

# Advanced Computing Systems & Services (ACSS)

Adapting to the Rapid Evolution of Science and Engineering Research  
NSF 24-583 Program Webinar

## Program Contacts:

Robert Chadduck, [rchadduc@nsf.gov](mailto:rchadduc@nsf.gov)

Andrey Kanaev, [akanaev@nsf.gov](mailto:akanaev@nsf.gov)

Alejandro Suarez, [alsuarez@nsf.gov](mailto:alsuarez@nsf.gov)

Sharon Geva, [sgeva@nsf.gov](mailto:sgeva@nsf.gov)



Office of Advanced Cyberinfrastructure (OAC)

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# Webinar Goals

- Orient potential proposers on ACSS program
- Describe the current solicitation (NSF 24-583) including changes
- Answer questions from attendees
  - **Send Webinar Questions to us via Q&A function in Zoom.**
- Slides, audio, and transcript from this webinar will be available on the event page website:  
<https://new.nsf.gov/funding/opportunities/advanced-computing-systems-services-adapting-rapid>



# Revision Notes

- Solicitation NSF 24-583 will accept proposals in *only* Category I or Category II on an alternating schedule
- The award amount for Category I and user support and operating costs have been updated
- The solicitation Introduction, Program Description, and Proposal Preparation and Submission Instructions sections have been updated to more accurately reflect themes of interest for community consideration
- Upcoming Deadline (Cat I only): October 29, 2024



# ACSS Program Overview

- Requests proposals from organizations willing to serve as resource providers (RPs) within the NSF ACSS program
- RPs will:
  - ✓ provide advanced cyberinfrastructure (CI) resources in production operations to support the full range of computation, data-analysis, and AI research across all of science and engineering(S&E)
  - ✓ enable democratized and equitable access to the proposed resources.





# ACSS Guiding Principles

- Increasing the Nation's capacity for transformative S&E discoveries
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- Guided by ongoing planning/visioning activities such as:
  - National AI Research Resource (NAIRR) and NAIRR Pilot (AI.gov)
  - National Strategic Computing Reserve (NITRD.gov)
  - Future Advanced Computing Ecosystem (NITRD.gov)
  - Missing Millions (Community report)
  - Expanding the Geography of Innovation (National Science Board)
  - Consideration of full lifecycle environmental impacts
  - Consistent with NSF's Established Program to Stimulate Competitive Research (EPSCoR)



# Categories of Resources

- Category I, Capacity Resources: production computational resources maximizing the capacity provided to support the broad range of computation and data analytics needs in S&E research; and
- Category II, Innovative Prototypes/Testbeds: innovative forward-looking capabilities deploying novel technologies, architectures, usage modes, etc., and exploring new target applications, methods, and paradigms for S&E discoveries.



# NSF 24-583 Proposal Deadlines

- October 29, 2024 – Only Category I Submissions considered
- June 24, 2025 – Only Category II Submissions considered



