4th Annual
Ultrascale Systems Research Center (USRC) Symposium
July 31, 2019
JR Oppenheimer Study Center ("LANL Library") – 03-0207
Jemez & Cochiti Rooms, 2nd floor

Introduction

8:50 – 9:00	Welcome & USRC Overview	Nathan DeBardeleben USRC Co-Executive Director, LANL Staff

Student Research Talks

9:00 – 9:15	Deep I/O: Smart Networks for Fast Storage	Zhi (George) Qiao PhD Student, Univ. of North Texas Mentor: Hsing-Bung Chen
9:15 – 9:30	Improving SaNSA: Spark Integration and Anomaly Detection in HPC State Analysis	Dakota Fulp, Megan Fulp Post-baccalaureates, NMC Mentor: Nathan DeBardeleben
9:30 – 9:45	Shortening Hamming Codes to Better Correct 2-bit Errors	Cannon McIntosh Undergraduate, Coastal Carolina Mentors: Laura Monroe
9:45 – 10:00	Differential Privacy for Supercomputer Sensor Data	Spencer Ortega Masters Student, USC Mentor: Nathan DeBardeleben, Claire Bowen
10:00 – 10:15	Profiling HPC Application Resilience using DisCVar	Stephen Penton Post-baccalaureate, NMC Mentor: Nathan DeBardeleben, Terry Grove
10:15 – 10:30	Examining Contextual Based Error Correction Techniques in CLAMR	Dylan Wallace Undergraduate, Coastal Carolina Mentor: Nathan DeBardeleben
10:30 – 10:45	Performance Characterization of DRAM-NVM Hybrid Memory Architecture for HPC Applications using Intel Optane DC Persistent Memory Modules	Onkar Patil PhD Student, N. Carolina State Univ. Mentor: Latchesar Ionkov
10:45 – 11:00	Algorithm Learning with the Diagonal Neural GPU	Vanessa Job PhD Student, Univ. of New Mexico Mentor: Laura Monroe
11:00 – 11:15	Revere: HPC Job Failure Early Alert	Alexandra DeLucia PhD Student, Johns Hopkins Univ. Mentor: Lissa Moore

Student Poster Session

11:15 – 12:15 See Poster Listing USRC Students

Acknowledgements

Thank you to NMC for providing refreshments!

USRC Student Posters

Title	Presenter
Improving SaNSA: Integration with Spark and Tivan	Dakota Fulp Post-baccalaureate, NMC Mentor: Nathan DeBardeleben
HPC State Anomaly Detection and Visualization with SaNSA	Megan Fulp Post-baccalaureate, NMC Mentors: Nathan DeBardeleben
Profiling HPC Application Resilience using DisCVar	Stephen Penton Post-baccalaureate, NMC Mentor: Nathan DeBardeleben
FI-VIS: Towards Understanding Fault Propagation through Visualization	Hailong Jiang PhD Student, Kent State Univ. Mentor: Nathan DeBardeleben
Examining Contextual Based Error Correction Techniques in CLAMR	Dylan Wallace Undergraduate, Coastal Carolina Mentor: Nathan DeBardeleben
In-Situ Partitioning for Range Queries	Ankush Jain PhD Student, Carnegie Mellon Univ. Mentor: Brad Settlemeyer
Tiered Stripeset: Data Availability During Failure Bursts	Huan Ke PhD Student, Univ. of Chicago Mentor: Brad Settlemeyer
Providing order to the world: Range query for KV-SSD	Mian Qin PhD Student, Texas A&M University Mentor: Brad Settlemeyer
Petavision: Interpolating Video and Up-Sampling Simulations	Daniel Wang Post-baccalaureate, NMC Mentor: Howard Pritchard
Analyzing Excessive Memory Faults on Trinity and Trinitite	Richard (Eli) Snyder Post-baccalaureate, NMC Mentor: Lowell Wofford
KrakenBoot: Firmware-Level Cluster Provisioning via UEFI Surgery	Devon Bautista Masters Student, Arizona State University Mentor: Lowell Wofford
Shortening Hamming Codes to Better Correct 2-bit Errors	Cannon McIntosh, Woohyeong Kim Undergraduate, Coastal Carolina Graduate Student, Florida State Univ. Mentors: Laura Monroe, Latchesar Ionkov, Mike Lang
Differential Privacy for Supercomputer Sensor Data	Spencer Ortega Masters Student, USC Mentor: Nathan DeBardeleben, Claire Bowen
Examining Contextual Based Error Correction Techniques in CLAMR	Dylan Wallace Undergraduate, Coastal Carolina Mentor: Nathan DeBardeleben