External Resources

- OSF
- XSEDE
- CYVERSE

OSF

The OSF is a free, open source service maintained by the Center for Open Science. Here are a few things you can do with the OSF:

Store your files

Archive your materials, data, manuscripts, or anything else associated with your research during the research process or after it is complete.

Affiliate your projects with your institution

Associate your projects with the University of Arizona which is a member. They will be added to UA's central commons, improving discoverability of your work and fostering collaboration.

Share your work

Keep your research materials and data private, make it accessible to specific others with view-only links, or make it publicly accessible. You have full control of what parts of your research are public and what remains private.

Register your research

Create a permanent, time-stamped version of your projects and files. Do this to preregister your design and analysis plan to conduct a confirmatory study, or archive your materials, data, and analysis scripts when publishing a report.

Make your work citable

Every project and file on the OSF has a permanent unique identifier, and every registration can be assigned a DOI. Citations for public projects are generated automatically so that visitors can give you credit for your research.

Measure your impact

You can monitor traffic to your public projects and downloads of your public files.

Connect services that you use

GitHub, Dropbox, Google Drive, Box, Dataverse, figshare, Amazon S3, ownCloud, Bitbucket, GitLab, OneDrive, Mendeley, Zotero. Do you use any of these? Link the services that you use to your OSF projects so that all parts of your project are in one place.

Collaborate

Add your collaborators to have a shared environment for maintaining your research materials and data and never lose files again.

Learn more about the OSF at our Guides page, or email contact@osf.io with questions for support.

XSEDE

XSEDE supports 13 supercomputers and high-end visualization and data analysis resources across the country. These are made available for use by researchers including at the University of Arizona.

There are XSEDE allocations in the areas of HPC compute, Storage allocation, and Visualization. The link below provides a detailed list of XSEDE computing resources at each of the partner sites with links to detailed specifications for each machine.

https://www.xsede.org/web/guest/resources/overview

The Trial, Campus Champion and Startup allocations can be quick and easy to request and obtain, but they are limited allocations and intended for tests and maybe pilot studies to provide part of the justification for the full Research proposals. The University of Arizona research consultants are Campus Champions and can assist with obtaining allocations.

hpc-consult@list.arizona.edu - a private email conversation with consultants.
For large allocations (called Research) there is a rather rigorous proposal and review process that can take 3-4 months before a decision is made and an allocation is provided or denied.

An XSEDE allocation provides access to computing, visualization, and/or storage resources as well as extended support services at XSEDE service provider sites. An allocation is allotted to a researcher who serves as the principal investigator of an approved project. An account is the specific method through which an individual (or community, in the case of science gateways) logs in to a resource to utilize the allocation. The link below provides a high-level overview of the allocation process including eligibility, allocation types, allocation trials, and more.

https://portal.xsede.org/allocations-overview

For an in-depth look at the allocation policies, the following link outlines all policies regarding allocations.

https://portal.xsede.org/allocation-policies

Success Rate and Factors

The XSEDE team unofficially report a success rate for applicants of 65-70% for new requests that get an award, and 75% overall. "History has shown that the requests are often 4 to 5 times greater than available and after review still 2-3 times greater than available. We have an algorithm/solver that uses the factors and reduces awards to fit into the available SUs (SU's are the compute unit of time). Reductions for non-NSF funded PIs is around 50% and for 100% NSF funded PIs more like 25% reduction."

Reasons a request/proposal 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
- Poor justification for resources
- Lack of description of research team
- Low productivity from prior XSEDE Research award with no details in progress report

Education Allocation

This is a very interesting concept. If you as faculty are teaching a class and need specific HPC resources that UA does not have then Xsede may have those available. For example if you want to teach Hadoop and Spark there are two Xsede clusters available. Here is a quote from a faculty member at another institution:

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Education Allocation is also easy to get and is usually good for one year like the Startup Allocation. To get an Education Allocation, they just need a CV, a syllabus of the course, and a resource justification...I requested 115K SUs but ended up getting 50K which is the same limit as the Startup Allocation on Comet. My students didn’t use up all the 50K SUs, so it was just fine. Once you get an Education Allocation, you will need to ask your students to create XSEDE accounts and add them to the Education Allocation. All this process should take a couple of weeks. So I wouldn’t plan to use XSEDE resources within the first few weeks of my class.
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ECSS Offers Domain Science Expertise

Through ECSS, users have access to a variety of cyberinfrastructure expertise. ECSS experts, many with advanced degrees in domain areas, are available for collaborations, lasting months to one year, to help researchers fundamentally advance their use of XSEDE resources.

Expertise is available over a wide range of areas:

- performance analysis
- petascale optimization
- efficient use of accelerators
- I/O optimization
- data analytics
- visualization
- use of XSEDE by science gateways
- workflows
CyVerse provides life scientists with powerful computational infrastructure to handle huge datasets and complex analyses, thus enabling data-driven discovery. Our extensible platforms provide data storage, bioinformatics tools, image analyses, cloud services, APIs, and more.

http://www.cyverse.org/about

CyVerse is funded by the National Science Foundation’s Directorate for Biological Sciences. We are a dynamic virtual organization led by the University of Arizona to fulfill a broad mission that spans our partner institutions: Texas Advanced Computing Center, Cold Spring Harbor Laboratory, and the University of North Carolina at Wilmington.

Check out the comprehensive suite of tools supporting research

http://www.cyverse.org/products