# Category I – Capacity Resources

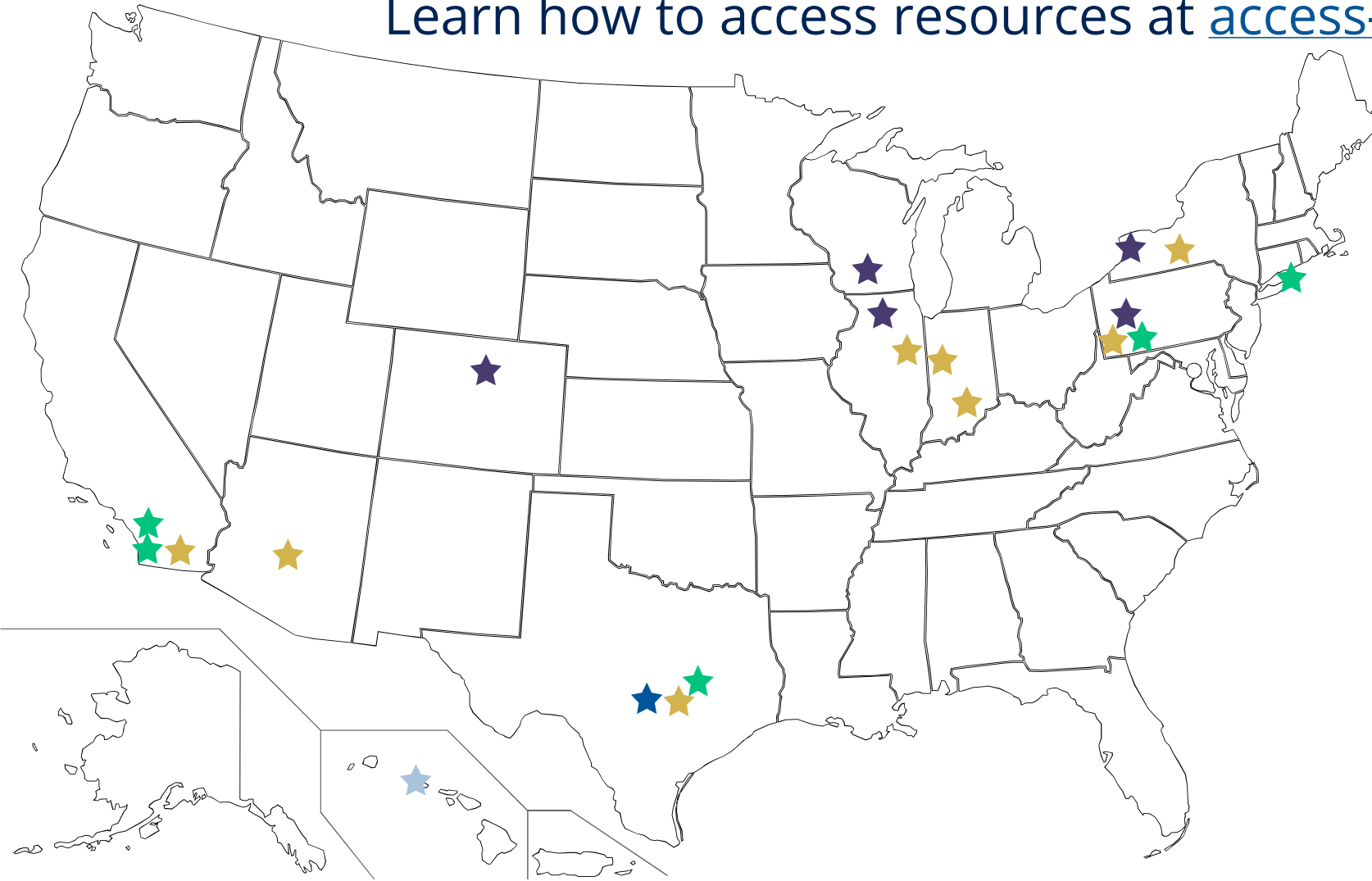
- *“... intended to be operational deployments of production computational resources that will provide maximum capacity and throughput to support the broad range of computation and data analytics needs in S&E research.”*
- Address the requirements listed in II. Program Description
- Expectation that at least 90% of the provisioned system or service will be available to the S&E community
- Exploration of novel models for CI federation encouraged.





# NSF-supported Advanced CI Resources

Learn how to access resources at [access-ci.org](https://access-ci.org)



## Category I - Capacity Systems

- Anvil
- Bridges 2
- Delta
- Expanse
- Jetstream 2
- Stampede 2

## Category II - Innovative Prototypes/Testbeds

- Neocortex
- Voyager
- Ookami
- NRP
- ACES

## Leadership-class

- Frontera

## Distributed Services

- PATH / Open Science Grid
- ACCESS



# Eligibility Information (1/2)

- Who May Submit:
  - Institutions of Higher Education (IHEs)
  - Non-profit, non-academic organizations
  - Other Federal Agencies and Federally Funded Research and Development Centers (FFRDCs): Contact the appropriate program before preparing a proposal for submission.
- Who may serve as PI: no restrictions



# Eligibility Information (2/2)

- Limit on Number of Proposals per organization: 1
  - An organization may submit only one proposal but may be a subawardee on other proposals responding to this solicitation.
  - Collaborative projects may only be submitted as a single proposal
- Limit on Number of Proposals per PI or co-PI: 1
  - Individual can be PI or co-PI on no more than one proposal. There is no limit on the number of proposals in which an individual may be associated in other capacities (e.g. Senior Personnel)
- **NOTE:** Eligibility Information is independently associated with each competition and each due date



# Proposal Preparation Guidance

- The project description page limit is **30** pages.
- In addition to those described in PAPPG, the Project Description must include the following sections
  - a. Resource Specification;
  - b. S&E Application Performance;
  - c. Resource Reliability and Usability;
  - d. Project Management and Risk Mitigation;
  - e. Security;
  - f. Concept of Operations
  - g. Broader Impacts.



