

SubMIT Overview & Updates

SubMIT Users Meeting

<https://indico.mit.edu/event/1794/>

Matt Heine 9/16/2025

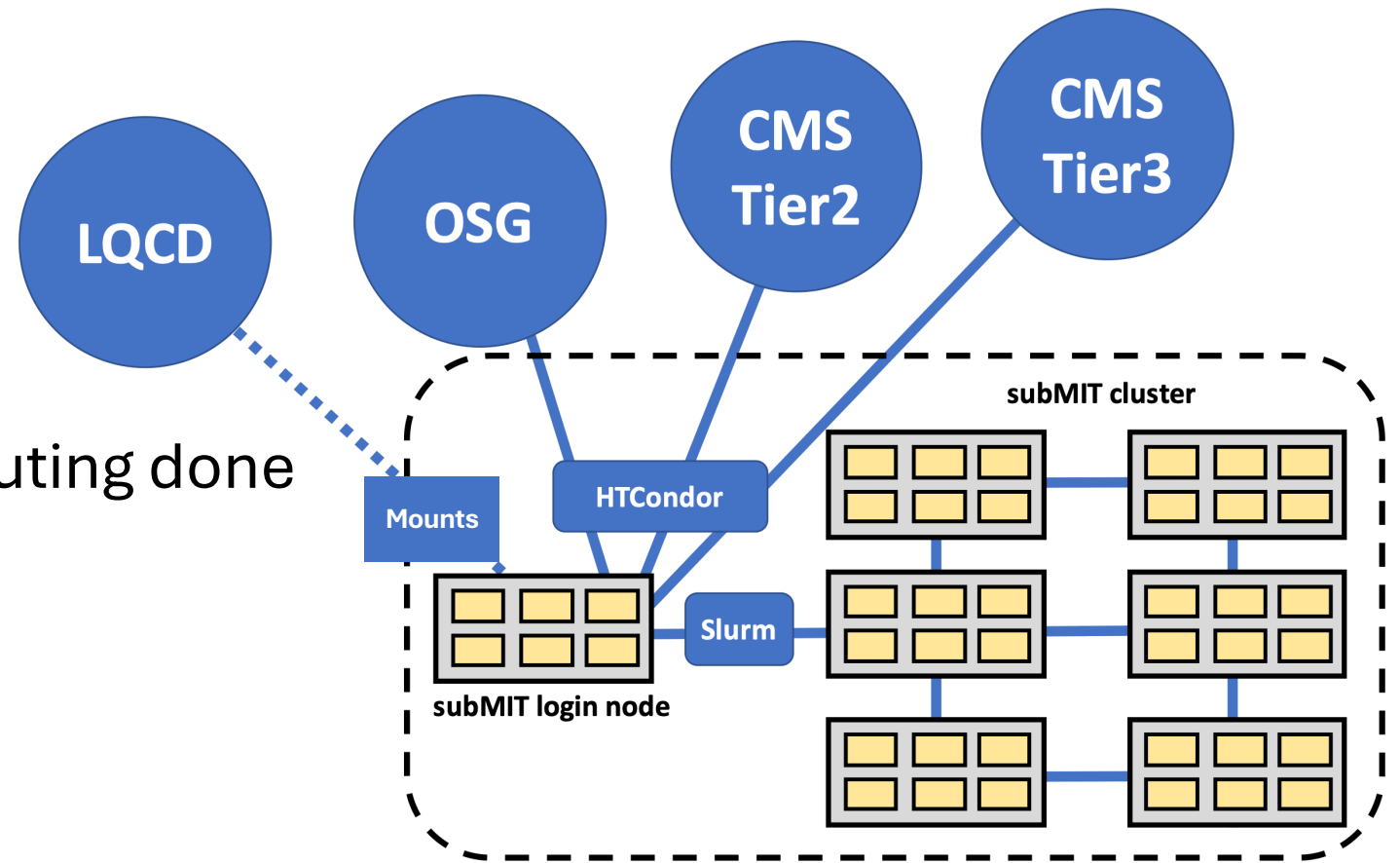


What is SubMIT?

