Accounts and Allocations

NERSC

New User Training
September 7, 2023

Clayton Bagwell
Business Operations & Support Group
NERSC Account and Allocation Support

Agenda

- Account Types
- User Accounts
- Allocation Accounts

Accounts vs. Allocations

There are two types of *accounts* at NERSC:

- Your personal, private, user account
  - Associated with your *login* or *username*
  - Provides *authentication* (personal identity) and *authorization* (which resources are accessible)
  - You can request an account on your own or your project's Principal Investigator (PI) or Project Manager can send you a link to request an account
  - Five primary account *roles*
    - PI, PI Proxy, Project Membership Manager, Project Resource Manager, and User

- A Project allocation account, or *project*
  - Like a bank account you use to "pay" for computer time and file storage
  - Managed by a Principal Investigator (PI) and (optionally) one or more Project Managers.
  - All NERSC users belong to at least one project
  - An individual user may belong to more than one project
    - But only one *default project*
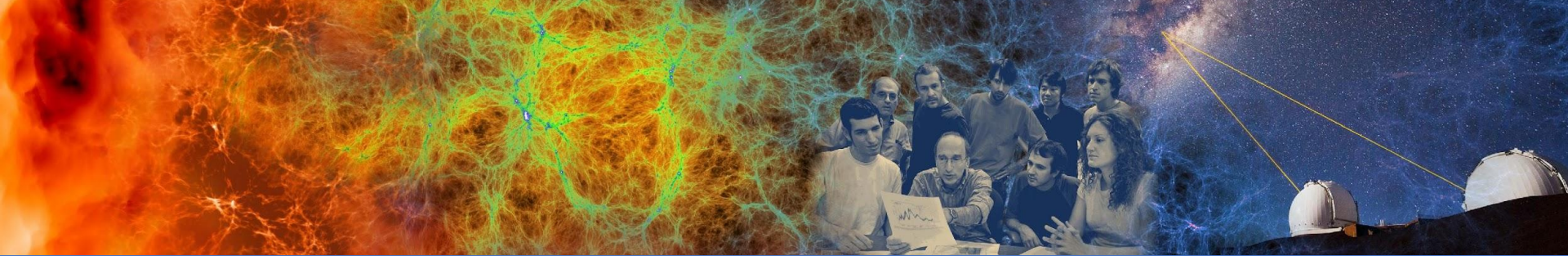
User Accounts

Requesting New Account - Reactivating Old Account

- New users can request a NERSC User account through the Iris Add User page
  - https://iris.nersc.gov/add-user
- Users who want to reactivate an old account that is currently deactivated can use the same page, but select the "I have a current NERSC account" option

Account Policies

- **All users must sign an Acceptable Use Policy form**
  - This is incorporated into the Self-Service account request form
    https://iris.nersc.gov/aup

- **Password policies**
  - Must change password every year (365 days)
  - **Do not share passwords**
  - **Do not email passwords**

- **Account locked after 5 consecutive login failures**
  - Login to Iris to clear login failures
  - If you have forgotten your password, there is a link on the Iris login page that will lead you through the process of resetting a password
  - Email NERSC Account Support for more help

Password Rules

- **Requirements**
  - The password must register as either 'safe' or 'very safe' on a password strength meter that is provided.
  - There is no character complexity rule regarding inclusion of uppercase/lowercase letters, digits and special characters.

- **Good**

  j#K01vz$euP@!udls **OR** moocher-earflap-robin-overreach

- **Bad**

  P@ssw0rd

- If you are struggling to come up with a good password, Iris can recommend one for you. Click on the 'Recommend a safe password' link beneath the 'New password' box in the 'Password reset' dialog window.

Multi-Factor Authentication

- Provides an additional security layer to accessing NERSC
- Required for ALL users
- Generate a soft token
  - Link to a One-Time Password app/software
- Online instructions
  - http://www.nersc.gov/users/connecting-to-nersc/mfa/

Generating a Token

Type	Serial	Description	Fail Count	Actions
		No rows found		

New Token
Description

Description

+ Add Token

≣ Backup Passwords

− Delete All Tokens

Add Token →

New MFA Token   ×

OATH Seed   OTP Seed

Url: otpauth://totp/NERSC-elvis-TOTP18941BFC?secret=▮▮

Serial: TOTP18941BFC

Authy Code: ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

QR-Code for installing the OATH compatible Soft Tokens (FreeOTP, Google Authenticator and other apps using the 'otpauth://' syntax).

This will be the only time you will be able to scan this code into your Google Authenticator (or similar app), or use the URL string.

