Accelerate	Maximize
ACCESS Credits*	400,000	1,500,000	3,000,000	Awarded in resource units
Project duration	Supporting grant duration or 12 months	Supporting grant duration or 12 months	Supporting grant duration or 12 months	12 months
Requests accepted	Anytime	Anytime	Anytime	Every 6 months
	Multiple requests allowed	Multiple requests allowed	Multiple requests allowed	1 allowed (some exceptions)
Requirements and review process	Overview	1-page proposal	3-page proposal (max. length)	10-page proposal (max. length)
	Confirmation of eligibility and suitability of requested resources	Confirmation of eligibility and suitability of requested resources	Panel merit review	Panel merit review

<https://allocations.access-ci.org/project-types>

Explore ACCESS Request



Applicants must submit:

- A summary of the planned work
- NSF biosketch, CV or Resume for PI and Co-PIs (pdf)
- Graduate Students will need a Letter of collaboration from advisor
- Data fields:
 - Title of project
 - Research keywords
 - Field of science
 - Supporting grant details, if applicable

See <https://allocations.access-ci.org/current-projects> for examples of public abstracts

<https://allocations.access-ci.org/prepare-requests>

Discover ACCESS Request



Applicants must submit:

- All items required for the Explore request
- One-page description of proposed use of ACCESS resources
 - How you plan to use ACCESS resources
 - Research or Education Objectives (e.g., research questions, classroom exercises, other activities)
 - Description of resource needs
 - Specific computing architectures (e.g. GPUs, large memory)
 - Storage needs
 - Specific software needed

<https://allocations.access-ci.org/prepare-requests>

Accelerate ACCESS Request

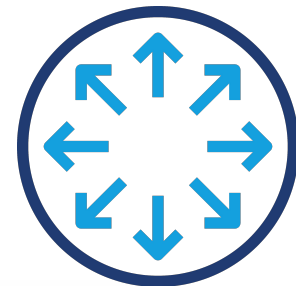


Applicants must submit:

- All items required for the Explore request
- Three-page description of the project, explaining how you plan to use ACCESS resources
 - Research Objectives
 - Estimate of Compute, Storage, and Other Resources
 - Computational plan
 - Software & Specialized Needs
 - Team and Team Preparedness (team qualifications and readiness)

<https://allocations.access-ci.org/prepare-requests>

Maximize ACCESS Request



Maximize allocations are for large-scale research projects that are beyond the scope of an Accelerate allocation.

Maximize requests are open for submission on a semi-annual basis

Please visit: <https://allocations.access-ci.org/prepare-requests> for submission windows and instructions to submit a successful Maximize ACCESS request.

