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

HPRC Short Course
January 27, 2026

High Performance Research Computing
DIVISION OF RESEARCH

ACES
ACCELERATING COMPUTING FOR EMERGING SCIENCES

Outline

- Introduction to ACES and Launch
- 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 and Launch

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

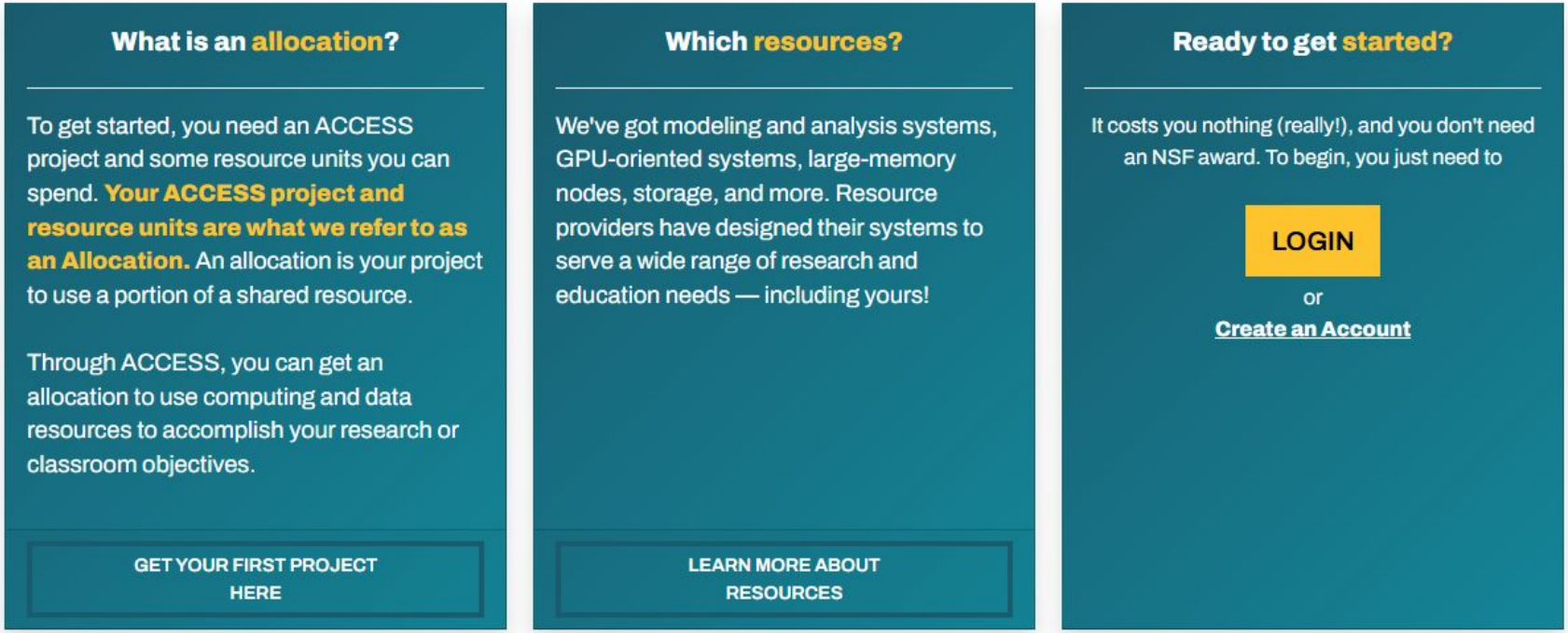
Component	Quantity	Description
Sapphire Rapids Nodes: Compute Nodes Data Transfer Nodes Login & Management Nodes	 110 nodes 2 nodes 5 nodes	96 cores per node, dual Intel Xeon 8468 processors 512 GB DDR5 memory 1.6 TB NVMe storage Compute: NVIDIA Mellanox NDR 200 Gbps InfiniBand adapter DTNs & Login & 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/

