**Nevada System of Higher Education Sponsored Programs** 



# NEXUS NSF EPSCoR

Solar Nexus: Nevada's Research Institutions Supporting Our Community



Brian Beffort, Director of the Sierra Club, Toiyabe Chapter (standing far left) moderated the panel discussion. Speakers, from left: Eric Wilcox, Dale Devitt, Bob Boehm, and Gayle Dana.

As a concluding element for NEXUS External Engagement (EE), the EE group organized an outreach event at the Springs Preserve in Las Vegas on November 14, 2018. The goal of the event was to educate key stakeholders in Nevada on the Solar Nexus team's research and results, how those results have led to the development of commercial projects, as well as how the team's work aligned with Nevada's goals for primary and secondary education, resource protection, technology development, economic diversification and workforce development.

At the event, five NEXUS graduate students presented their work during the poster and networking session. Then a panel of NEXUS faculty participated in a discussion moderated by Brian Beffort of the Sierra Club. The panel included representatives from each of the four project components, i.e. the solar, environmental, water, and education/workforce development groups.

A total of 72 people attended the event. The welcome and opening comments were provided by Nevada Assemblyman Chris Brooks. Additional key attendees included Nevada Assemblywoman Lesley Cohen, Chambers of Commerce representatives, environmental NGO's, state agencies, medical professionals, and members of the business community, both representatives from solar and energy efficiency companies, as well as the broader business community.

## 5 NEW FACULTY HIRED IN SOLAR, WATER, ENVIRONMENT & ECONOMICS

## **GRADUATE STUDENT RESEARCH**

Matthew Ruehl is currently in his second semester as a graduate student in the Chemical Engineering Department at the University of Nevada, Reno. He recently graduated cum laude with a B.S. degree in Chemical Engineering with a minor in Renewable Energy. Matthew was born and raised in rural northern Nevada in the town of Winnemucca. Although



Matthew Ruehl University of Nevada, Reno (Advisor Dr. Sage Hiibel)

his parents have been successful working in the mining industry, Matthew is a first-generation college student. After he completes his MS degree, Matthew intends on either working in industry or continuing with research at a national laboratory.

Matthew's graduate research has focused on minimizing the environmental impacts caused by abandoned mines and the acid mine drainage that is often associated with them. As most abandoned mines have no official owners that can be held responsible, an efficient and inexpensive method of remediation is being developed that uses bacteria to remove toxic metals and reduce the acidity that are associated with mine drainage. Matthew is experimenting with combinations of local bacterial and waste sources to produce the most efficient remediation process, with hopes that his laboratory studies will be scaled-up and used in the field in the near future.

# 41 GRADUATE STUDENTS GRADUATED

#### WORKFORCE DEVELOPMENT



NEVADA STEM

Online resource to connect students with faculty mentors and research projects.



Online resource outlines the potential pathways, via state programs and institutes, to a STEM Career.



# NASA EPSCoR **RRR CAN** NEW AWARD

A Rapid Research Response (RRR) Cooperative Agreement Notice (CAN) has been awarded to Nevada NASA EPSCoR for \$100k. PI Dr. Elisabeth Hausrath, UNLV in collaboration with NASA scientist Dr. Elizabeth Rampe: team will address high priority NASA research to examine the interaction of minerals found in Mars, and the resources available during these reactions. "Rock, H2O, and H2: Energy from water-rock interactions on Mars" (2019).



3 CAN & 1 RID AWARDS

#### NEVADA'S EPSCOR PROJECT FUNDING



**National Science Foundation** NA SA

**Current Projects** 2018 - 2019 \$20,000,000 Past Projects 1993 - 2017 \$53,903,783

**National Aeronautics** and Space Administration

**Current Projects** 2013 - 2018 \$3,500,000 Past Projects 1993 - 2013 \$7,950,000



**Department of Energy** 

Past Projects 2000-2010 \$4,150,000



Department of Defense

Past Projects 2002-2011 \$4,177,659

### **\$235.5 MILLION** 2.5:1

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