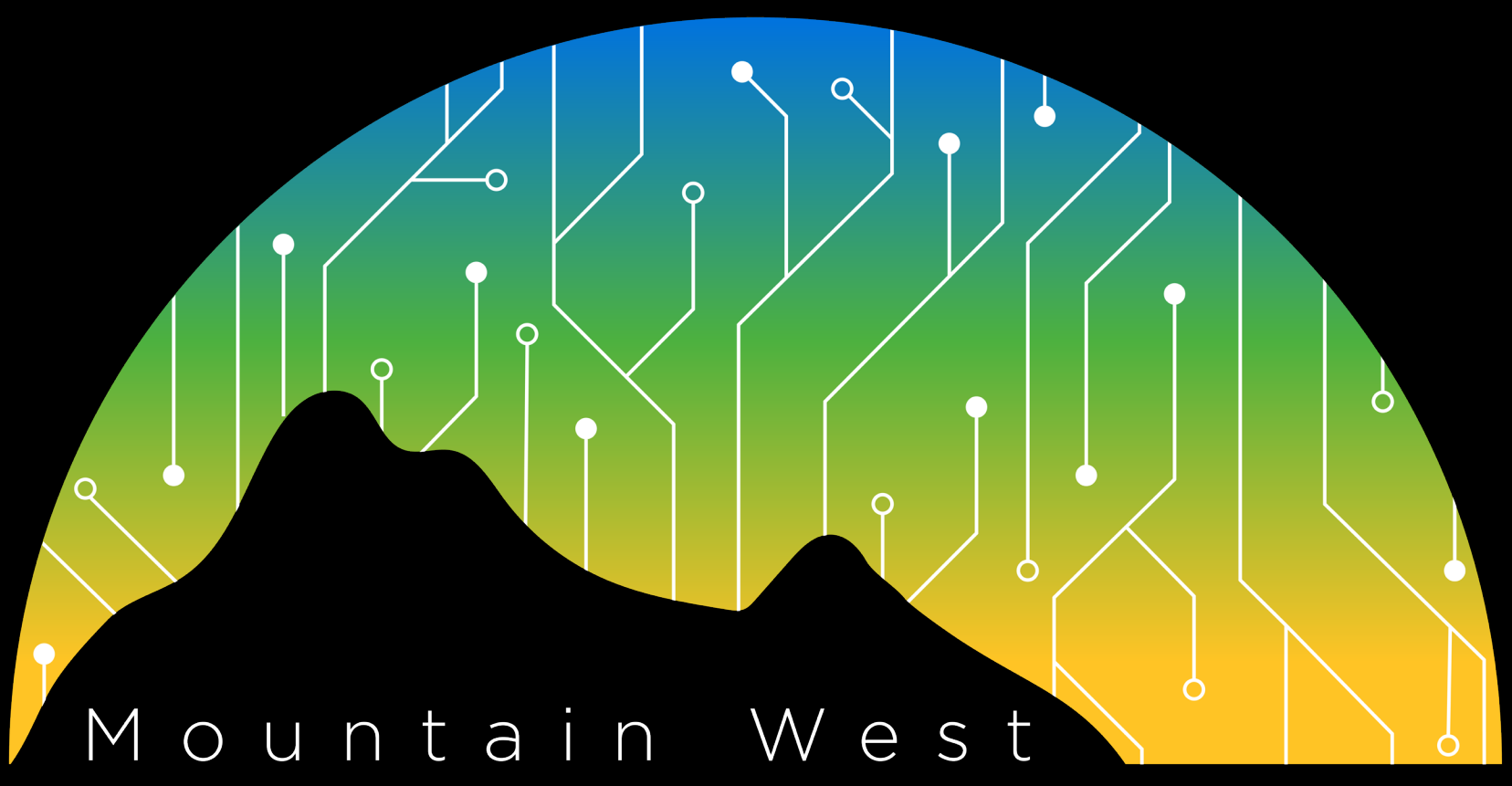

AI & HPC Summit

Aug. 31st - Sep. 2nd, 2026

UW Conference Center - Laramie WY

Co-hosted by the University of Wyoming, NVIDIA, and the NSF ASCEND Engine in Colorado and Wyoming

Welcome to the Mountain West AI & HPC Summit!

We are thrilled to have you with us as we explore how artificial intelligence and high-performance computing can advance discovery, strengthen education and workforce development, and expand the Mountain West's computational capacity.