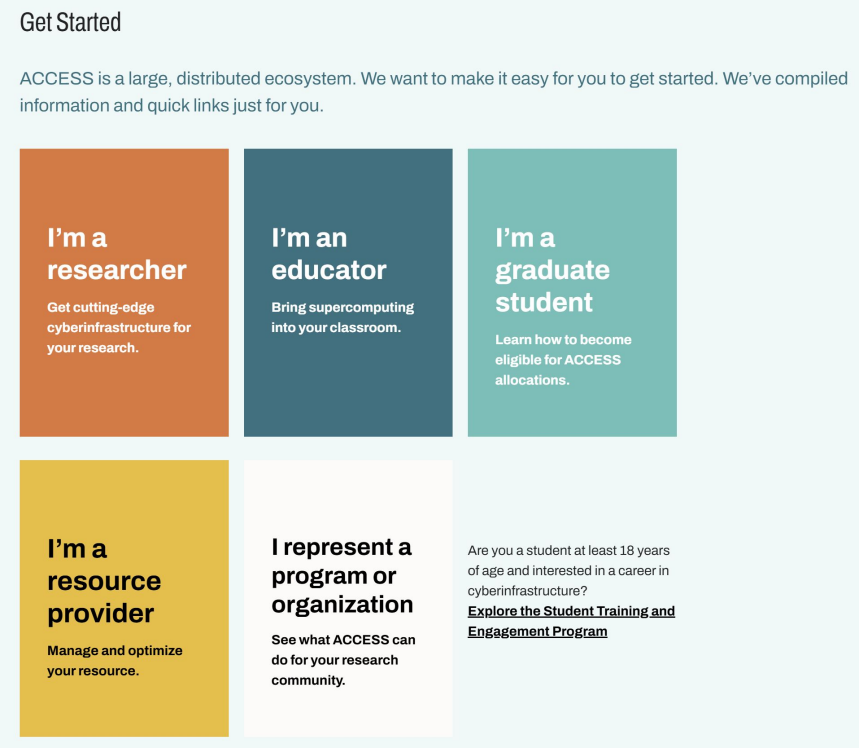
Obtaining an ACCESS ID/Account

ACCESS Allocations



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

ACCESS New User Registration



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

ACCESS New User Registration

Two Options for New User Registration

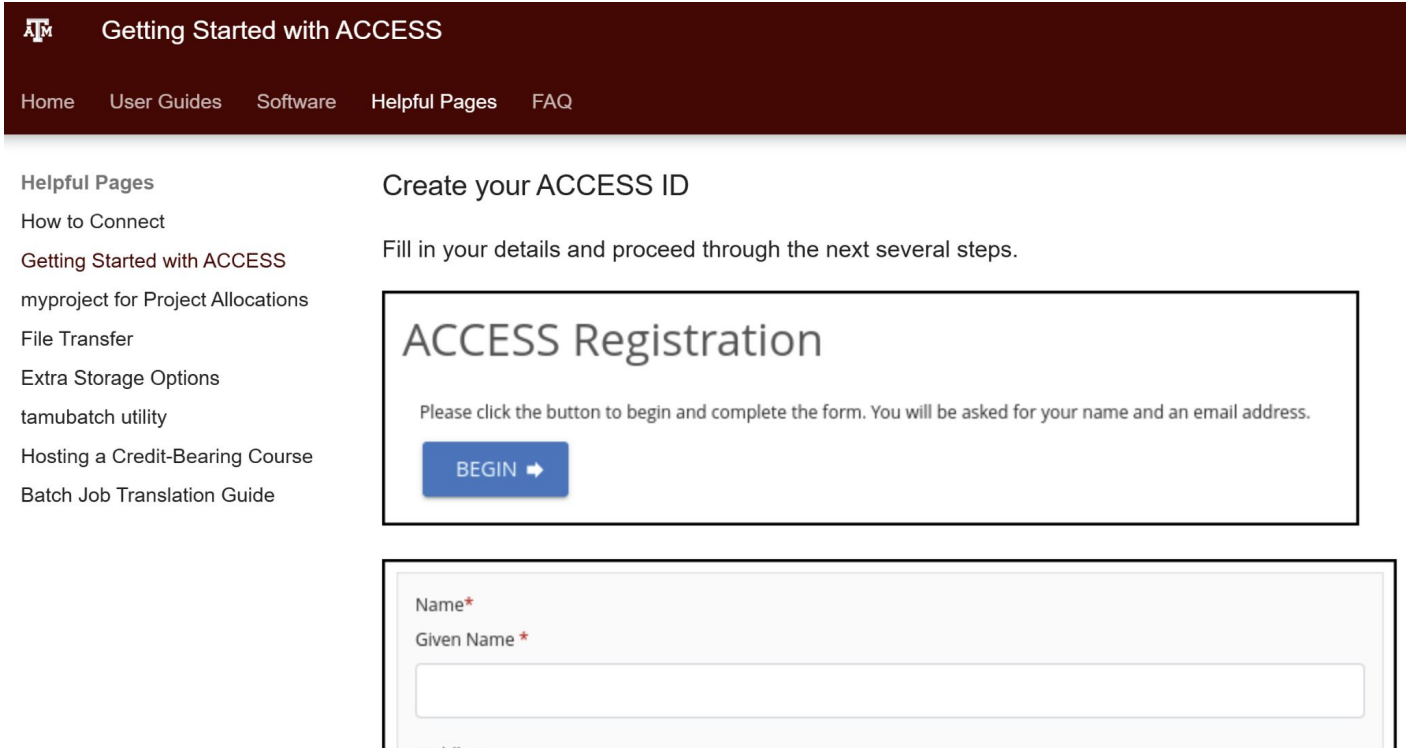
If you don't already have an XSEDE or ACCESS account, there are two registration options:

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



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#comparison-table

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

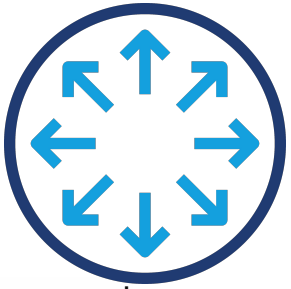
Accelerate ACCESS Request

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.

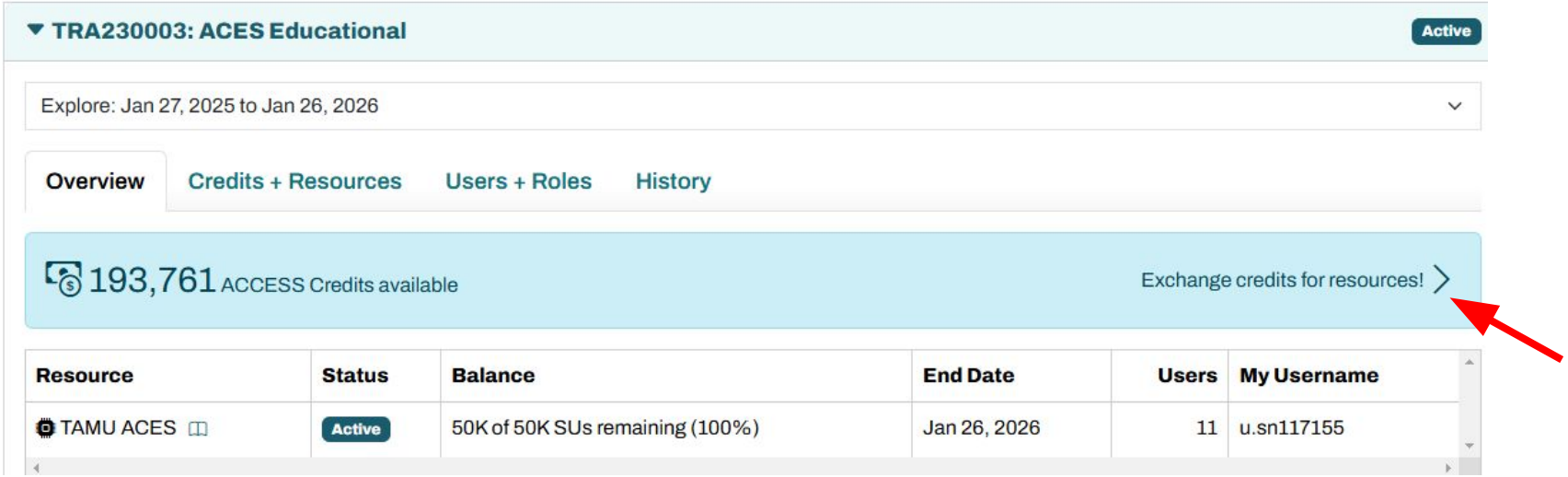
Maximize requests are open for submission on a semi-annual basis

