

COMPASS 2026 Annual Review

RT/AST/NNSA Personnel Private Conference: UNM Student Union Alumni Meeting Room

Main Meeting: Lobo A/B Thursday 10/29 & Fiesta A/B Friday 10/30

Thursday, October 29

- 8:00 - 8:50 RT, AT, and other NNSA Personnel Breakfast meeting (private)
- 9:00 - 9:10 Introductions (Patrick)
- 9:10-10:00 Center Overview, Roadmap, and Y1 Milestones (Patrick)
- 10:00-10:15 Discussion
- 10:15-10:30 Break
- 10:30-11:10 Project Foundations: Training Materials, Initial Sensitivity Studies, and System Monitoring (Derek and Puri)
- 11:10-11:45 System Optimization: Workflow, Experiment/Data Collection and Performance Tuning (Trilce and Patrick)
- 11:45-12:00 Discussion
- 12:00 - 1:00 Lunch (Private Lunch for RT)
- 1:00 - 1:40 System Software Primitives: Communication Optimization (Tony)
- 1:40 - 2:00 Integrated Project: Sparse Solver Performance Optimization (Amanda)
- 2:00 - 2:45 Integrated Project: Hydrodynamic Solver Methods (Steve and Jason)
- 2:45 - 3:00 Plans for the upcoming year and beyond (Patrick)
- 3:00 - 3:15 Discussion
- 3:15 - 3:30 Break
- 3:30 - 5:00 Poster Session - Student Introductions and Poster-side Discussions (List below)
- 5:00 - 6:30 RT Caucus and generation of questions for the Center to answer the next day.
- 6:00 - 8:30 Dinner at Mission Winery

Friday, October 30

- 8:00 - 8:45 Private Breakfast for RT
- 8:45 - 9:30 Answers to Overnight Questions (Patrick)
- 9:30 - 9:45 Discussion
- 9:45-11:30 Private RT deliberations and discussion
- 11:30-12:00 RT presentation of summary of findings

Poster Presentations

Name	Submitting Institution	Area (please select one)	Poster Title
Amr Akmal Abouelmagd	Tennessee Tech	Cross-Layer Optimization	Do AMD and NVIDIA Count the Same Thing?
Amr Akmal Abouelmagd	Tennessee Tech	System Software	Partitioning the AMD MI300A: Locality Rules, Power Throttles
Mike Adams	UNM	Solver Design	Improving The Scalability of GPU-Aware Iterative Solvers Using Locality-Aware Collectives and All Available Processing Per Node
Akhil Reddy Alasandagutti	UNM	System Software	Advancing the State of the ARTS: Integration of CXL memory into an AMT Runtime
C. Nicole Avans	Tennessee Tech	System Software	Accelerated Data Simulations using stream-triggered MPI+Kokkos Comm
Purushotham Bangalore	University of Alabama	Cross-Layer Optimization	Cross-Layer Characterization Framework for HPC Applications
Nicholas Bacon	UNM	Cross-Layer Optimization	Guided Analysis for Understanding Global communication Efficiency
Xavier Barr	UNM	Cross-Layer Optimization	Optimizing MPI Parameters under Uncertainty
Thomas Hines	Tennessee Tech	System Software	OpenRAPIDS: Cascade
Shannon Kinkead	UNM	Cross-Layer Optimization	Multi-Strategy Adaptive Optimization of High Performance Communication
Nicholas Livingstone	UNM	Dynamic Resource Allocation	AgHPC: A Safe Agentic Framework for HPC Experiments
Javontae Martin	Tennessee Tech	System Software	Implementing Software Strong Progress RMA in ExaMPI
Derek Schafer	UNM	System Software	Optimizations for a CPU-free Stream Triggered Communication Interface
Jason Stewart	UNM	Solver Design	Engineering the distributed rising bubble problem in Beatnik
Jason Stewart + Thomas Hines	UNM	Other	Workflows Using Artificial Intelligence
Evan Drake Suggs	Tennessee Tech	System Software	Streamlining Cabana + MPI Using CPU-free Communication
Jackson Wesley	UNM	System Software	Optimizing Persistent Collectives Using RMA and Earlybird Communication