Nevada System of Higher Education

The Nevada System of Higher Education (http://system.nevada.edu/nshe/, NSHE) governs Nevada’s public campuses of higher education. NSHE has been a member institution of UCAR since 1971. UCAR-related science is primarily conducted at the Desert Research Institute (DRI) and the University of Nevada, Reno (UNR). DRI and UNR administer an interdisciplinary graduate program offering M.S. and Ph.D. degrees in atmospheric science, and UNR administers an undergraduate program offering a B.S. degree in atmospheric science that includes some courses taught by DRI faculty.

The Atmospheric Sciences Graduate Program is an interdisciplinary program within the Physics Department at UNR. The Atmospheric Sciences (ATMS) Graduate Program currently has 36 faculty members. Of this number, 28 have DRI’s Division of Atmospheric Sciences (DAS) as their primary affiliation, three are from UNR, one is from the University of Nevada, Las Vegas, and four are externally affiliated, including one NOAA employee on assignment at DRI. The ATMS faculty teaches 26 courses, including 10 at the undergraduate level. There are currently 31 students in the ATMS graduate program, 20 at the Ph.D. level, and 11 at the M.S. level. Since January of 2010, the program has awarded six Ph.D. degrees and 14 M.S. degrees. Three other graduate programs/departments at UNR provide educational opportunities in UCAR-related sciences: the Geography Department, the Hydrologic Sciences Graduate Program, and the Environmental Sciences Graduate Program.

The UNR undergraduate Atmospheric Sciences program, which was founded in 2005, has averaged 20 to 25 undergraduate majors; currently 15 undergraduate majors are enrolled in the program. Ten B.S. degrees in Atmospheric Science have been awarded from UNR during the past five years. Additionally, there have been five senior theses written by B.S. students in the physics department with atmospheric physics as their specialty.

Research interests within the ATMS faculty are broad and include physical meteorology, atmospheric chemistry, air quality, aerosol physics and optics, cloud physics, remote sensing, mesoscale meteorology, synoptic meteorology, atmospheric numerical modeling and weather forecasting, climate dynamics, fire meteorology and emissions, weather modification, as well as interdisciplinary studies in atmospheric science, chemistry, biology, computer science, hydrology and oceanography. DAS’s research portfolio consists of over 100 active projects, having a total value of approximately $25 million. Most research funding is received from a wide variety of federal, state, and local governmental agencies, as well as private industry, universities, and foundations. Federal government agencies generally provide the majority of DAS funding; these include NSF, DOE, DOD, DOI, NOAA, NASA, and EPA. Research conducted by DAS is reported in approximately 90 peer-reviewed publications and over 150 conference presentations each year. The UCAR application describes just a few of numerous research highlights in fields such as cloud physics and numerical model development, aerosol/cloud interactions, air quality and the meteorology of air pollution, and the dynamics of dust storms. DRI atmospheric science research facilities include the Storm Peak Lab, Organic Analytic Lab, Environmental Analysis Facility, Carter Family Optics and Acoustics Laboratory, Western Regional Climate Center, Portable In-Situ Wind ERosion Lab, and Mercury Analytical Laboratory.
NSHE faculty and students have been very active in UCAR activities and programs. The following individuals have served as NSHE Representatives at UCAR during this period: Dr. Vanda Grubišić (2003–2008), Dr. Anna Gannet Hallar (2008–present), Dr. Kenneth Kunkle (2009), and Dr. Eric Wilcox (2010–present). Dr. Grubišić also served on the President’s Advisory Committee on University Relation committee from 2006 through 2009. DRI faculty member Tim Brown and ATMS graduate student Nick Nausler participated in a collaborative effort supported by UCAR through a COMET Partners Project to characterize dry thunderstorms and develop a forecasting procedure for them. DRI faculty member Anna Gannet Hallar served as a member and chair of the Observing Facilities Assessment Panel, which acts an independent advisory body to NCAR and the Lower Atmosphere Observing Facilities Partner Organizations, from 2009 through 2012. NCAR models (the NCAR Community Atmosphere Model, the Weather Research and Forecasting model, and the NCAR Community Earth System Model) and computing infrastructure (e.g., Yellowstone) are used extensively by NSHE faculty, and some faculty have contributed to the improvement of these models. NCAR observing facilities (e.g., cloud condensation nuclei measurements from the NCAR C-130 aircraft) have been utilized extensively by the faculty as well. The University of Wyoming King Air aircraft was a key element of the Colorado Airborne Multi-Phase Cloud Study field campaign. In 2014, the NCAR GPS Upper-Air Sounding System was deployed at DRI’s Storm Peak Laboratory.

Based on the information provided in the application materials, the Nevada System of Higher Education easily meets the requirements for renewal of membership in UCAR. Therefore, the UCAR Membership Committee concludes that the membership criteria are fulfilled, and recommends to the Members’ Representatives that the UCAR membership of the Nevada System of Higher Education be continued as provided by the bylaws.