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

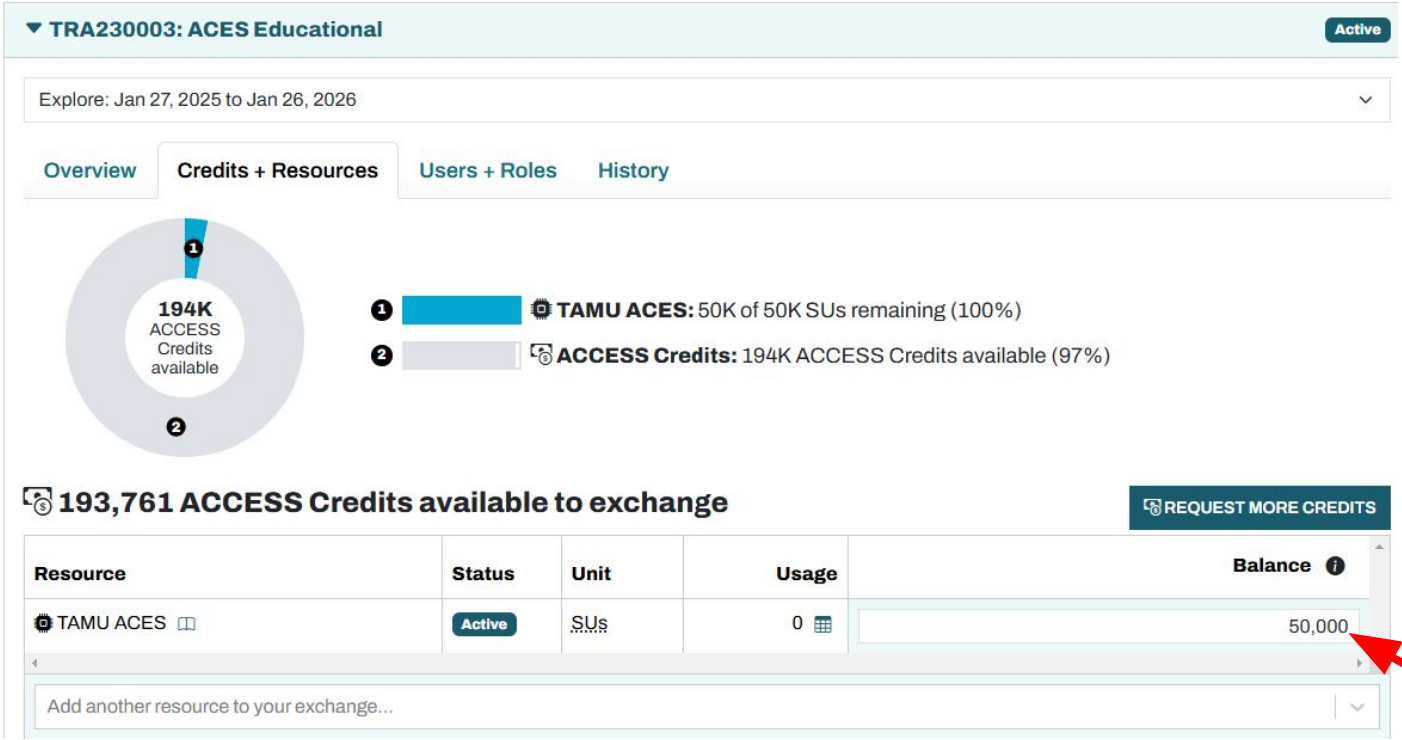
Exchanging ACCESS Credits for ACES and/or Launch Service Units

