

HIGHLIGHTS

JULY 2016 ISSUE

NSF EPSCoR

NEXUS PROJECT GARNERS NATIONAL COVERAGE

Recent National Science Foundation's Science360 News headlined two of the Solar NEXUS projects blog posts. Boosting each blog's views by 300%, thereby significantly increasing national awareness of the exceptional research and workforce development occurring in Nevada.

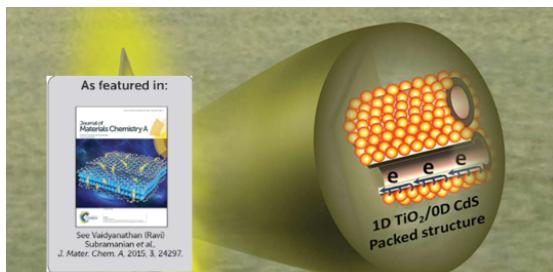


[Restoring resilience in the Nevada desert.](#)



[STEMBOPS: education goes viral](#)

NEXUS ENCOURAGES UNDERGRADUATE AND GRADUATE PUBLICATIONS

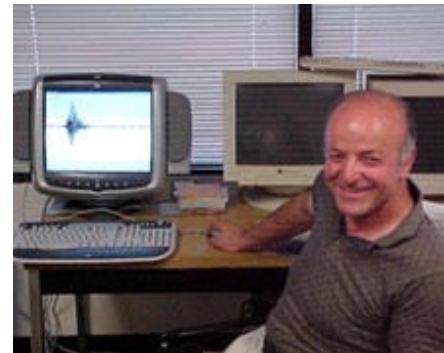


Awards are now available to support student research publication fees and travel expenses for NEXUS undergraduate and graduate students. The intent of these awards is to provide support for expenses related to publishing and/or presenting NEXUS research. [Learn More](#)

NEXUS RESEARCHER FOCUSES DEVELOPING A STANDARD FOR SOLAR ENERGY USE

By Megan Neri

Great work often comes from humble beginnings. It's easy to look around in our high tech world and forget that before the technology that makes our lives easier, someone had to figure out not only how to make it but how to make it work efficiently and effectively. Dr. Evangelos Yfantis, a computer science professor at University of Nevada, Las Vegas (UNLV), is currently in the research phase of developing just such a technology. Once his research is complete – part of the Solar-Energy-Water-Environment Nexus Project in Nevada – solar plant workers will have the ability to detect when solar panels need to be cleaned before the energy the panels are producing has significantly dropped. Though this may not seem revolutionary to some, it will have an impact on how solar energy is used, ideally leading to a broader use of the technology.



Dr. Yfantis is one of many researchers located throughout Nevada who are part of the NEXUS project. As a professor, Dr. Yfantis teaches computer science to undergraduate, masters and doctoral students at UNLV in the areas of computer graphics, digital image processing, cryptography, pattern recognition, artificial neural networks deep learning, and genetic algorithms. Dr. Yfantis also is an active researcher at UNLV which includes developing theories, publishing articles on his research, bringing research money to the university, and serving as a mentor to students as well as an industry expert. His most recent paper, "Using Spectral Decomposition to Detect Dirty Solar Panels and Minimize Impact on Energy Production" was published by the "Society for Science and Education United Kingdom" in the "Advances in Images in Video Processing" journal. This article focuses directly on his current work with the Solar Nexus Project. Dr. Yfantis has had nearly 30 articles and papers published over the last five years.

Dr. Yfantis did not stumble into his career haphazardly. "As far back as I can remember, I wanted to be a professor of hard science and engineering," Dr. Yfantis said. "We love being part of the Solar Nexus Project and the opportunity to do meaningful work. The ultimate goal is that the research will establish standards of how to optimize solar power output and minimize the cost of maintenance of the solar panels."

FOLLOW THE NEXUS STORY AS IT EVOLVES



Read the [NEXUS monthly blog](#) for the latest project progress.

NSF EPSCoR

GOOD-TO-GREAT PROFESSOR

EARLY CAREER FACULTY ENHANCE LEADERSHIP SKILLS AT INNOVATIVE RETREAT

Twelve NSHE faculty, started their summer in beautiful Incline Village, Nevada on the Sierra Nevada College campus ready to absorb career-advancing skills and resources. The two and half day retreat was an intensive and immersive experience complete with a dorm room stay. Experts from Nevada and NSHE led sessions on meeting and classroom facilitation; developing significant learning experiences for students; time management; nuts-and-bolts issues about research proposal writing and publishing; promoting collegiality and successful workshop relationships; preparing for the tenure process and balancing personal and professional life. The retreat was sponsored by the National Science Foundation's Experimental Program to Stimulate Competitive Research (NSF EPSCoR), Award #IIA-1301726. Plans have already begun to host the second Early Career Faculty Retreat in June 2017.



RII TRACK 1 PRE-PROPOSALS MOVING FORWARD

NSF EPSCoR pre-proposals are due Friday, September 2, 2016 from research teams who have submitted a Letter of Intent.

INTERNAL POSITION ANNOUNCEMENT



Accepting applications for an Associate Project Director, NSF EPSCoR. Applications will be accepted until 5:00 pm, Friday, August 12, 2016. Application packets should be e-mailed directly to Mrs. Lori Brazfield, Lori_Brazfield@nshe.nevada.edu. Read the [complete position description](#).

TRI-STATE CAPSTONE MEETING

Idaho, Nevada, and New Mexico graduate and undergraduate students and their mentors participated in the capstone meeting of the NSF WC-WAVE project in May. Three years of multi-state collaborative research came together through virtual watershed visualization, field experiences, and developing testable hypotheses. Takeaway highlights:

"Professional development for our undergraduate students was outstanding as they were able to present and be treated like peers with graduate students and faculty."

"...what seemed to be disparate activities throughout the project really coalesced at this meeting."

"The interaction between Cyberinfrastructure and Watershed lead to a better understanding of what it takes to implement CI for science modeling."



NEVADA NASA PROGRAMS

UNDERGRADUATE RESEARCH PEER-REVIEWED JOURNAL OPPORTUNITY

NASA undergraduate summer awards or any NSHE undergraduate research award are encouraged to submit an article for consideration in the 3rd volume of NSURJ. Submission deadline is October 21, 2016. [Read More](#)