<https://allocations.access-ci.org/prepare-requests>

Exchanging ACCESS Credits for ACES Service Units

Where to Exchange ACCESS Credits

▼ TRA230003: ACES Educational Active

Explore: Jan 27, 2025 to Jan 26, 2026

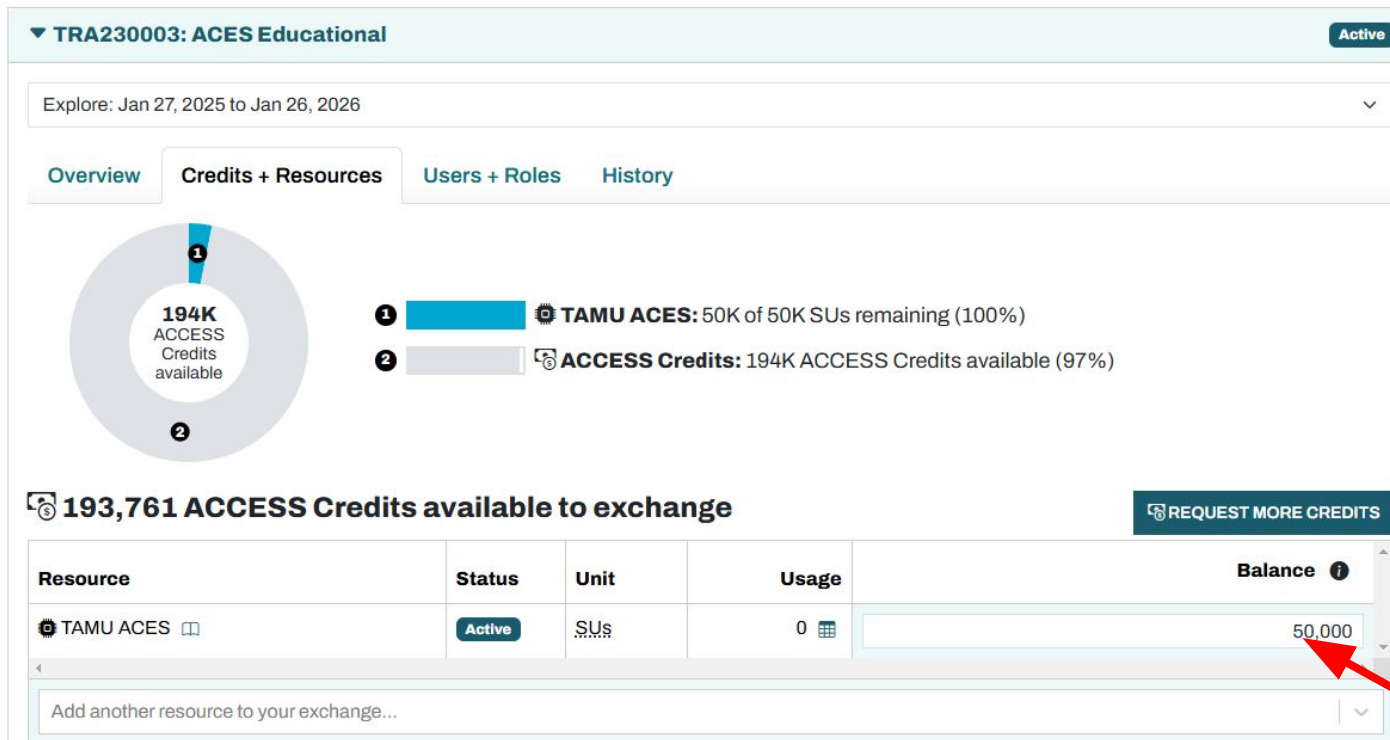
Overview Credits + Resources Users + Roles History

 193,761 ACCESS Credits available Exchange credits for resources! >

Resource	Status	Balance	End Date	Users	My Username
 TAMU ACES 	Active	50K of 50K SUs remaining (100%)	Jan 26, 2026	11	u.sn117155

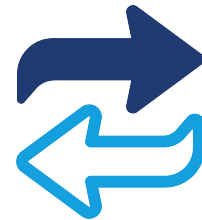
<https://allocations.access-ci.org/>

Where to Exchange ACCESS Credits



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

ACCESS Exchange Calculator

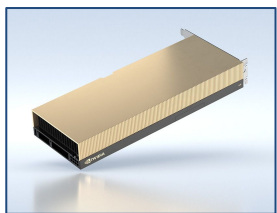


Exchange Rates Overview

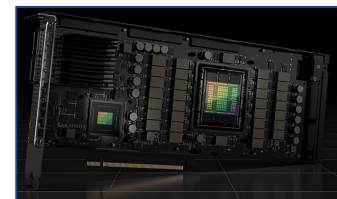
Units	Target System
1,000	ACCESS Credits
8,015	TAMU ACES
8,015	TAMU Launch

https://allocations.access-ci.org/exchange_calculator

ACES Charging Scheme



Effective GPU	Service Units (per hour)
NVIDIA A30	64
NVIDIA H100	128
Intel PVC GPUs	30
Bittware Agilex FPGA	30
NEC Vector Engine	75
NextSilicon Co-processor	50
Graphcore IPU Classic	45
Graphcore IPU Bow	60
Intel Optane Memory	30



<https://hprc.tamu.edu/kb/User-Guides/AMS/#aces>

NAIRR Pilot Projects

Advancing US Innovation in Artificial Intelligence

The NAIRR Pilot aims to connect U.S. researchers and educators to computational, data, and training resources needed to advance AI research and research that employs AI.

490+

Research projects supported

[VIEW RESOURCE ALLOCATIONS](#)

49

States + DC represented

[VIEW PROJECTS MAP](#)

50

NAIRR Classroom awards

[VIEW RESOURCE ALLOCATIONS](#)

23

Infrastructure & data demo projects

[VIEW DEMONSTRATION PROJECTS](#)

3

Community workshops (more scheduled)

[VIEW UPCOMING EVENTS](#)

[Learn more about NAIRR Pilot](#)

[Subscribe for Updates](#)

<https://nairrpilot.org/>



What is the NAIRR?

