



Launching **Careers in HPC** at **RMACC** Institutions

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View the Slides



https://github.com/ResearchComputing/2025_rmacc/student_cohort

CU Boulder Research Computing

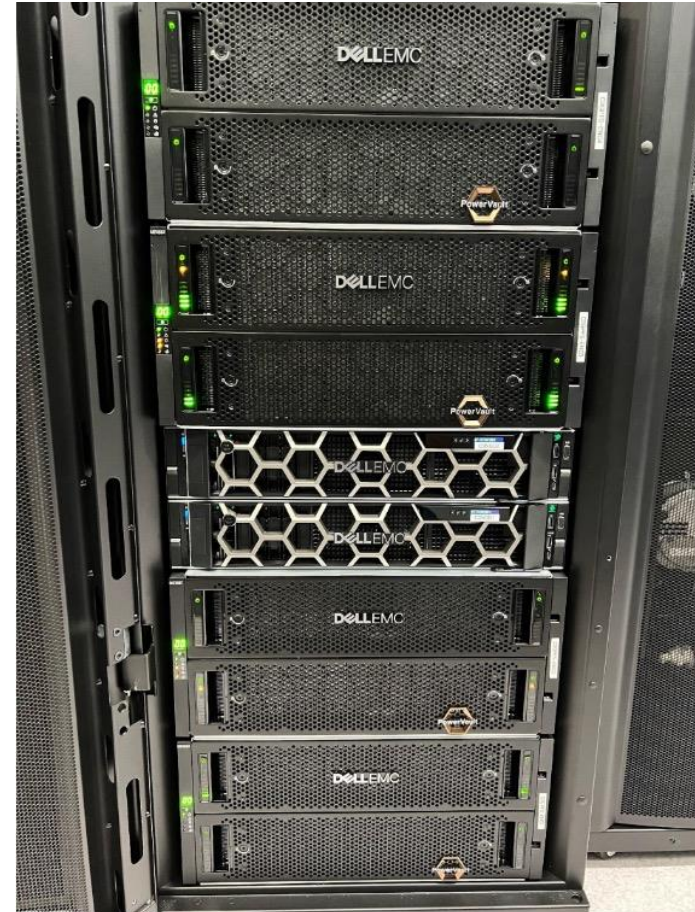
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- R1 Doctoral University
- Many services are available to users associated with institutions that are members of the Rocky Mountain Advanced Computing Consortium (RMACC)
- High Performance Computing (HPC), cloud computing assistance, storage
- Prior supercomputers: Janus, RMACC Summit

Alpine Supercomputer

Collaborative platform: CU
Boulder, CSU, Anschutz, RMACC

- 455 compute nodes, 28,080 cores, 74 GPUs, 24 high-mem nodes
- 1.9 PB GPFS scratch filesystem
- Continued growth in 2024
 - 1779 users, +28%
 - 148M core hours, +25%
 - >\$136.8M in research grants, +35%



RMACC Student Cohort

- Opportunity for undergraduate and graduate students to learn HPC system administration by learning from and shadowing RC staff
- RMACC student cohort (17 for 2 events)
- Target: workforce development and opportunities in HPC
- 17 have participated in some capacity: 11 on-site January, 7 on-site July (+1 remote)
- Students have come from 8 institutions including CU Boulder

Format of Experience

- Initially developed over two cohorts, consisting of:
 - a remote experience for most of a semester
 - a week-long in-person experience
- Iteration, student feedback were key

Curriculum

Work and subject matter has consisted of some combination of:

- Hardware and quote evaluation
- Cluster configuration
- Job submission and optimization
- Data center experience
- In-person discussions with HPC staff
- Resume review
- Mix of lecture and exercises

Experience 1: January 2024



January 2024

- Week on site
- Removal of Summit hardware from CU Boulder's HPCF data center

RMACC Symposium 2024

May 2024

- Gathered to meet with RC staff and director as well as with members of RMACC institutions
- New and returning members



Experience 2: August 2024



August 2024

- Week on site
- In-depth conversations with members of CURC staff regarding job responsibilities in HPC
- User support, data center, system administration
- Rollout - CPU nodes, Alpine
- (1 remote participant)

Future of the program

- Next cohort experience will be at an in-person session **August 11-15, 2025**
- Students from RMACC member institutions have been invited to participate
- Next experience has drawn substantial student interest
- Compiling educational material into a shareable form for use in increasing opportunities in HPC

Acknowledgements

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OAC #[2322260](#)

Investigators:

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- Jan Mandel (Co-PI)
- Mitchell McGlaughlin (Co-PI)
- Joel Sharbrough (Co-PI)
- Jarrod Schiffbauer (Co-PI)

CU Boulder Support

- OIT Data Center Operations
- Brandon Reyes, CU Boulder
OIT Research Computing User
Support Team
- Kyle Reinholt, CU Boulder
OIT Research Computing Research
Infrastructure Team

Thank you!

Visit our websites

- Research Computing www.colorado.edu/rc
- RMACC www.rmacc.org

Questions?

- Email RC: rc-help@colorado.edu