Throughout the Summit, you will hear from experts working across a broad range of applications including weather and climate modeling, wildfire and hail prediction, agriculture and sensing, chemistry, quantum computing, edge computing, transportation, and applied GPU workflows.

In addition to plenary sessions and expert panels, we invite you to participate in a dedicated hands-on learning track hosted by NVIDIA. Through NVIDIA Deep Learning Institute coursework, guided labs, and bring-your-own-data clinics, you will have opportunities to develop practical skills and apply what you learn. Please note: You will need your own computer for these hands-on sessions.

Our hope is that you leave the Summit with not only new ideas, but also valuable connections and working skills you can put into practice.
Thank you for joining us and contributing your knowledge, experience, and perspective. We look forward to the conversations and collaborations that begin here and help carry our region forward.

Sincerely,
University of Wyoming
NVIDIA
NSF ASCEND Engine in Colorado and Wyoming

Lightning Talks – Day 1 – 08/31/2026

Session - 1
Time: 10:10 – 11:00 AM, Location: Salon B – Moderator: Andrew Kirby
Topic: Joint Human-AI Systems and Machine Learning Applications
1 Eric Alston: Who Do You Sue When the Agent Has No Name? Bonded Penalties for Autonomous AI
2 Marcio Paes Barreto: High Growth Ventures, Entrepreneurship, and AI
3 William Cain: Beyond AI Adoption: Evaluating AI Systems for Career and Technical Education
4 Sagar Dahal: Developing a Structure-Based Effector Database
5 Himadri Das: Machine Learning-Assisted Sweet Spot Identification in the Mowry Shale

Session - 2
Time: 11:10 – 11:50 AM, Location: Salon B – Moderator: Alathea Davies
Topic: AI Applications in Manufacturing & Autonomous Systems
1 Abiam Asif Khalid: Vision-Based Fruit Ripeness Detection for Simulated Robotic Harvesting
2 Umar Atan: Human-on-the-loop Autonomous Control of Robot Arms
3: Varun Bharadwaj: History-Aware Multi-Robot Scheduling for Patient Skill Improvement in a Robotic Rehabilitation Gym
4: FNU Dayan: How Much Does Modularity Cost? Efficiency Tradeoffs in Hierarchical Vision-Language-Action Models for Agricultural Robotics
5 Md Omor Faruk: Adaptive Correspondence Learning for Multi-View Fusion of 3D Gaussian Reconstructions for Non-Invasive Strawberry Plant Phenotyping

Session - 3
Time: 1:10 – 2:15 PM, Location: Salon B – Moderator: Vinit Katariya
Topic: AI Applications in Computer Vision
1 Jane Crayton: From Artifact to Algorithm to Object: AI, 3D Reconstruction, and Digital Fabrication for Cultural Heritage
2 Chase Livingston: Black-Ice Detection on Wyoming Highways Using RWIS and Black-Ice Test Bed Data
3 Seungjin Kim: Beyond Operating Speed: AI-Based Measurement of Lane Encroachment at Curbless Roundabouts
4 Joana Konadu Owusu: Open-Vocabulary Object Counting: From zero-shot detection to identity-aware video counting
5 Supreeth Suresh: Contrastive Evidence Allocation for Deep Image Classifiers

Session - 4
Time: 2:30 – 3:15 PM, Location: Salon B – Moderator: Suresh Muknahallipatna
Topic: AI & Quantum Algorithms
1 Guga Mikaberidze: Optimal Network Discovery
2 Sudipta Banerjee: Human-Centric AI for Authentication and Authorization
3 Amit Garu: Reliable Self-Stabilization in Scalable Distributed Systems
4 Tessa Livingston: Synthetic Data Generation of Surgical Drills Using Physics-Constrained GAN
5 Md Minhal Manjee: Lateral Movement Detection at Scale: Distributed Temporal Graph Learning with Degree-Aware Penalty Scoring

Lightning Talks – Day 2 – 09/01/2026

Session - 1
Time: 10:15 – 11:00 AM, Location: Salon A – Moderator: Sam Malloy
Topic: AI and HPC Applications in Earth Sciences
1 Pramod Adhikari: RM1.3: A long-term high-resolution data foundation for AI-enabled weather and climate research
2 Travis Aerenson: Leveraging HPC to understand regional and global predictability of precipitation intensity
3 Jeffrey Hamerlinck: Advancing Digital Twin Ecosystems for Rural Resilience and Adaptation
4 Kyle Johnson: A call to ensure reproducibility of machine learning applications in scientific research
5 Jiale Lou: High-Performance Computing and Data-Driven Methods for Understanding Fire Weather Extremes