“AI holds the potential to accelerate discovery and innovation and help solve critical societal and global challenges. However, many researchers lack the necessary access to the AI resources needed to fully conduct their research activities and to train the next generation of researchers. The National Artificial Intelligence Research Resource (NAIRR) is a concept for a shared national research infrastructure to bridge this gap by connecting U.S. researchers to responsible and trustworthy Artificial Intelligence (AI) resources, as well as the needed computational, data, software, training, and educational resources to advance research, discovery, and innovation. The aim is to ensure that AI resources and tools are equitably accessible to the broad research and education communities in a manner that advances trustworthy AI and protects privacy, civil rights, and civil liberties.”

<https://nairrpilot.org/about>

What is the NAIRR Pilot?

“The purpose of the NAIRR Pilot is to demonstrate the NAIRR concept and advance its main goals, namely to: spur innovation, develop workforce talent, improve capacity, and advance safe, secure, and trustworthy AI in research and society. The NAIRR Pilot aims to address researcher needs by increasing access to a different ensemble of AI-related infrastructure resources including computational capabilities, AI-ready datasets, pre-trained models, software systems and platforms. This is an iterative process, beginning with the initial launch of the NAIRR Pilot in January 2024. In its first Phase, the NAIRR Pilot is providing researchers and educators with:

- The ability to apply for access to advanced computing, software, platforms, and collaborations for AI [research](#) and [education](#).
- Access to a growing [list of contributed AI-specific resources](#), such as pre-trained models, AI-ready datasets, and relevant platforms.

More background on the first phase of the NAIRR Pilot and engagement mechanisms for your research communities can be found at the following [NSF webinar recording](#) held February 21, 2024. The NAIRR Pilot will continue to bring together government-supported and non-governmental contributed resources in phases over a two year period to demonstrate the NAIRR concept and to deliver early capabilities to the U.S. research and education community.”

<https://nairrpilot.org/about>

NAIRR Pilot to Advance AI Research

Cross-cutting focus areas:

- Advancing AI methods that enable scientific discovery and improve AI interpretability, security and trust.
- Accelerating time to science and innovation through AI enabled automation, autonomy and novel design and control processes.
- Applying AI to use, share, or integrate sensitive data from multiple sources to enable new experimental methods and discovery.
- Advancing approaches for integrating simulations and AI.
- Creating or developing open-source AI tools, models, datasets, and methods.
- Training and educating the next generation AI-savvy workforce.



<https://nairrpilot.org/opportunities/allocations>

NAIRR Pilot Example

This project uses ACES for it's AI work with large language models.

(NAIRR240218) Detection and Recognition of Euphemisms

[Copy Link](#)

Feldman, Anna (Montclair State University)

Field of Science

Artificial Intelligence and Intelligent Systems

Project Type

NAIRR Pilot

Dates

2024-10-25 to 2025-10-25

Resources



Abstract



Detecting and interpreting figurative language is a rapidly growing area in Natural Language Processing (NLP). However, the processing of euphemisms in NLP has been largely underdeveloped thus far. This project addresses two main issues: 1) the design of algorithms for detecting and interpreting euphemisms, and 2) enhancing the interpretability of black-box neural models by creating new datasets and tasks. These explore the embedding space of transformer language models for euphemism recognition. We find a way to quantify several aspects: 1) euphemistic expressions and their paraphrased counterparts differ in the strength of the sentiment they convey; 2) the interpretation of euphemistic and non-euphemistic expressions is context-sensitive; 3) euphemisms are vaguer than the taboo expressions they replace. The experiments test which linguistic properties of euphemisms are captured by deep learning approaches and why. The developed

<https://nairrpilot.org/projects/awarded>

Classroom/Educator Resources



“To request access to NAIRR Pilot Classroom resources, you must prepare a description, no longer than three (3) pages, describing your course and requirements for computational resources available through this program. Do not include any proprietary information in proposals.”

Eligibility

“This call is open to proposals by US based educators and researchers who are teaching undergraduate or graduate courses or shorter duration training sessions to US based students that include subject matter in artificial intelligence and require that students use advanced computational resources as part of their coursework. Courses from any discipline are eligible for this program. Courses and training sessions must not allow participants who are not US based.”

