



POSITION DESCRIPTION

Position 1: Assistant Research Scientist
Position 2: Post-Doctoral Fellow
Soil Science/Hydrology
Division of Earth and Ecosystem Sciences
(12 month temporary appointment)

The Desert Research Institute (DRI) is an environmental sciences research organization within the Nevada System of Higher Education. DRI is seeking one or more innovative scientists with expertise in the general areas of soil hydrology, soil physics, and soil mechanics to support newly funded projects. Current project efforts are focused on developing systematic relations among landform type, soil morphology, surface condition, and vegetative cover that can provide realistic predictions or estimations of soil strength, soil moisture, and soil dust emission.

We seek scientists with knowledge, experience, or interest in more than one of the following technical areas:

- 1) Design, operation, and data analysis of field- and laboratory-based systems for monitoring soil mass-energy balance (e.g. sensors: soil moisture, temperature, dielectric, weather parameters; operation/programming of data loggers, processing of collected data).
- 2) Development and/or operation of field and laboratory experiments to measure parameters effecting soil strength and soil mechanics
- 3) Collection and analysis of field and laboratory data measuring parameters of soil strength and soil moisture (e.g. cone penetrometer, soil moisture meters/probes, soil density gauge, use of tension infiltrometers, other methods to measure soil hydrologic parameters).
- 4) Analytical operations in a soil laboratory, including a wide range of soil physical (e.g. laser-optical particle-size determination, bulk density, sieving), chemical analysis (e.g. soluble extracts, pH, mineral extractions, XRF), and hydrologic (e.g. moisture release curves, calibration of soil moisture probes, moisture-based thermal parameters). Ability to learn methods of data QA/WC and related data analysis and preparation or reports is essential.
- 5) Numerical modeling of soil hydrologic and physical properties using existing software (e.g. Hydrus, Rosetta, SHAW, SSiB).
- 6) Analytical field- and laboratory operations to characterize the propagation of electromagnetic wave propagation in soil systems (e.g. GPR, ground conductivity meter).
- 7) Analysis of soil thermal properties.
- 8) Ability to assist with conversion of field, laboratory, and field monitoring data into tables and figures for reports and publications (e.g. Excel, SigmaPlot, SigmaStat, SYSTAT).

REQUIRED QUALIFICATIONS

- US citizenship
- M.S. or PhD in soil science, geophysics, hydrology, geoscience, or related fields in engineering (e.g. geologic, environmental)
- Experience in two of more of the research areas above
- Excellent oral and written communication skills
- Evidence of the ability to participate in collaborative, team-based oriented research
- Self-starter who can take direction but does not require it
- Ability to work independently to fulfill project goals and meet project deadline
- Able to work extended hours in the field (often in remote locations) and travel as required

- Able to hand carry field equipment (up to 40Lbs) and soil samples across variable terrain, conduct field data collects including use of shovels, picks, augers, and technical equipment related to measurements of soil properties related to morphology, strength, and moisture.

PREFERRED QUALIFICATIONS

MS: Assistant Research Scientist (12 month temporary appointment)

- Demonstrated experience in field data collection, laboratory analysis, and management and/or interpretation collected data
- Basic knowledge of soil environmental monitoring and data analysis
- Basic experience in some aspects of hydrologic or geophysical modeling
- Basic experience in spatial analysis and modeling software platforms such as ArcGIS
- Experience/knowledge of soils and terrain in tropics, hot/warm continental, and/or continental glaciated settings beneficial

PhD: Post-Doctoral Fellow (Including above qualifications)

- Well-established knowledge of soil and hydrological processes related to assessment of soil condition from local to regional scales
- Ability to design, set up, and run novel field and laboratory experiments in support of above research areas.
- Excellent communication skills and ability to develop oral/poster presentations and write peer reviewed papers with limited supervision
- Ability to participate in the development of research proposals.
- strong quantitative and modeling skills

About DRI and the Positions

These positions are based at DRI's Northern Nevada Science Center in Reno, Nevada. The Assistant Research Scientist his is a 12-month temporary position. The Post-Doctoral Fellow position could be extended for up to two additional years if additional funding becomes available and if work performance meets or exceeds stated requirements.

CONDITIONS OF EMPLOYMENT

Due to project oversight duties and access of this position to restricted sponsor data, ALL applicants MUST be citizens of the United States. This position requires successful completion of appropriate background verification which may include criminal history, credit history, sex and violent offender registry, education verification, and employment history administered by DRI. Individuals who are offered and accepts this position must provide, within 30 working days of his/her start date, a copy of the transcript(s) of the highest degree he/she has acquired, as awarded by an accredited institute as recognized by the United States Department of Education and/or the Council on Higher Education Accreditation (CHEA).

ORGANIZATIONAL SUMMARY

Since 1959, DRI has stood at the forefront of understanding Earth's complex environmental systems, promoting preservation of diverse ecosystems, advancing responsible natural resource management, and improving human health and welfare throughout Nevada and around the world. More than 500 highly-skilled scientists, engineers, technicians and students are collaboratively focused on understanding and answering critical questions about global climate change, water quality and availability, air quality, sustainability of desert lands, life in extreme environments, and more.

SALARY / BENEFITS

Salaries are competitive and commensurate with qualifications. This position is eligible for DRI's benefits package. See this link for a benefits overview: <http://www.dri.edu/careers/employee-benefits>

APPLICATION / REVIEW PROCESS

To ensure full consideration, submit the following materials to recruit@dri.edu:

1. A cover letter detailing your research experience, career goals, project interests.
2. A current curriculum vitae;
3. Contact information for three professional/work-related references, to be contacted at the appropriate phase of the recruitment process based on applicant permission

Submissions **not** meeting these requirements will **not** be considered.

The position will remain open until filled

Further information on DRI and the Division of Earth and Ecosystem Sciences can be obtained at <http://www.dri.edu>. For questions regarding this position, please call the DRI recruiting office at 775-673-7332.

The Desert Research Institute (DRI) is an equal opportunity/affirmative action employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, sexual orientation, gender identity or expression, genetic information, national origin, political affiliation, disability status, protected veteran status or any other characteristic protected by law. DRI employs only U.S. citizens and persons lawfully authorized to work in the United States.