Website: submit.mit.edu

Helping you get Physics Computing done via

- Hardware
- Technical Support
- Community



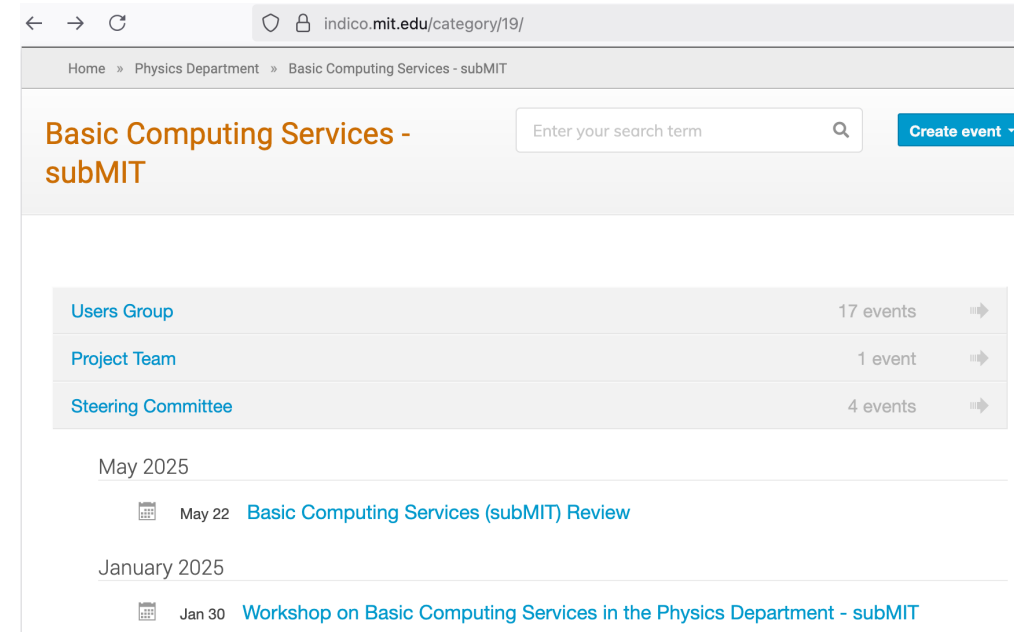
Support & Community

- Support

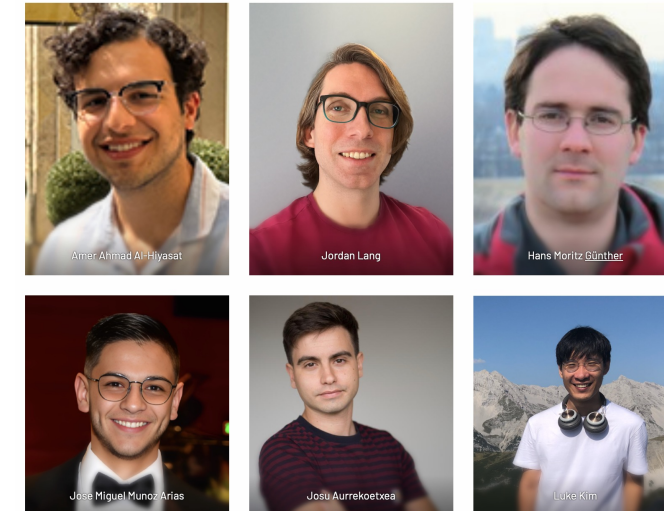
- Physics Computing Support Staff
 - Contact Helpdesk: submit-help@mit.edu
 - We can sit down with you and discuss your workflow
- Documentation (Users Guide, Tutorials, Examples)
- AI Chatbot + Helpdesk augmentation

- Community

- Monthly User Meetings
 - Variety of computing workflows: large and small
 - If interested in contributing research talk or tutorial, please email submit-help@mit.edu
- SubMIT Users Group
 - If you (or someone you know) are interested in becoming a Users Group Representative, email submit-help@mit.edu
- Annual IAP Workshop