Session - 2
Time: 10:15 – 11:00 AM, Location: Salon B – Moderator: Andrew Kirby
Topic: Joint Human-AI Systems and Machine Learning Applications
1 Jake Hawes - A call to ensure reproducibility of machine learning applications in scientific research
2 Kegan McIlwaine: Approachable Inference
3 Ali Nejadmalayeri: What Gets Lost in Translation? Using AI to Trace How Spoken Ideas Become Official Words
4 Mehedi Hasan: Operationally Constrained Geothermal Drilling Optimization Using Machine Learning Surrogates

Session - 3
Time: 11:10 – 12:00 PM, Location: Salon B – Moderator: Daniel McCoy
Topic: AI and HPC Applications in Earth Sciences
1 Weichen Liu: Hotter but calmer: warming suppresses downslope wildfire spread
2 Jacqueline Nugent: Planning better field campaigns for atmospheric measurements with high-performance computing
3 Tobias Ross: Using a Large Earth System Model Ensemble to Explore Uncertainty in Mountain West Snowpack Projections
4 Yuhong Ye: A Long-Term 6-km CONUS Climate Dataset: From Dynamical Downscaling to AI Applications
5 Fanghe Zhao: Emulating Dynamically Downscaled Snow Water Equivalent Across the Western United States: Training Data Composition Is Essential for Robust Climate Projections

Session - 4
Time: 1:10 – 1:35 PM, Location: Salon B – Moderator: Suresh Muknahallipatna
Topic: AI & Quantum Algorithms
1 Ali Torabi: CrispFormer: Uncertainty-Guided Boundary Refinement for Weakly Supervised Semantic Segmentation
2 Dibbya Saha: Optimizing Faster with Qubits: QAOA for Combinatorial Optimization in HPC
3 Asif Alif: Grover's Algorithm for AI and HPC: A Quantum Approach to Unstructured Search
4 Sabin Gautam: 2D van der Waals Materials for High-quality Superconducting Qubits

Session - 5
Time: 1:35 – 2:00 PM, Location: Salon A – Moderator: Alathea Davies
Topic: AI Applications in Manufacturing & Autonomous Systems
1 Ikram Arif: From HPC Simulation to Sub-Second Inference: A Cascaded Deep-Learning Digital Twin with Calibrated Uncertainty for Frontal Polymerization Manufacturing
2 Grant Litinski: HPC-Guided Design of a Closed-Loop Controller for Frontal-Polymerization 3D Printing: From Simulation Campaigns to a Regulated Printer
3 Md Mahbubur Rahman: Trait-Adaptive Hierarchical Attention Fusion of RGB-D data for automated lettuce phenotyping in hydroponic systems
4 Xiao Yang: Foundation Models for AI-Driven Livestock Monitoring
5 Xiang Zhang: Human-Orchestrated AI Agents for Verified Computational Mechanics Software

Session - 6
Time: 3:10 – 4:00 PM, Location: Salon B – Moderator: Vinit Katariya
Topic : AI Applications in Computer Vision
1 Aashish Pokhrel: Negation Understanding in Vision-Language Models
2 Pei Li: Can AI Understand a Car Crash?
3 Alex French: Application of a computer vision AI platform toward tracking psychedelic-induced behavior in mice.
4 Nabaraj Subedi: Teaching Models to Work in 3D

August 31, 2026

Start	Location	Title
7:30 AM	Breezeway	Registration & Continental Breakfast
8:15 AM	Salons C, D, & E	Plenary - Introduction by Parag Chitnis & Welcome Address by EVP Sheetz, UW
8:45 AM	Salons C, D & E	Plenary -NSF ASCEND Engine Vision by Mike Freeman, Innosphere
9:00 AM	Salons C, D & E	Plenary - AI/HPC Vision by Steve Niemi, NVIDIA

