



NSF EPSCoR

NATIONAL SCIENCE FOUNDATION SITE VISIT

The Solar Energy-Water-Environment Nexus project (NEXUS) was showcased during the National Science Foundation (NSF) Site Visit. NEXUS leadership, led by Dr. Gayle Dana, provided an overview of current research and accomplishments, as well as cyberinfrastructure, workforce development, diversity and external engagement highlights to the NSF panel. The site visit concluded with a tour of NEXUS solar, water, and environment research sites, Nevada Research Data Center virtual demonstration and a student poster session featuring select NEXUS project graduate students, undergraduate students, and a high school student.



NEXUS field site next to solar plants
Eldorado Valley Site



Super critical power cycle
Flamingo Site



Dry cooling tower
UNLV, Thomas Beam Engineering Bldg Site



Nevada Research Data Center (NRDC)
Virtual Demonstration



NEXUS Student Poster Presenters

L to R: Rui Wu, UNR; Lorenzo Apodaca, UNLV; Yuan Luo, DRI; Bonnie Wood, UNR; Chris Hicks, UNLV; Hanna Huh, Davidson Academy; Kaipō Kekaula, UNLV; Alisson Boeing, UNLV; Michelle Chiu, UNLV; Danielle Nobles-Lookingbill, UNLV; Jason Sylva, UNLV; Coral Taylor, UNR; Adam Betemedhin, UNLV



SISTEM
STUDENT INTERACTIONS WITH SCIENCE, TECHNOLOGY,
ENGINEERING, AND MATHEMATICS

NEW STEM PROGRAM FOR HIGH SCHOOL STUDENTS

High school students in southern Nevada have the opportunity to learn about various STEM careers and research through a new program, Student Interactions with STEM (SISTEM), funded by the NEXUS project. SISTEM was created to increase awareness and excitement about the STEM disciplines as a whole through a diverse set of talks and hands on experiences that are truly one of a kind.

Students are required to commit to attend all five sessions in a series. The STEM Fall 2016 Series begins on Wednesday, October 5th. Fall topics include aerospace engineering, titanium alloy production, biochemistry & anthrax, and Switch - home of the SUPERNAP data center.

Applications for the Spring 2017 Series will open in January.

Find more information at nvsolarnexus.org/system

NEXUS NEWSLETTER



August 2016 edition is available now: nvsolarnexus.org/about/newsletter/

NSF EPSCoR

NEVADA SOLAR-WATER EXPRESS

The Nevada Solar-Water Express is a cargo trailer currently being built and equipped with state-of-the-art and standard water/solar technologies to support future research in energy and water. The Express will also support educational activities. It has a 6 ft awning window for demonstrations, extended tongue for generator, fixed bench-space; small wet-lab area, module areas for various treatment technologies, and PV panels on the roof to demonstrate solar energy systems. The Express is mobile and can be located in remote sites for research and to demonstrate engineering and science applications statewide.

It will be used at multiple solar facilities for treating panel wash water and brackish groundwaters. Faculty members at DRI (Dr. Bandala), UNR (Dr. Hiibel) and at UNLV (Drs. Batista and Moon) are expected to use the trailer to complete Nexus research and also to collaborate with agencies and other researchers on potential water related grants. Multiple PIs will bring their technologies into the trailer for testing. By working closely with each other, the PIs will forge collaborative synergistic future efforts for research and joint grant writing.



TRAINING 'SOLAR SAVVY' TEACHERS

THE NEXUS NERDS PROGRAM GIVES EDUCATORS THE TOOLS TO TEACH STUDENTS ABOUT SOLAR ENERGY



By Jane Palmer

Nevada school students enjoy sunny skies and 'electricity on tap' on a daily basis, but that doesn't necessarily mean they know the association between the two. Enter the NEXUS Nevada Educators Really Doing Solar (NERDS) program, which aims to connect the dots between the Sun's rays and energy production for students, by providing their teachers with a unique educational experience.

The NERDS program brings high, middle and elementary educators to the University of Nevada Reno (UNR) campus each spring and fall, and takes them out into the field each summer, to teach them about solar power and the links between this sustainable form of energy and the environment. The goal of the program is to equip these teachers with both knowledge and tools that they can take back to the classroom environment. [Read More](#)

NEVADA NASA PROGRAMS

NASA EPSCoR recently awarded three faculty Seed Grant proposals. These projects are multi-collaborative with faculty from UNR, UNLV and DRI with the purpose of building scientific expertise, building research infrastructure and strengthening collaborations between NSHE personnel, Industry, and NASA centers.

The programmatic aim is to further engage and utilize Nevada's unique resources and talent for enhancing greater scientific discovery, developing new technologies, and educating undergraduate and/or graduate students to fulfill the nation's need for science, technology, engineering and mathematics (STEM) as they pertain to NASA's research and exploration enterprises. This is the year for moving STEM forward.

Congratulations to our NSHE faculty:



Drs. **Hung La** (PI), David Feil-Seifer (Co-PI) and Paul Oh (Co-PI at UNLV), awarded \$83,523

UGV-UAV Hybrid System for Unstructured Environment Exploration



Drs. **Jaeyun Moon** (PI), Kwang Kim (Co-PI) and Yantao Shen (Co-PI at UNR), awarded \$84,301

3D Additive Manufacturing Capability for Space Applications: Research Infrastructure Development



Drs. **Eric Wilcox** (PI), W. Pat Arnott (Co-PI at UNR), awarded \$65,866

Development of a Multi-Spectral Irradiance Monitor for Rapid Deployment Aerosol Measurements in Complex Terrains



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