<https://nairrpilot.org/opportunities/education-call>

NAIRR Pilot Start-Up Project

“The Proposer is expected to select only one resource for the Start-Up request unless a clear justification for multiple resources can be provided. Projects will be awarded for three (3) months durations..”

Eligibility

“Start-Up projects have the same eligibility requirements as other NAIRR Pilot opportunities. They are open to meritorious proposals by US-based researchers and educators from US-based institutions including academic institutions (including graduate students with a support letter from a faculty advisor), non-profits, federal agencies or federally funded R&D centers, state, local, or tribal agencies, startups and small businesses with federal grants. Assignment of supported proposals will be guided by these constraints.”

<https://nairrpilot.org/opportunities/education-call>

Getting Started on ACCESS and NAIRR Pilot Clusters

Computing Allocated via NSF ACCESS & NAIRR Pilot

Advanced Cyberinfrastructure Coordination Ecosystem: Services and Support (ACCESS) is a system supported by the National Science Foundation for researchers to access national high performance compute resources. TAMU has one such resource:

- [ACES](#) is one of our newer computing platform available to national researchers. It is allocated through **NAIRR** as well as **ACCESS**.
- [Launch](#) is a regional computational resource that supports researchers incorporating computational and data-enabled approaches in their scientific workflows at The Texas A&M University System Schools. A portion is offered to the national community. Launch is allocated through **ACCESS**.

You can learn more about the specialty hardware and software ACES and Launch have to offer at: <https://hrpc.tamu.edu/resources/>

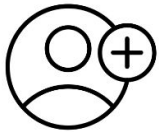
Allocations Management



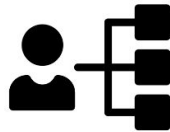
You can get allocations on **ACES** and **Launch** through ACCESS.



ACES can also be allocated through NAIRR.



CREATE
ACCOUNT



SELECT
OPPORTUNITY



REQUEST
ALLOCATION



RECEIVE
CREDITS



EXCHANGE
CREDITS

Resources to Help You Get Started

- On our website, visit the Knowledge Base pages for ACES and Launch
<https://hprc.tamu.edu/kb/User-Guides/ACES/>
<https://hprc.tamu.edu/kb/User-Guides/Launch/>
- On our YouTube channel, check out the following playlists
 - ACES: Getting Started
<https://www.youtube.com/playlist?list=PLHR4HLly3i4YMsOuqkBpDUB5W2dlqGViU>
 - ACES Training
https://www.youtube.com/playlist?list=PLHR4HLly3i4bWn-qQuhZJzb49u_Voe-GI