# Required Supplementary Documents

- In addition to those specified in PAPPG, the following Supplementary Documents are required:
  - a. A list of all institutions and companies involved in the project
  - b. Actual or estimated performance benchmark results
  - c. Detailed Projected Operating Costs
  - d. Letters of collaboration from individuals who are described in the Project Description
  - e. (Optional, but encouraged) Representative vendor quotes for the proposed resource capability
- Please review section V of the solicitation for detailed preparation and submission instructions





# Acquisition Budget vs User Support & Operating Costs

- Budget for Acquisition or resources cannot exceed \$20,000,000 (Category I)
- Acquisition proposals with budgets in excess of the identified maximum threshold may not be considered appropriate and may be returned without review
- Budget Details for User Support and Operating Costs
  - Concept of Operations section of the Project Description
  - Detailed Projected Operations Costs supplementary document
- User support and operating costs **should not** be included in the budget section of proposals responding to this solicitation



# User Support and Operating Costs Thresholds

- User support and operating costs of the system of up to 15% of the acquisition costs per year will be considered; projected annual operating costs above 15% must be discussed with a cognizant Program Officer prior to submission and will be considered in relation to the justified need.
  - Acquisition costs are defined as the total value of acquisition award
- Such a budget would come in a future second request for operations related supplementary funds to be submitted after the initial NSF award.
- Questions about what constitutes “acquisition costs” vs “user support and operating costs,” can be sent to the cognizant program directors.



# NSF Review Criteria

- All proposals will be evaluated against two criteria:
  - **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
  - **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.
- The following elements will be considered for both criteria:
  - What do the proposers want to do?
  - Why do they want to do it?
  - How do they plan to do it?
  - How do they will know if they succeed?
  - What benefits would accrue if the project is successful?



# Solicitation Specific Review Criteria

- In addition, reviewers will be asked to assess the adequacy of the descriptions provided in the required sections of the proposal
- See Section VI. NSF Proposal Processing and Review Procedures, for more information



# The Award Process

- Initial Acquisition Award
- Preparation of Project Execution Plan, including definition of criteria for acceptance review
- Consideration of supplemental funding action for user support and operating costs
- Acceptance Review





# Note on Schedule

- The competition deadlines reflect the government Fiscal Years (Oct – September) of the competitions
- The upcoming October 29, 2024, deadline corresponds to FY25
- The following June 24, 2025, deadline corresponds to FY26
- Acquisition and deployment of full systems should be completed within 12 months of the award start date



# Note on FastLane Decommissioning

- FastLane capabilities have been migrated to Research.gov
- Proposals submitted in response to this program solicitation must be prepared and submitted via Research.gov or via Grants.gov and may **not** be prepared or submitted via FastLane.



# Summary

- Upcoming Deadline: October 29, 2024 (Category I only)
- Future deadlines correspond to independently run competitions (i.e., in terms of submission limits)
- Additional sections required in submissions
- Solicitation Specific Review Criteria
- Budget restrictions and Operating vs. Acquisition costs



# Frequently Asked Questions

You may ask questions using the Q&A function





# Eligibility information

- Q: If my organization applies within the submission limits of the October 29, 2024 (Category I Only) deadline, is my organization eligible to apply for other deadlines?
- A: Yes, Eligibility Information is independently associated with each competition and each due date.





# User Support and Operating Costs (1)

- Q: The solicitation states that “User support and operating costs are expected to be up to 15% of the acquisition cost per year...” Does each year of operating expenses constitute 15% of the yearly acquisition cost or 15% of the total acquisition cost?
- A: The “initial acquisition cost” is defined as the total value of acquisition award, irrespective of how a proposer may break it down. For example, a Category I system with a budgeted total acquisition cost of \$20M could request up to \$3M (15%) in user support and operating costs per year



# User Support and Operating Costs (2)

- Q: Should anticipated user support and operating costs be incorporated into the budget section of the proposal?
- A: No. NSF 24-583 is considering funding for the acquisition of advanced computing systems and services. As noted in the solicitation, user support and operating costs will be considered and provided as a second action to an awarded cooperative agreement. At this point, such costs should be listed in the relevant supplementary documentation, namely the Detailed Project Operating Costs.



# Question & Answer Session

- Please use the Q&A function to ask your question
- Upcoming Deadline: October 29, 2024 (Category I Only)
- This presentation and recording will be available at:
- Contact information for Cognizant Program Directors:
  - Robert Chadduck      [rchadduc@nsf.gov](mailto:rchadduc@nsf.gov)      (703) 292-8970
  - Andrey Kanaev      [akanaev@nsf.gov](mailto:akanaev@nsf.gov)      (703) 292-2841
  - Alejandro Suarez      [alsuarez@nsf.gov](mailto:alsuarez@nsf.gov)      (703) 292-7092
  - Sharon Geva,      [sgeva@nsf.gov](mailto:sgeva@nsf.gov)      (703) 292-7058