Close

Iris - Web Based Information Portal

- **Web-based tool for user and project management**
  - Check daily balance, change password, change login shell, update contact information, etc.
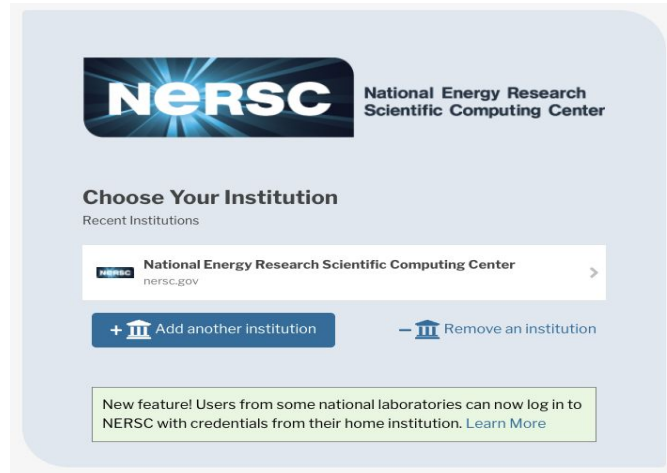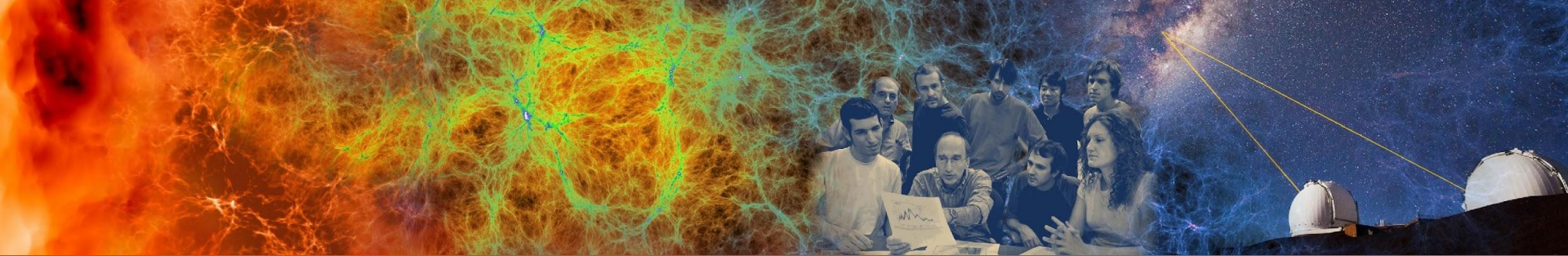 - Manage Project membership and allocations
  - Run reports

<div align="center">

https://iris.nersc.gov

</div>

Getting Help from the Iris Login Screen

Federated Identity

- NERSC offers a Federated Identity option that allows you to log in with your current organization's credentials
  - Currently only available for some National Laboratories
  - https://docs.nersc.gov/connect/federatedid/

Allocations

Allocations Process

- **PIs apply for resources through the *Energy Research Computing Allocations Process* (ERCAP)**
  - Accessed through the NERSC Help Desk at
    - https://ercap.nersc.gov
  - Renew current projects annually, typically late summer
  - Science objectives, approach, and resource requirements
    - Computer time, Community and Archival storage space
  - Reviewed and awarded by DOE Office of Science programs
  - Most allocations are awarded in late Fall (December)
    - Allocation year starts in January
    - Small Exploratory allocations are awarded throughout the year with DOE approval

Allocations Process - NERSC

- **Amount of Computing time available**
  - CPU Node hours: Approximately 22.49 million for AY24
  - GPU Node hours: Approximately 12.29 million for AY24
  - 80% to "DOE Mission Science"
  - 10% to ASCR Leadership Computing Challenge (ALCC)
  - 10% to "Director's Reserve"
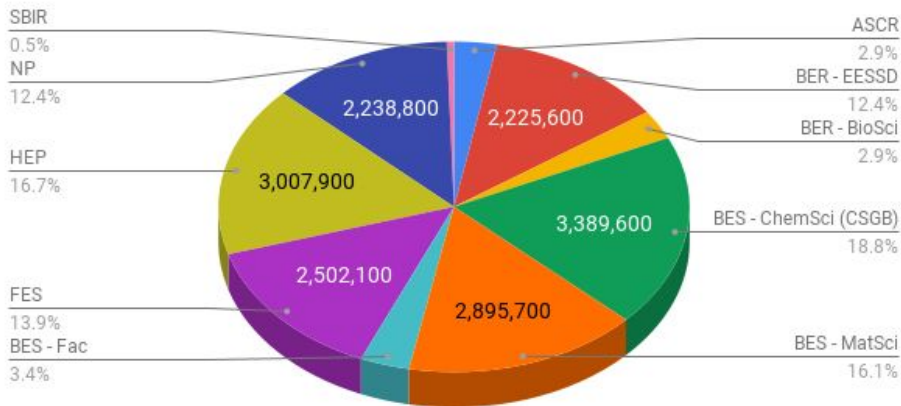   - Exploratory, Education, staff, etc.