Track A – GPU Computing Skills

Start	Location	Title
9:20 AM	Salons C, D & E	Plenary- Four Ways to GPU Computing, NVIDIA
10:00 AM	Salons C, D & E	Break
10:10 AM	Salons C, D & E	Hands-on-DLI -GPU-Accelerated Python DLI, NVIDIA
11:00 AM	Salons C, D & E	Break
11:10 AM	Salons C, D & E	Hands-on-DLI - GPU-Accelerated Python DLI, NVIDIA
12:00 PM	Salons C, D & E	Lunch & Keynote Address, Intro: Parag Chitnis AI Across the Disciplines by Hans van Oostrom, Director, AI2 Center, University of Florida.
1:10 PM	Salons C, D & E	Hands-on - Project Mapping Clinic and Transition to Scaling, NVIDIA
3:30 PM	Salons C, D & E	Plenary - Intro. by Daniel McCoy & NVIDIA Research by Mike Pritchard, Director of Climate Simulation Research, NVIDIA

Track B – Applied AI

Start	Location	Title
10:10 AM	Salons F & G	AI-Accelerated Earth-System Downscaling by Stefan Rahimi
10:10 AM	Salon B	Lightning Talks – Session 1 - see more information on back of brochure
11:00 AM	Salons F & G	Break
11:10 AM	Salons F & G	Hail Modeling Moderator: Scott Mackaro
11:10 AM	Salon B	Lightning Talks – Session 2 - see more information on back of brochure
12:00 PM	Salons C, D & E	AI Across the Disciplines by Hans van Oostrom, Director, AI2 Center, University of Florida.
01:10 PM	Salons F & G	Wildfire Modeling – Moderator: Virginia Iglesias
01:10 PM	Salon B	Lightning Talks – Session 3 - see more information on back of brochure
02:15 PM	Salons F & G	Break
02:30 PM	Salons F & G	Soil Monitoring & Edge Computing for Agriculture – Moderator Mike San-Clements, NSF NEON
02:30 PM	Salon B	Lightning Talks – Session 4 - see more information on back of brochure

Evening Reception and Dinner

Start	Location	Title
5:00 PM	Reception Area	Reception and Guest Networking
5:30 PM	Salons C, D & E	Seating and Transition to Dinner
6:20PM	Event Stage	Welcome by EVP Sheetz
6:25 PM	Event Stage	Fireside Chat with Governor Mark Gordon; Chris Malachowsky, NVIDIA Co-Founder, and President Shane Reeves
7:25 PM	Event Stage	Closing Remarks by EVP Sheetz

September 1, 2026

Start	Location	Title
7:30 AM	Breezeway	Continental Breakfast

Track A – GPU Computing Skills

Start	Location	Title
8:15 AM	Salons C, D & E	Plenary Recap and Scale-Up Framing, NVIDIA
8:30 AM	Salons C, D & E	Plenary Multi-GPU PyTorch and DDP, NVIDIA
9:15 AM	Salons C, D & E	Break
9:30 AM	Salons C, D & E	Hands-on- Guided Lab: DDP Job Anatomy, NVIDIA
10:15 AM	Salons C, D & E	Plenary Intro. by Raghu Raj Kumar, Quantum Computing by Ester de Nicolas Benito, NVIDIA
11:00 AM	Salons C, D & E	Break
11:10 AM	Salons C, D & E	Talk & Demo- Nsight Systems & Compute Workflow, NVIDIA
12:00 PM	Salons C, D & E	Lunch and Keynote Address Intro. by Chris Malachowsky, Transforming Education through Digital Assets (Data, Compute, AI) in the Classroom by Frank Würthwein, Director, San Diego Supercomputer Center.
1:10 PM	Salons C, D & E	Hands-on - Profiling Lab: Find the Bottleneck, NVIDIA
2:00 PM	Salons C, D & E	Break
2:15 PM	Salons C, D & E	Plenary - Intro. by A. Davies, Evaluating AI for Science: Establishing Minimum Standards and a Path Forward: Michael Overton, University of Idaho
3:00 PM	Salons C, D & E	Break
3:10 PM	Salon F & G	Talk & Demo – Intro. by Suresh Muknahallipatna, UW Research Computing Resources, ARCC