Users Group

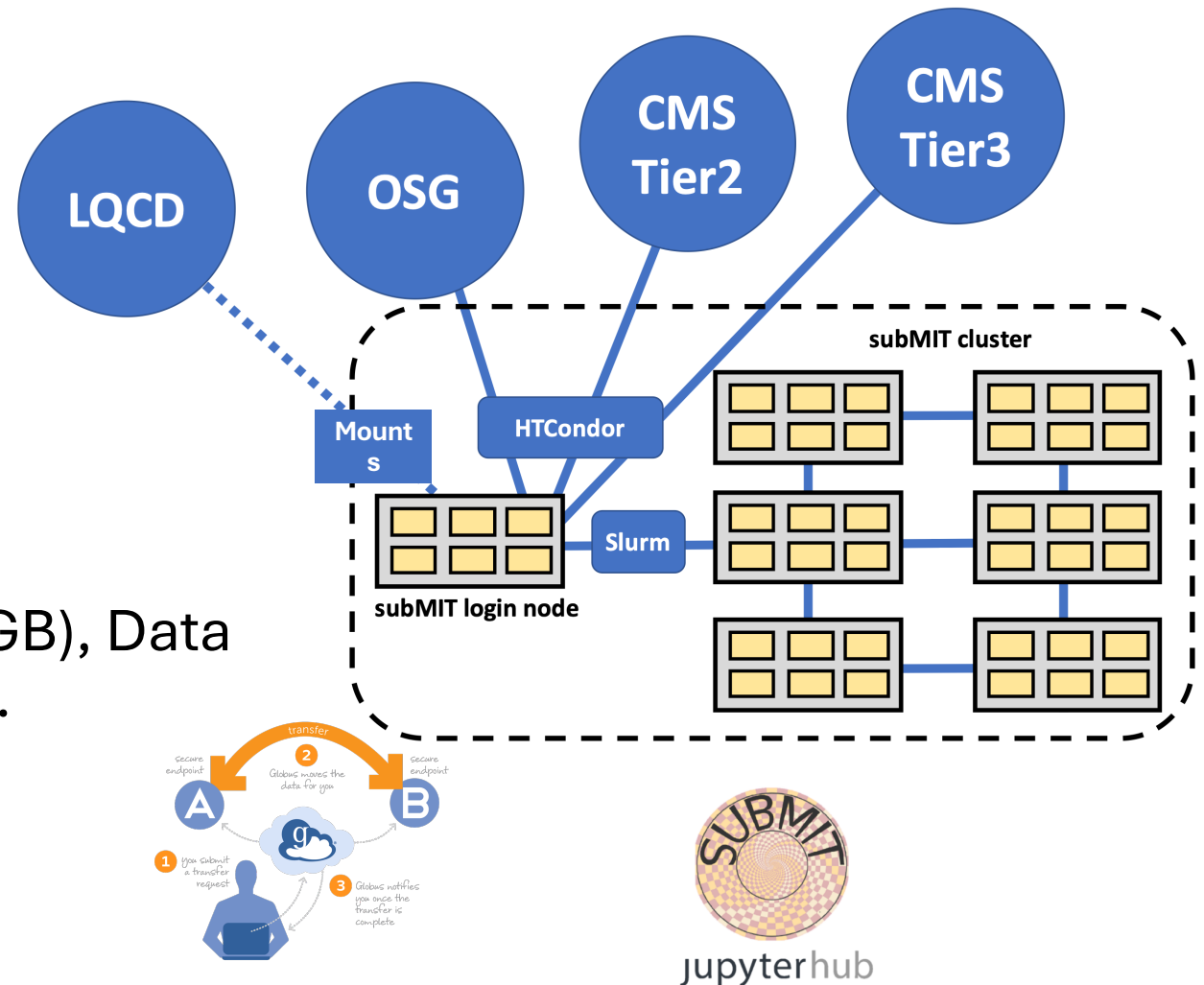


Hardware

- Login Pool
 - Internal SLURM cluster
 - ~1k CPU cores ~30 GPUs
 - Submit jobs to larger external resources
- Disk Space: Home (10GB), Work (100GB), Data (1TB) storage space (users + groups) ... expanded storage available for groups

Specialized Hardware / Features

- 2 High-Memory (1.5TB) / High-Density (192 core, 384 thread) nodes
- Fast 100 Gbit/s Network
- Fast NVMe scratch disk
- 1 TB / user storage + group space
- user + group websites
- Container Building / Running
 - Podman (Docker)
 - Apptainer (Singularity)
- cvmfs



Select a job profile:

- ✓ Slurm - Submit - 1 CPU, 2 GB
- Slurm - Submit - 2 CPUs, 4 GB
- Slurm - Submit - 4 CPUs, 8 GB
- Slurm - Submit-GPU - 1 GPU
- Slurm - Submit-GPU-A30 - 1 GPU
- Slurm for Wolfram Mathematica - submit00 - 1

