Harry Reid Silver State Research Award

The Harry Reid Silver State Research Award honors UNLV’s most respected faculty scholars, whose work exemplifies the best in Nevada research.

By Polly Bates
Photography by R. Marsh Starks

They may study two very different subjects, but geology professor Eugene Smith and psychology professor Christopher Kearney share at least two qualities in common: Both are committed to scholarship, and both recently received UNLV’s most prestigious research honor, the Harry Reid Silver State Research Award.

The two faculty members join a small, elite group of UNLV professors who have won the annual award, which was created in 2001 and named in honor of the U.S. senator who has been a strong supporter of the university. The award was designed to recognize research that is not only highly regarded but is also responsive to the needs of the community and state.

Smith and Kearney, who received the honor in 2006 and 2007 respectively, recently described the research that earned them this important distinction.

Eugene Smith, Professor of Geoscience

Eugene Smith has dedicated his 27-year career at UNLV to determining how volcanoes develop, not only at the surface but deep within the Earth’s mantle.

“Many of the mountains around Las Vegas were created in part by volcanic activity,” he says, “so you really have to understand volcanoes to understand how the Earth and its crust were formed.”

Since 1986, Smith has been conducting a volcanic hazard study of the proposed nuclear waste repository at Yucca Mountain. Funded by the Nevada Agency for Nuclear Projects and Clark County, this project aims to establish the size and activity of the volcanic field near Yucca Mountain and estimate the probability and location of future eruptions.

The Department of Energy must consider the repository site’s safety over a million-year period.

“The chances you can predict a geologic event one million years in the future are almost zero; the chances a new eruption will occur are probably 100 percent,” says Smith. “The question is, will that eruption intersect the repository?”

One challenge of this work is the lack of available data on the number of volcanoes in the area and the number of eruptions that have occurred. “In order to predict future volcanic activity, you have to have some idea of what has happened in the past,” Smith says.

To better understand past volcanic eruptions in the area, he and his graduate students have been studying different locations with similar volcanism, or volcanic activity, in southwestern Utah, Mexico, California, central Nevada, and Yellowstone National Park. Their research suggests that the volcanic field encompassing Yucca Mountain might extend to Death Valley National Park, so the number of volcanoes might be as much as 10 times higher than previously estimated.

Currently, Smith is collaborating with scientists at Boston University and Johns Hopkins University to test the accuracy of his predictive model.

In addition to his Yucca Mountain work, Smith has pursued several other areas of research.

For the U.S. Navy, he investigated whether the Naval Air Weapons Station at China Lake—which relies on geothermal power plants for much of its electricity—could generate additional power from an area south of the station.

Additionally, with a Bureau of Land Management grant, Smith, doctoral student Denise Honn, and undergraduate geology major Rachel Johnsen are mapping the geology of Sloan Canyon National Conservation Area, just south of Henderson. They are seeking to determine the location and ages of volcanoes and how they have erupted and have affected the current

Sterling Reputation

The Harry Reid Silver State Research Award honors UNLV’s most respected faculty scholars, whose work exemplifies the best in Nevada research.
For Smith, the Harry Reid Silver State Research Award is a particularly significant honor in his long career. "It has allowed me to fly a little higher and go a little further into the areas of the planet that contain water, which will be helpful into how the crust formed, the causes of volcanism, and how geological activity deep in the Earth affects volcanoes. Currently, he and geological activity deep in the Earth affects volcanoes.

Smith's research interests also extend beyond our world to the stars. He also serves as associate editor of the Journal of Clinical Child and Adolescent Psychology, and currently serves as an editorial re-thrusted, used in research funding. The author of more than 70 journal articles, Kearney frequently conducts workshops for professional groups and school districts throughout the country. In addition to the Harry Reid award, Kearney has received UNLV's William Morris Award for Scholarship, the Barrick Scholar Award, and the Barrick Distinguished Scholar Award.

Kearney received his bachelor's from the State University of New York (SUNY) at Binghamton and his master's and doctorate in clinical psychology from SUNY Albany. He has directed the work of 14 graduate students, in addition to the 11 doctoral students he currently oversees.

Kearney served for three years as associate editor of Behavior Therapy and currently serves as an editorial review board member for that journal, as well as the Journal of Abnormal Child Psychology, Journal of Anxiety Disorders, Journal of Clinical Child and Adolescent Psychology, and others.