

DIVISION OF EARTH & ECOSYSTEM SCIENCES www.dri.edu/dees

The Division of Earth and Ecosystem Sciences (DEES) is one of three scientific research divisions within DRI. Since its inception in 1999, DEES has grown steadily and built a strong program of research, development, and education in the earth and ecosystem sciences. The DEES research portfolio reflects the interplay between local, state, national, and international environmental issues, the expertise of our faculty, and the availability of research funding.

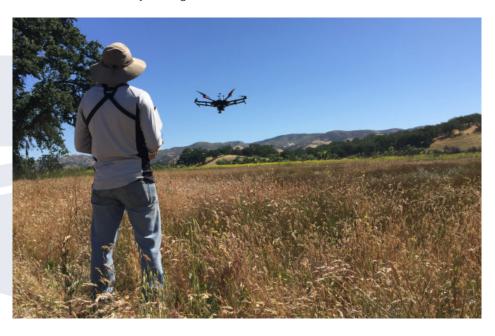
The mission of DEES is to conduct high-quality basic and applied research in the life and earth sciences, particularly those dealing with the complex interactions of geological processes, organisms, biological communities, and human societies on the earth's surface. We strive to be responsive to the scientific community through

publications and service, to develop the scientific pipeline, and to help inform the general public on issues of vital environmental concern. We address our mission through multidisciplinary research and education, with a highly diverse faculty supported by graduate research assistants and technicians. DEES has approximately 80 ongoing research projects with an annual budget of close to \$12 million, primarily derived from external research sponsors.

PHOTO CAPTIONS Top left: Scientists work in the greenhouse at DRI in Reno, Nevada; Top right: Researchers conduct soil sampling in southern California. Bottom right: Scientist uses a UAS to collect images of soil and vegetation in central California.

RESEARCH AREAS

- Anthropology, Archaeology, Paleoecology
- Biological Sciences
- Health Sciences
- Geological Sciences
- Remote Sensing, GIS & Visualization
- Research Commercialization



NEVADA SCIENCE, GLOBAL SOLUTIONS

The Desert Research Institute (DRI) is a recognized world leader in basic and applied interdisciplinary research. Committed to scientific excellence and integrity, DRI faculty, students, and staff have developed scientific knowledge and innovative technologies in research projects around the globe. Since 1959, DRI's research has advanced scientific knowledge, supported Nevada's diversifying economy, provided science-based educational opportunities, and informed policy makers, business leaders, and community members. With campuses in Reno and Las Vegas, DRI serves as the non-profit research arm of the Nevada System of Higher Education.





DRI.EDU/DEES

LABORATORIES

RENO

Archaeobotany Lab DRI Luminescence Lab Ecologically Controlled Enclosed Lysimeter Labs (ECOCELLs) Frits Went Lab Laboratory of Molecular Responses Micro Analysis & Visualization Lab Molecular Microbial Ecology Lab Soil Characterization and Quaternary Pedology Lab Systems Microbial Ecology Lab Spatial Analysis Facilities

LAS VEGAS

Archaeology Lab Geomicrobiology Lab Nevada Desert Research Center Spatial Analysis Facilities



PHOTO CAPTIONS Above:

Researcher takes a soil crust measurement in southern Nevada; Top left: DEES researcher measures and catalogues archaeological samples at DRI's Las Vegas campus; Top right: Researcher measures dust in Israel using a device developed at DRI called the PI-SWERL.



THE DESERT RESEARCH INSTITUTE IS PART OF THE NEVADA SYSTEM OF HIGHER EDUCATION.



SERVICES & CAPABILITIES

ARCHAEOLOGY, ANTHROPOLOGY & PALEOECOLOGY

- Cultural resources inventory and management
- Historic preservation of cultural sites
- Study of ancient species, ecosystems & climates

BIOLOGICAL SCIENCES

- AstrobiologyBiogeochemistry of extreme environments
- Plant and ecosystem ecology
- Environmental genomics
- Microbial ecology and molecular biology
- Ecosystem and agricultural sustainability

GEOLOGICAL SCIENCES

- Geoscience support for military operations
- Dust and aerosol characterization
- Soil science and soil testing
- Geochronology and luminescence dating
- Geochemical modeling
- Quaternary geomorphology

HEALTH SCIENCES

- Genetics and population health
- Bioinformatics and health analytics
 - Personalized medicine and wearables

REMOTE SENSING, GIS & VISUALIZATION

- Analytics, informatics, machine learning and data visualization
- Environmental forensic studies
- Species and habitat mapping
- Unmanned aerial systems (UAS) applications
 and development
- Water resource and water rights mapping

RESEARCH COMMERCIALIZATION

• TuBiomics: Agricultural pharmaceutical company creating organic antifungal chemicals



• Predira: Weather intelligence platform for localized pest and disease forecasts



PROJECT FUNDING SOURCES

FEDERAL SPONSORS

Department of Energy Department of Defense Department of Interior National Aeronautics & Space Administration National Science Foundation U.S. Department of Agriculture

STATE SPONSORS

Nevada Division of Environmental Protection Governor's Office of Economic Development Nevada System of Higher Education

LOCAL GOVERNMENT SPONSORS

Clark County Nevada Tahoe Conservation District Southern Nevada Water Authority Lincoln County

PRIVATE SPONSORS Renown Health

CONTACT US

Tim Minor, Interim Executive Director Division of Earth & Ecosystem Sciences Office: (775) 673-7477 Email: tim.minor@dri.edu Desert Research Institute 2215 Raggio Parkway Reno, NV 89512 (775) 673-7300