

First Round of Derecho Professorships Awarded at UW School of Computing

Laramie, WY – The University of Wyoming School of Computing is thrilled to unveil initial recipients of UW Derecho Professorships. These prestigious professorships grant access to up to 5 million core hours on the new state-of-the-art Derecho supercomputer at the NCAR-Wyoming Supercomputing Center (NWSC), empowering researchers across a range of academic fields.

Our distinguished awardees are dedicated to harnessing the immense power of the Derecho supercomputer to support scientific discovery, and their work aligns with the mission of the National Center for Atmospheric Research (NCAR)-Wyoming Alliance to address grand challenges problems in geoscience and atmospheric science through a community of practice at the University of Wyoming. We are immensely proud to support such a diverse group of scientists, representing fields such as Anthropology, Atmospheric Science, Chemistry, Electrical Engineering and Computer Science, and Environmental and Natural Resources.

The collaboration between UW and NCAR has been instrumental in attracting and retaining top-tier faculty, whose cutting-edge research in computing is bolstered by guaranteed access to this resource. The nearly 20-petaflop Derecho supercomputer will provide an impressive 3.5 times more scientific throughput than its predecessor, the Cheyenne system. The HPE Cray EX cluster will be fully operational in 2023, with 20% of its computing power derived from graphical processing units (or GPUs) and the remainder from traditional processors (or CPUs).

NCAR is sponsored by the U.S. National Science Foundation and managed by the University Corporation for Atmospheric Research.

Join us in celebrating the following awardees to support new faculty recruitment and to support current faculty of the UW Derecho Professorship:

New faculty recruitment awardees:

- Melissa Bukovsky (Haub School) will use regional earth system models to advance the understanding of environmental challenges posed by climate change in Wyoming.
- Sean Field (School of Computing/Anthropology) will conduct research on how communities in the US Southwest cope with climate stress in the past and the present using computational archaeology, climate modeling, geospatial analysis, and remote sensing.

- Stefan Rahimi (Atmospheric Science) will apply advanced numerical techniques and high-resolution models to provide more accurate assessment of risks and hazards associated with weather phenomena such as fires, extreme heat, wind, flooding, and extreme rainfall, enabling better preparation and planning for the Western United States.
- Masanori Saito (Atmospheric Science) will generate reliable observational datasets tied with field campaigns conducted by NCAR and UW, contributing to scientific questions in cloud physics, dynamics, and microphysics.

Current faculty awardees:

- Lars Kotthoff (Electrical Engineering and Computer Science) will develop novel techniques that improve robustness, ease of use, and performance of artificial intelligence approaches for multiple scientific applications.
- Daniel McCoy (Atmospheric Science) will research climate model development and applications of remote sensing through large data analytics, machine learning, and high-performance computing.
- Laura Oliveira (Chemistry) will expand the capabilities of large-scale molecular dynamics simulations to understand chemical and physical processes for the design of new smart materials.

“The School of Computing extends its warmest congratulations to these accomplished researchers and eagerly anticipates the groundbreaking discoveries that will result from their access to the Derecho supercomputer and the fruitful partnership with the NCAR Wyoming Supercomputing Center” says Gabrielle Allen, Director of the School of Computing.

The University of Wyoming will award a total of 20 UW Derecho professorships, which can be held by faculty in all disciplines and at all ranks. More information on the program can be found at <https://www.uwyo.edu/soc/initiatives/uw-derecho-professors.html>