

NASA EPSCoR & NASA SPACE GRANT CONSORTIUM

MESSAGE FROM DR. LYNN FENSTERMAKER

NEW NASA EPSCoR AND NASA SPACE GRANT CONSORTIUM PROJECT DIRECTOR



It's an honor to have been selected as the Director of these two great NASA programs. I truly look forward to working with NSHE faculty and students to expand Nevada's STEM research infrastructure and educational opportunities to help meet the NASA mission and goals. Both of

these programs have fostered successful research and education projects for Nevada since their inception.

Moving into the future, I look forward to helping grow Space Grant projects so that more of Nevada's college and K-12 students can become excited about science, technology, engineering and math (STEM) and participate in providing a better future for Nevada, NASA and our nation. Through the NASA EPSCoR opportunities, I'm excited to help our NSHE faculty improve their research knowledge base and gain new infrastructure so that they can competitively participate in current and future research challenges of benefit to NASA.

Sincerely,

Dr. Lynn Fenstermaker

NSF EPSCoR

DR. MARKUS BERLI: PLAYING WITH SOIL IS SERIOUS BUSINESS

Have you ever stared at a pile of soil sitting under a beautiful fruitful plant and wondered what role it plays in the extraordinary things growing around it? Or imagined that soil has a fragile architecture that is impacted by the environment in which it exists? It's these questions that excite Markus Berli, Ph.D., associate research professor for environmental hydrogeophysics at the Desert Research Institute (DRI) in Las Vegas. With more than 17 years' experience in basic and applied research related to the physics, mechanics and hydraulics of soils and soft rocks, Berli's research focuses on figuring out how soil and water work together.



Dr. Berli shows the impact of water runoff from the solar panel at DRI.

Originally from Switzerland, Berli did not begin his educational journey thinking he would study soil for a living. No one in his family studied science, but Berli was fascinated by Albert Einstein's work and interested in learning more about how the world works from a scientific perspective. He originally planned to become a hardcore physicist, but with the influence of some passionate professors at the Swiss Federal Institute of Technology Zurich (ETHZ), in Switzerland he was drawn toward studying the natural environment. More specifically, he was intrigued and excited by

the complexities of soil and loved combining the studies of physics, mechanics and hydrology to truly understand how soils function.

In 2006, after working on projects in the states of Utah and Connecticut, and returning to Switzerland for a year, Berli joined the team at DRI in Las Vegas. Berli's research projects encompass a range of topics from the physics and mechanics of root-soil interactions, water and energy balance of arid soils to prediction of post-fire flooding and debris flow. One of his favorite projects so far in his career began with a \$25,000 NSF EPSCoR seed grant which he was

able to leverage into a \$400,000 three-year NSF funded project in which he and his team studied the interaction of plant roots with the surrounding soil and how water flows from the soil to the roots. Through his research he learned that roots adjust and grow based on the soil conditions in which they live.

Berli is currently working on The Solar Energy-Water-Environment Nexus in Nevada funded through NSF EPSCoR, which he is able to leverage the research from previous projects. When he's not playing with soil for work, he enjoys spending time with his wife and young son.

NEVADA EPSCOR WELCOMES ALTHEA SHEETS AS COMMUNICATIONS SPECIALIST

Althea Sheets joined the EPSCoR Nevada office as communication specialist on November 3. She is responsible for media relations and press releases, websites, newsletters, highlights, publications, social media, and meeting/event logistics. She brings ten years of higher education knowledge and experience to NSHE, seven of those as the communications manager for Idaho EPSCoR, University of Idaho. In addition, she has twenty years of private industry and U.S. federal government finance and administrative experience working for Idaho West Energy Company, a subsidiary of Idaho Power; Scott Paper Company; the U.S. National Park Service, Death Valley National Park; the U.S. Department of Veterans Affairs; and the Department of the Interior, Bureau of Mines. She holds two undergraduate degrees, a Bachelors of Science in Business-Accounting and a Bachelors of Science in Communication Studies from the University of Idaho. We are excited to have Althea on board to lead the charge in meeting our communication needs.



MEET THE NEVADA EPSCOR TEAM: MARCIE JACKSON

Marcie Jackson joined the Nevada System of Higher Education Special Sponsored Programs Office in December 2011. She is responsible for the budget, finance, and cradle-to-grave grants management of two of Nevada's Research Infrastructure Improvement (RII) awards, totaling \$22 million in federal dollars and \$4 million in state dollars.

Q: What is your favorite part of your job?

A: I enjoy seeing how all of the different parts of the project come together. Many of the team members just see what is happening within their own component, but I get to interact with all aspects of the project. It is amazing how much is going on statewide.

Q: What is the best part of living in Southern Nevada?

A: The weather! I grew up in a snowy area, so I really love being able to just wear a light jacket in the winter and not scrapping ice off of windows. I don't mind the heat in the summer.

Q: What impact has working in the EPSCoR office had on you personally?

A: I have met some really wonderful people in Nevada and across the country. Being able to interact with such diversity of individuals helps me look at things more broadly.

Q: Is there any special place you want to visit before you die?

A: I want to go everywhere. All of my travels so far have been to close countries. I want to see Asia, Europe, Australia...the list goes on and on. Except you can keep the Antarctic--see question two above.

NOW ACCEPTING APPLICATIONS FOR THE NASA MINORITY UNIVERSITY RESEARCH EDUCATION PROJECT [MUREP] SCHOLARSHIP PROGRAM

NASA's Office of Education is accepting applications for the Minority University Research and Education Project, or MUREP, scholarship program. The MUREP Scholarship is a competitive opportunity that focuses on underserved and underrepresented students in STEM disciplines attending a Minority Serving Institutions (MSI). The scholarship includes 75 percent of tuition up to a \$9,000 per academic scholarship, based on tuition amount, and \$6,000 for a summer internship. Applications are due March 31, 2015.

Information on the NASA Scholarship Programs can be found at <https://intern.nasa.gov/>, click on Scholarships.



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