Thank you

Contact: help@hprc.tamu.edu

*Please give us feedback on
the class with this survey:*

https://u.tamu.edu/hprc_shortcourse_survey



HPRC Survey

NAIRR Pilot to Advance AI Research

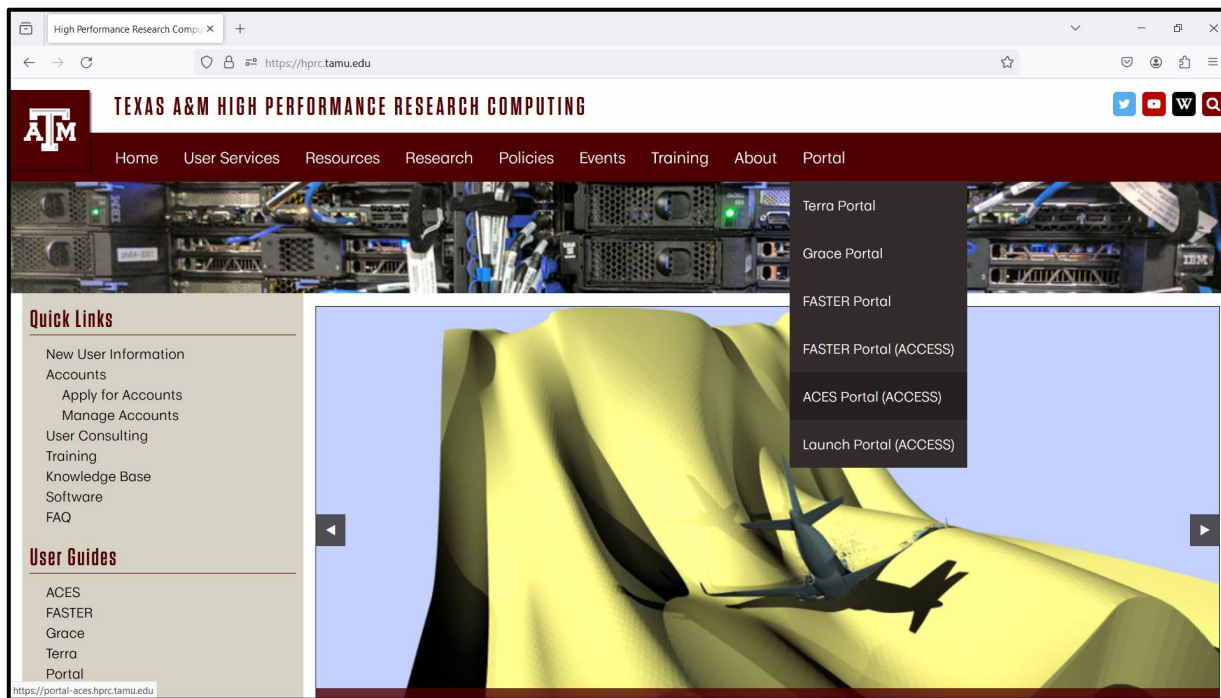
Domain specific focus areas:

- Accelerating societally-relevant research on AI safety, reliability, security, and privacy.
- Empowering advances in cancer treatment and individual health outcomes.
- Supporting resilience and optimization of agricultural, water, and grid infrastructure.
- Improving design, control, and quality of advanced manufacturing systems.
- Addressing earth, environmental, and climate challenges via integration of data and models.

Other projects that align with the broader objectives of the NAIRR Pilot, as well as projects in other areas of AI research and applications, may secondarily be considered for allocation.

<https://nairrpilot.org/opportunities/allocations>

Accessing the HPRC ACES Portal



HPRC webpage: hprc.tamu.edu

Accessing ACES via the Portal (ACCESS)



Consent to Attribute Release

TAMU ACES ACCESS OIDC requests access to the following information. If you do not approve this request, do not proceed.

- Your CILogon user identifier
- Your name
- Your email address
- Your username and affiliation from your identity provider

ACCESS CI (XSEDE)

LOG ON

By selecting "Log On", you agree to the [privacy policy](#).

Select an Identity Provider

ACCESS CI (XSEDE)

Select the Identity Provider appropriate for your account.

Log-in using your ACCESS credentials.



If you had an XSEDE account, please enter your XSEDE username and password for ACCESS login.