Track B – Applied AI

Start	Location	Title
10:15 AM	Salon A	Lightning Talks – Session 1 - see more information on back of brochure
10:15 AM	Salon B	Lightning Talks – Session 2 - see more information on back of brochure
11:00 AM	All rooms	Break
11:10 AM	Salons F & G	Intro. by A. Davies, Fluid Intelligence: Using LLMs to Write and Optimize High-Performance Computational Fluid Dynamics Software by Andrew Kirby, School of Computing, UW.
11:10 AM	Salon B	Lightning Talks – Session 3 - see more information on back of brochure
12:00 PM	Salons C, D & E	Lunch and Keynote Address - Transforming Education through Digital Assets (Data, Compute, AI) in the Classroom by Frank Würthwein, Director, San Diego Supercomputer Center., Intro. by Chris Malachowsky
1:10 PM	Salon B	Lightning Talks – Session 4 - see more information on back of brochure
1:10 PM	Salons F & G	Intro. by Sam Malloy, Airborne Intelligent Robotic System for Environmental Sensing (AIR-SENSE) by Eric Frew
1:35 PM	Salons F & G	Intro. by Sam Malloy, Linking wildfire smoke forecasting with actionable health information by Ryan Luginbuhl
1:35 PM	Salon A	Lightning Talks – Session 5 - see more information on back of brochure
3:10 PM	Salon B	Lightning Talks – Session 6 - see more information on back of brochure
3:10 PM	Salons C, D & E	Hands-on - Build & Simulate a Dyad Model by Benn Stratton

September 2, 2026

Start	Location	Title
7:30 AM	Breezeway	Continental Breakfast

Track A – Applied AI

Start	Location	Title
8:15 AM	Salons C, D & E	Framing: Weather AI Workflow End-to-End, NVIDIA
8:30 AM	Salons C, D & E	Earth2Studio Overview: Inference Workflows, NVIDIA
9:15 AM	Salons C, D & E	Break
9:30 AM	Salons C, D & E	Lab 1: Run a Deterministic Weather Forecast, NVIDIA
11:00 AM	Salons C, D & E	Break
11:10 AM	Salons C, D & E	PhysicsNeMo Overview: Training & Fine-Tuning Physics AI Models, NVIDIA
12:00 PM	Salons C, D & E	Lunch & Wrap-up by Parag Chitnis, Steve Niemi, and Sam Malloy
1:10 PM	Salons C, D & E	Lab 2: Train or Fine-Tune a Weather Model Recipe, NVIDIA

Track B – AI and Emergent Technologies

Start	Location	Title
8:30 AM	Salon A	Intro. by Sam Malloy, Thermal Imaging Super-resolution & Advanced Sensing by Longji Cui
8:30 AM	Salon B	Introduction by Suresh Muknahallipatna, UW Quantum Computing Research Roadmap by Jifa Tian & A. P. Petrovic, Physics & Astronomy, UW
9:15 AM	All Rooms	Break
9:30 AM	Salon A	Intro. by Andrew Kirby, From drops to digits to decadal prediction: scale problems in the Earth system by Daniel McCoy, Atmospheric Science, UW
9:30 AM	Salon B	Intro. by Suresh Muknahallipatna, Quantum phenomena and their applications in AI and HPC by Hasan Iqbal, EECS, UW
10:15 AM	Salon B	Edge AI by Zoe Ryan, NVIDIA
11:00 AM	all Rooms	Break
11:15 AM	Salon B	Introduction by Alathea Davies, Computationally Informed Design of Porous Organic Frameworks for Semiconductor Applications by Laura Rita de Sousa Oliveira, Chemistry, UW
12:00 PM	Salons C, D & E	Lunch & Wrap-up by Parag Chitnis, Steve Niemi, and Sam Malloy

Our Presenters

Thank you to our speakers and presenters for sharing their expertise, insights, and perspectives with us

throughout the summit.

Governor Mark Gordon
Governor, State of Wyoming

Wyoming's 33rd Governor, Mark Gordon has served since 2019 and is recognized for his leadership in economic diversification, energy innovation, workforce development, and technology advancement. A rancher, businessman, and former Wyoming State Treasurer, he has been instrumental in initiatives such as the Wyoming Innovation Partnership and efforts to position Wyoming as a leader in emerging technologies.

President Shane Reeves
29th President, University of Wyoming

Brigadier General (Ret.) Shane Reeves became the 29th President of the University of Wyoming in July 2026. A Wyoming native and Rock Springs High School graduate, Reeves previously served as Dean of the Academic Board and chief academic officer at the U.S. Military Academy at West Point. Throughout his military and academic career, he has focused on leadership development, innovation, and academic excellence.

Dr. Kraig Sheetz
Executive Vice President,
University of Wyoming

Formerly Vice Dean for Engagement and Research at the U.S. Military Academy at West Point, Dr. Sheetz is a physicist, retired U.S. Army officer, and higher education leader. At West Point, he oversaw major research initiatives, strategic partnerships, innovation programs, and a research portfolio exceeding $22 million. He joined the University of Wyoming in 2026 as Executive Vice President.

