**Degree Institutions:** University of Nevada Las Vegas (UNLV) and University of Nevada Reno (UNR)

**Research Assistantships:** Ph.D. and M.S. students in civil and environmental, electrical, and mechanical engineering; computer science and engineering; biological sciences; soil sciences; land restoration; education; economics; weather forecasting; or air pollution/dust science.

**Description:** Assistantships to Study the Nexus between Solar Energy-Water- and the Environment.

Water and energy are completely intertwined in that water transport and treatment require energy. The potential benefits of renewable sources include energy independence and curbing of greenhouse gases. However, their deployment typically is on a large scale with significant environmental implications. Nevada is among the primary locations for solar energy development because of the abundance of sunlight and land. Ironically, Nevada lies within the Great Basin and the Mojave Desert. The Great Basin is considered to be one of the most endangered eco-regions in the U.S., and the Mojave Desert as one of the least fragmented and undisturbed eco-regions in the contiguous U.S. Nevada has little water; meeting water demands for cooling and washing dust accumulated on solar panels and mirrors constitute an additional challenge to the water-energy nexus in Nevada.

The Nevada System of Higher Education (NSHE), which include the University of Nevada, Las Vegas, the University of Nevada, Reno, and the Desert Research Institute, is seeking highly-qualified candidates for several new Ph.D. or M.S. to meet the research challenges of the Nexus between solar energy-water-and the environment. The assistantships will be funded by a National Science Foundation EPSCOR (Experimental Program to stimulate Competitive Research) grant. A broad range of research topics in the Nexus between Solar Energy-Water-and Environment are being addressed. including, (1) Minimizing water use at solar energy facilities by improving dry cooling, (2) modifying solar panels surfaces to repel dust, (3) understanding dust chemistry and attachment to solar panels and mirrors, (4) minimizing environmental impacts of solar energy projects, (5) developing sustainable and advanced water/wastewater approaches to support water needs for solar energy, (6) improving reliability, economic modeling, and sunlight forecasting of solar energy supply, (7) developing new and use existing cyberinfrastructure capabilities to accelerate the Nexus research.

Students with a wide range of specialties are sought. Students from groups underrepresented in engineering and sciences are particularly encouraged to apply. The research assistantships include a generous stipend, full tuition, and health insurance. Students interested in studying at UNLV should contact Dr. Robert Boehm (bob.boehm@unlv.edu) or Dr. Jacimaria Batista (Jaci.batista@unlv.edu). Students interested in studying at UNR should contact Dr. Sergiu Dascalu (dascalus@cse.unr.edu) or Dr. Mehdi Etezadi (Etezadi@unr.edu).

**Qualifications:** The candidates are required to have a master degree or bachelor degree in engineering, life sciences, computer science, economics, or in other closely related engineering or science programs. Applicants must meet Graduate Record Examination (GRE) requirements of the program they are applying for. Applicants must also meet the minimum requirements for admission into UNLV (http://graduatecollege.unlv.edu/) and UNR(http://www.unr.edu/grad). International students who are not from English-speaking countries must submit the results of English proficiency test.