Where to Exchange ACCESS Credits



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

Where to Exchange ACCESS Credits



https://allocations.access-ci.org

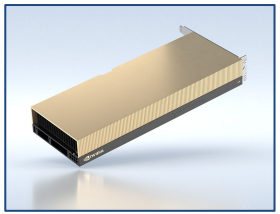
ACCESS Exchange Calculator

Exchange Rates Overview

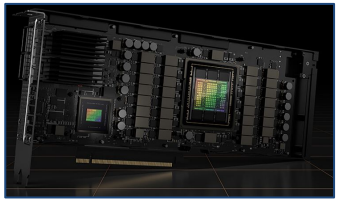
Units	Target System
1,000	ACCESS Credits
8,000	TAMU ACES
8,000	TAMU Launch

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

ACES Charging Scheme

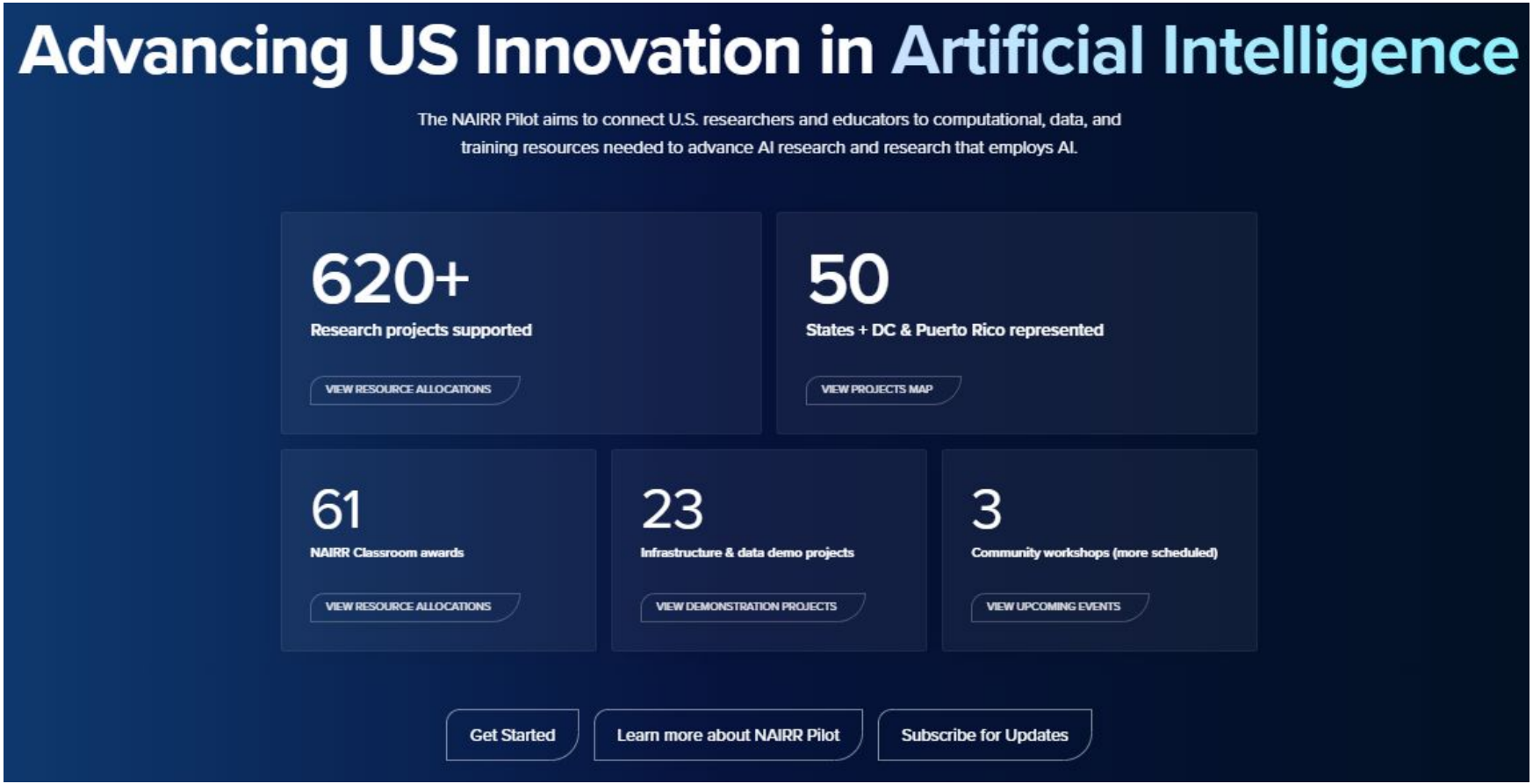


Effective GPU	Service Units (per hour)
NVIDIA A30	64
NVIDIA H100	128
Intel PVC GPUs	30
Bittware Agilex FPGA	30
NEC Vector Engine	75
NextSilicon Co-processor	50
Graphcore IPU Classic	45
Graphcore IPU Bow	60
Intel Optane Memory	30
Grace Hopper	128



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

NAIRR Pilot Projects



https://nairrpilot.org/

What is the NAIRR?

"Artificial Intelligence (AI) holds the potential to accelerate discovery and innovation and reshape our modern workforce. However, many researchers and educators lack access to the AI resources necessary to fully conduct their research activities and to train the next generation. 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 and educators to AI resources, namely computation, data, software, models, training, and educational materials to advance research, discovery, and innovation. Access to such infrastructure is expected to: accelerate AI and AI-powered Discovery and Innovation; expand the AI workforce and train the next generation of AI researchers and educators; increase capacity, integration, and use of world-class public and private-sector AI resources; and advance AI interpretability, security, and trust."