ACCESS ID

ACCESS Password

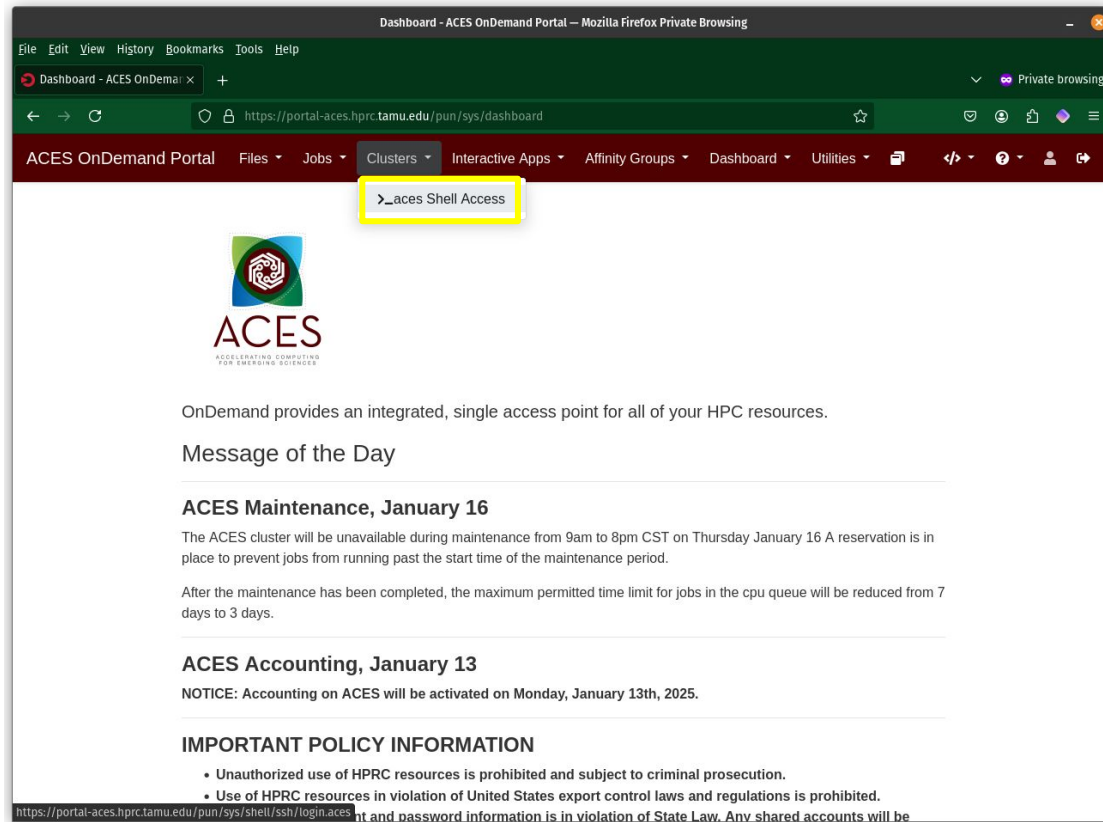
LOGIN

[Register for an ACCESS ID](#)

[Forgot your password?](#)

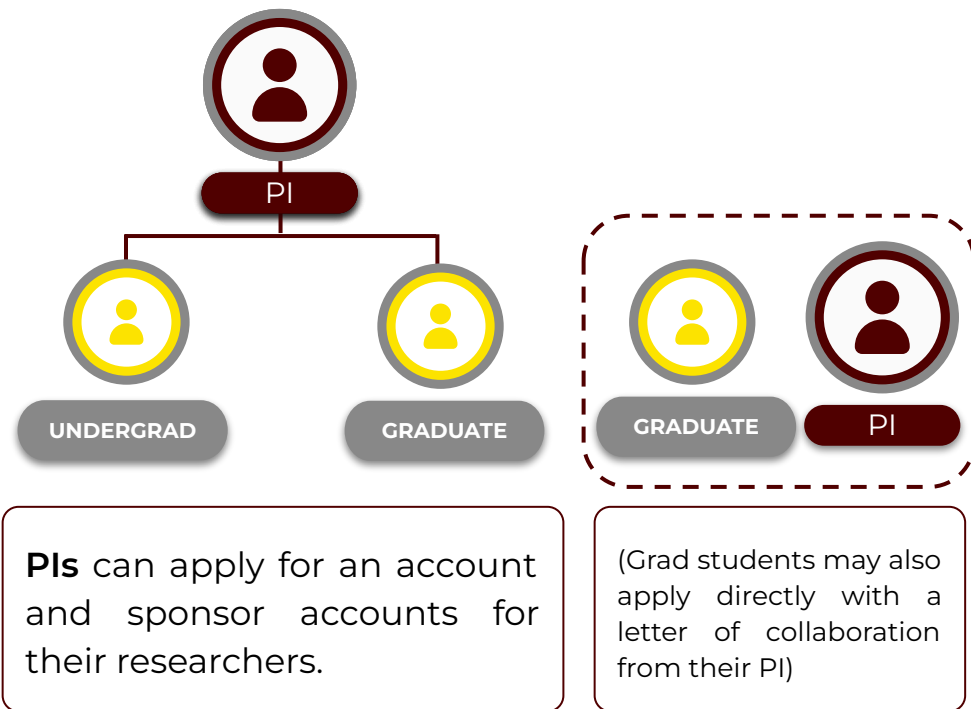
[Need Help?](#)

Shell Access via the Portal



Logging on to ACES

- Using an [ACCESS](https://allocations.access-ci.org) account
- Application for ACES is available through ACCESS:
<https://allocations.access-ci.org>
- Email us at help@hprc.tamu.edu for questions, comments, and concerns.





ACES

ACCELERATING COMPUTING
FOR EMERGING SCIENCES

(temp slide to store logos)