Dr. Parag Chitnis
Vice President for Research and Economic Development,
University of Wyoming

Dr. Chitnis oversees the University of Wyoming's research, innovation, and economic development enterprise. Previously a senior leader at both the National Science Foundation and the USDA National Institute of Food and Agriculture, he has managed multi-billion-dollar research portfolios and played significant roles in national science and technology initiatives, including AI and advanced research programs.

Chris Malachowsky
Co-Founder and NVIDIA Fellow, NVIDIA Corporation

Chris Malachowsky co-founded NVIDIA in 1993 and is one of the architects of the modern graphics processing unit (GPU). With more than four decades of industry experience, he has helped drive NVIDIA's evolution from a graphics startup to a global leader in accelerated computing and artificial intelligence. He holds nearly 40 patents and remains a senior technology executive and member of NVIDIA's executive staff.

Mike Freeman
Chief Executive Officer, Innosphere Ventures

Mike Freeman leads Innosphere Ventures, one of the nation's premier technology incubators and venture capital organizations. With more than 30 years of experience spanning entrepreneurship, venture capital, and economic development, he also serves as CEO of the NSF Colorado-Wyoming Climate Resilience Innovation Engine (ASCEND Engine), helping accelerate regional innovation and commercialization.

Dr. Frank Würthwein
Director, San Diego Supercomputer Center, UC San Diego

Frank Wuerthwein, Director of the San Diego Supercomputer Center, and Professor at UC San Diego. Dr. Wuerthwein received his PhD in physics from Cornell University, specializing in elementary particle physics, followed by a Millikan Fellowship at Caltech, and a Junior faculty position at MIT. His interests today are turning bytes into knowledge via data analysis and developing and operating globally distributed cyberinfrastructure to do so effectively.

Dr. Hans van Oostrom
Director of the AI2 Center, University of Florida

Dr. Hans van Oostrom leads efforts at the University of Florida to integrate AI across academic programs and disciplines. He holds master's and PhD degrees in engineering from the Eindhoven University of Technology in the Netherlands. Previously, he served as the founding chair of the Department of Engineering Education. Through the AI² Center, he oversees faculty development, student AI learning opportunities, and AI microcredentials to embed AI competencies across the curriculum.

Dr. Michael Overton
Associate Director, IIDS - Institute for Interdisciplinary Data Sciences, University of Idaho

Michael Overton is a researcher whose work bridges data science, public administration, and public policy. He holds a Ph.D. and Master of Public Administration from the University of North Texas and has helped advance interdisciplinary data science initiatives and the application of analytics and AI to public sector challenges. His expertise includes local government management, public budgeting and finance, and economic development.

Mike Pritchard
Director of Climate Simulation Research, NVIDIA Research,

where he works on Earth-2. He leads a team of researchers who are exploring the potential of AI to advance weather and climate simulation. Mike previously served as a professor of Earth system sciences at the University of California, Irvine, where he led a research lab studying climate dynamics and next-generation atmospheric simulation algorithms starting in 2013.

Thank You to Our Sponsors and Partners

The Mountain West AI & HPC Summit is made possible by organizations that share a commitment to advancing research, workforce development, and innovation across our region. We are grateful for their support.

About Your Co-Hosts

The University of Wyoming,
the state's only four-year university, holds Research 1 (R1) status in the Carnegie Classification of Institutions of Higher Education, placing it among the nation's top research universities. The summit is hosted by UW's Research & Economic Development Division in conjunction with the departments whose logos are featured above.

NVIDIA,
a global leader in accelerated computing and artificial intelligence, develops technologies that power innovation across research, education, and industry. NVIDIA leads the summit's hands-on learning track, providing instruction in GPU computing, performance profiling, and AI model development for faculty, researchers, students, start-ups, and industry professionals.

The NSF ASCEND
Engine in Colorado and Wyoming is a National Science Foundation Regional Innovation Engine working to strengthen the region's innovation economy by advancing research, commercialization, entrepreneurship, and workforce development across Colorado and Wyoming.

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Contact Information
University of Wyoming
Research & Economic Development Division
Old Main, Room 408
1000 E. University Ave,
Dept. 3355
Laramie, WY 82071
Email: vpred@uwyo.edu
Phone: (307) 766-5353

https://www.uwyo.edu/research