Available CPU Time and Distribution

The CPU time available in AY 2024 for DOE Mission Science is ~17.99 Million **CPU Node Hours**

To help you size your request, we have published the total allocation available for each Office of Science area at

https://bit.ly/3OPlpdC

AY2024 CPU Distribution by Program

- SBIR 0.5%
- NP 12.4% — 2,238,800
- HEP 16.7% — 3,007,900
- FES 13.9% — 2,502,100
- BES - Fac 3.4%
- ASCR 2.9% — 2,225,600
- BER - EESSD 12.4%
- BER - BioSci 2.9%
- BES - ChemSci (CSGB) 18.8% — 3,389,600
- BES - MatSci 16.1% — 2,895,700
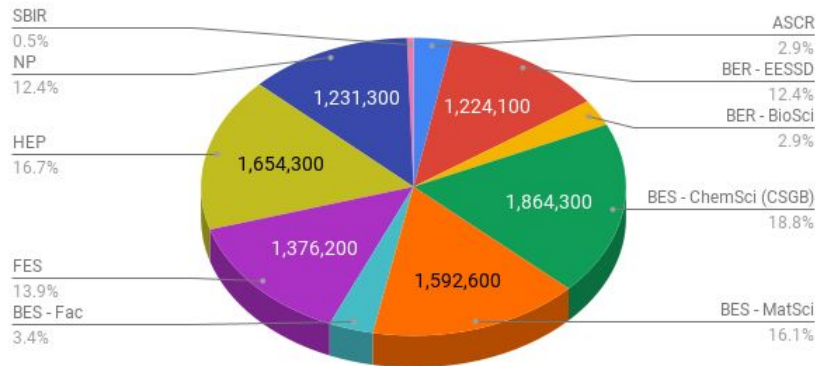
Available GPU Time and Distribution

The amount of GPU time available in AY 2024 for DOE Mission Science will be ~9.89 Million **GPU Node Hours**

To help you size your request, we have published the total allocation available for each Office of Science area at

https://bit.ly/3OPlpdC

Check https://docs.nersc.gov/applications/ to see if your software application will be installed for Perlmutter GPU nodes or is known to have a GPU version available

AY2024 GPU Distribution by Program

- SBIR 0.5%
- NP 12.4%
- HEP 16.7%
- FES 13.9%
- BES - Fac 3.4%
- ASCR 2.9%
- BER - EESSD 12.4%
- BER - BioSci 2.9%
- BES - ChemSci (CSGB) 18.8%
- BES - MatSci 16.1%

1,231,300
1,224,100
1,654,300
1,864,300
1,376,200
1,592,600

Running Out of Time

- **User**
  - PI determines how much of the project's computing allocation each user can use:
    - Either as a % of Total allocation or a fixed # of hours
  - If user runs out of time
    - Submitted jobs go into the overrun queue if project cannot pay for job
    - Contact PI to increase percentage or # of hours
- **Project**
  - If project runs out of time, PI should contact appropriate DOE Office of Science Program Allocations Manager
    - Each Program typically holds a certain amount of time in reserve
  - Any jobs submitted will run in the overrun (low priority) queue

Resources

- **Self Help**

https://ercap.nersc.gov
https://iris.nersc.gov
https://iris.nersc.gov/add-user
http://www.nersc.gov/users/accounts/
http://www.nersc.gov/users/accounts/allocations/
http://www.nersc.gov/users/accounts/user-accounts/
http://www.nersc.gov/users/accounts/user-accounts/how-usage-is-charged
http://www.nersc.gov/users/connecting-to-nersc/mfa/
https://docs.nersc.gov/connect/federatedid/
https://docs.nersc.gov/filesystems/archive/#hpss-usage-charging

Resources cont.

- **NERSC Account Support**
  - http://help.nersc.gov
  - accounts@nersc.gov

- **NERSC Allocation Support**
  - http://help.nersc.gov
  - allocations@nersc.gov

Thank You and Welcome to NERSC!