

Champion Allocations on XSEDE Resources

PEARC20 Workshop

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XSEDE

Extreme Science and Engineering
Discovery Environment



Supported by OAC 15-48562.

Allocation Request Opportunities

- *Campus Champions: Intro to XSEDE resources*
 - Access to most XSEDE allocated resources
 - Easy to obtain and renew
 - Limited allocation sizes
 - Approved by CC Leadership
- *Startup: Development/testing/porting/benchmarking*
 - Access to all XSEDE allocated resources
 - CV and extended abstract
 - Limited allocation sizes
 - Reviewed by each SP where resources requested
- *Educational: Classroom, Training, Workshops*
 - Access to most XSEDE allocated resources
 - CV, Syllabus, Resource justification
 - Limited allocation sizes
 - Reviewed by ESTEO and SP
- *Research: Production work*
 - Access to all XSEDE allocated resources
 - CV, Main document, Code Performance Scaling Document
 - Unlimited allocation requests
 - Reviewed by XRAC panel and ECSS panel of reviewers



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General Proposal Outline

- I. Research Objectives
- II. Computational methodology (Applications/Codes)
- III. Application efficiencies (Some overlap with Code Performance document)
- IV. Computational Research Plan
- V. Justification for SUs(TB) requested
- VI. Additional considerations

Note: Sections III and IV are often integrated.



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Review Criteria

- **Appropriateness of Methodology**
 - Applications, methods, algorithms and techniques reasonably described and motivated?
 - Data usage and access methods clearly described?
- **Appropriateness of Research Plan**
 - Are research objectives explained and how they will be achieved?
 - Do proposed computations list simulation parameters that are needed to obtain results?
 - Details of human resources devoted to accomplish these tasks?
- **Efficient Use of Resources**
 - Are resources selected being used efficiently as possible and in accordance with the recommended use guidelines of the resources?
 - Is performance and scaling date presented for the resource requested?
 - Are there details of the efforts to improve the optimization and/or parallelization of the applications?
- **Webinar about Code Performance and Scaling**
 - <https://www.youtube.com/watch?v=1rHqH1SUD-o>



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The Resources

portal.xsede.org/allocations/resource-info

HPC Systems: Bridges-2(PSC), Comet(SDSC), Expanse(SDSC), Stampede 2(TACC)

Large Memory Systems: Bridges-2(PSC) and Comet(SDSC), Expanse(SDSC)

VMs: Jetstream(IU/TACC), Bridges-2 (PSC), Comet(SDSC)

GPUs: Bridges 2 GPU(PSC), Bridges GPU-AI(PSC), Comet GPU(SDSC), Expanse(SDSC)

HTC Systems: (OSG)

Storage Systems: Bridges-2 Storage(PSC), Data Oasis(SDSC), Expanse Project Storage, Jetstream(IU/TACC), Ranch(TACC) * Ranch is the only storage resources that can be requested without compute resources.

Advanced Systems: ECSS and SGCI

+ Lots of new resources coming soon!!



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Why a Research Request may be reduced or rejected:

- Poor or no Scaling/Code performance information
- Scaling/Code performance information not from resource being requested
- Non-disclosure of access to other resource(s)
- Disclosure of access to other HPC resource(s) but no details of difference of research
- Multiple requests from same research lab
- Page limits
- Poor justification for resources
- Lack of description of research team
- Low productivity from prior XSEDE Research award with no details in progress report



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Webinars

- How to Write a Successful XSEDE Proposal
 - details all the steps and requirements needed for successful research allocation requests. Topics covered include Computation Methodologies, Justification for SUs requested and many others.
 - Presented twice each quarter prior to and during submission window
- Code Performance and Scaling
 - discuss the technical aspects of research allocation proposals including how best to gather and present scaling and code performance statistics and estimating SU requests in your allocation proposals.

Example Proposals

The screenshot shows the XSEDE website's "Research Allocations" page. The top navigation bar includes links for MY XSEDE, RESOURCES, DOCUMENTATION, ALLOCATIONS (which is highlighted in blue), TRAINING, USER FORUMS, HELP, ECSS, and ABOUT. Below this, a secondary navigation bar lists Announcements, Resource Info, Startup, Education, Research (also highlighted in blue), Submit/Review Request, Request Steps, Manage Allocations, Policies, and About XRAS. A sidebar on the left contains links for Top of page, Submission Schedule, Eligibility, Example Research Requests, Estimated Available Service Units, Required Components (with a dropdown arrow), Review Criteria and Guidance (with a dropdown arrow), Detailed Main Document Guidance (with a dropdown arrow), Guidance for Gateway Requests, and Appendix: Formatting Guidelines. The main content area features a large heading "Research Allocations". It includes two paragraphs of text: one about startup allocations and another about research requests. Below this is a section titled "Webinar: How to Write a Successful XSEDE Proposal" with a link to a recording. A "FEEDBACK" button is located on the right side of the page.

We strongly encourage users to request a Startup Allocation prior to requesting a Research Allocation. to obtain benchmark results before you prepare your Research request. While having a Startup project is not absolutely required, the lack of benchmark results on the resources requested will greatly increase the level of scrutiny from the panel, especially for requests on highly oversubscribed resources.

For projects that have progressed beyond the Startup phase, either in purpose or scale of computational activities, a Research request is appropriate. Research requests are accepted and reviewed quarterly by the XSEDE Resource Allocations Committee (XRAC). Research requests are highly competitive. To give your request the best chance of success, please follow the instructions for successful requests and required components carefully. Omitting required components from your request may result in rejection of the request.

Webinar: How to Write a Successful XSEDE Proposal

XSEDE provides twice-quarterly webinars as well as example allocation requests to help you prepare a successful Research request.

This recently recorded presentation details all the steps and requirements needed for successful research allocation requests. Topics covered include Computation Methodologies, Justification for SUs requested and many others.

Writing and Submitting a Successful XSEDE Proposal



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Interesting Facts

- ~1,000 research requests per year
- ~1,200 other requests
- ~80% success rate for Research requests
- ~95% success rate for Startup and Educational requests
- ~100% success rate for Campus Champions



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Questions?

- Asking for Help help@xsede.org



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