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 Startup Example

(NAIRR250246) Start-Up: Shahid Noor, *Northern Kentucky University* Copy Link

Field of Science	Project Type	Dates
Artificial Intelligence and Intelligent Systems	NAIRR Start-Up	2025-09-25 to 2026-06-30

Resources

Resource	Allocation
TAMU ACES	480,000

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/startup-project

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/

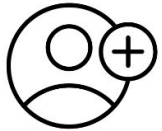
Allocations Management

ACCESS

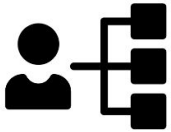
You can get allocations on **ACES** and **Launch** through ACCESS.

NAIRR Pilot

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=PLHR4HLly3i4YMsOuqkBpDUB5W2dIqGViU
  - ACES Training
    https://www.youtube.com/playlist?list=PLHR4HLly3i4bWn-qQuhZJzb49u_Voe-GI

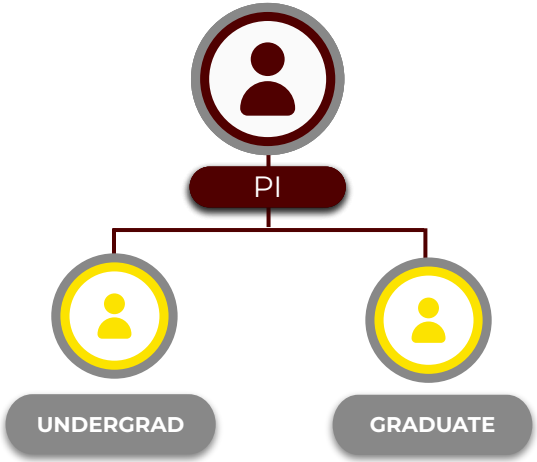
Thank you

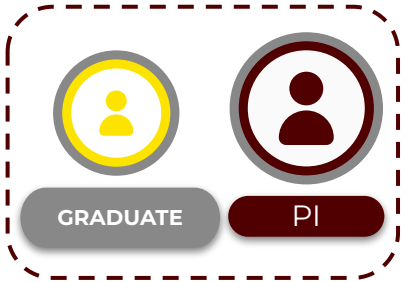
Contact: help@hprc.tamu.edu

Please give us feedback on the class with this survey: https://u.tamu.edu/hprc_shortcourse_survey

Logging on to ACES

- Using an ACCESS 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.





PIs can apply for an account and sponsor accounts for their researchers.

(Grad students may also apply directly with a letter of collaboration from their PI)

ACES

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FOR EMERGING SCIENCES

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