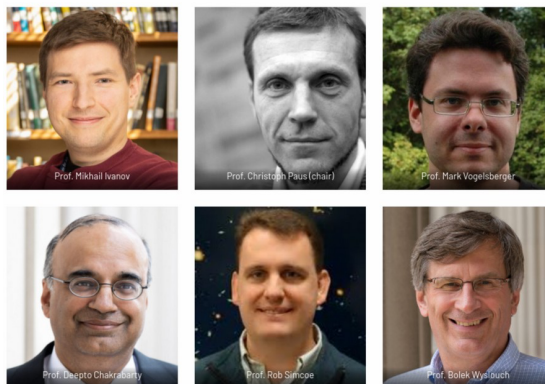
Web Browser access to
CPU / GPU nodes,
Jupyter Notebooks, Data
Transfer, user & group
webpages

Project organization



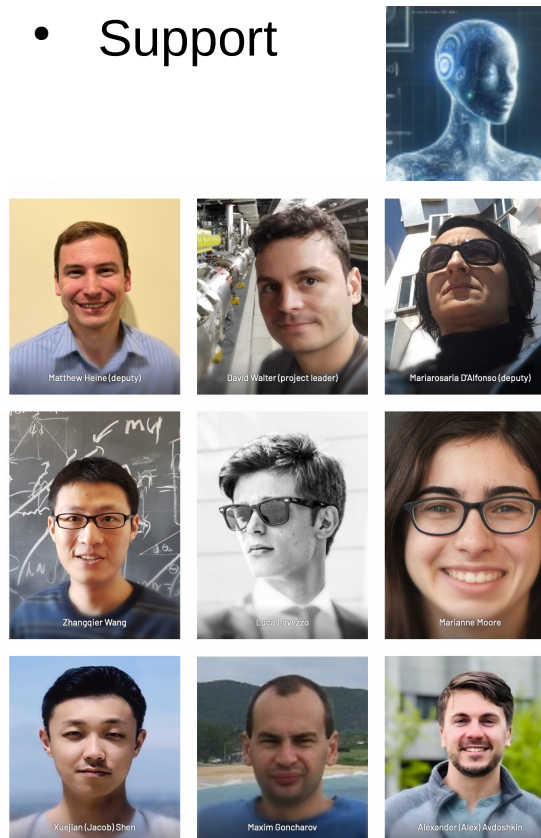
Steering committee

- Oversight
- Funding



Project team

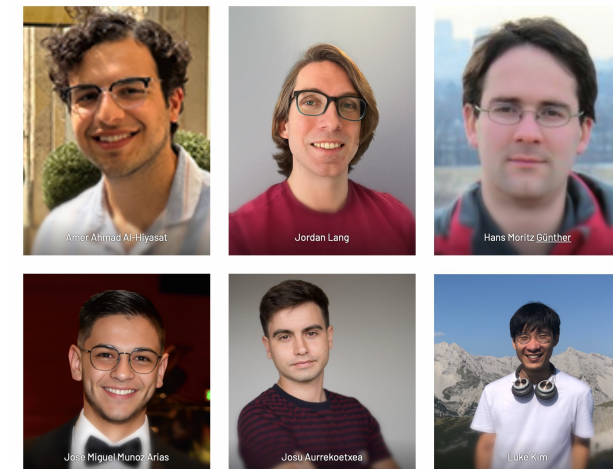
- Implementation
- Operation
- Maintenance
- Support



Users group

- Information flow between user community and project team
- Feedback
- Requests

Users Group



Status / News

- GPU express queue: submit-gpu-express
 - GPUs available when you need them
 - Interactive use + debugging
 - Dedicated resources
- GPU additions
- Expert monitoring additions
 - Support ticket metrics
 - User statistics

Overview

The SubMIT login pool is designed to let users login safely, prepare and test their research, and submit their jobs to the large computing resource of their choice. Check it out!

[Get your SubMIT Account](#)[SubMIT Users Guide](#)[Events](#)

Access

[ssh <user>@submit.mit.edu](#)[jupyterhub](#)

Status

[Servers](#)[Slurm queue](#)[Condor queue](#)[Expert](#)