



SWES Colloquium Series 2014-2015

Department of Soil, Water and Environmental Science

“Linking Exposure & Translational Science: A Community-Engaged Project near a Legacy Mine”

Across the arid Southwest, there are thousands of inactive and abandoned mines, with approximately 80,000 sites in Arizona alone. Mine tailings and smelter ash at these sites can be resuspended by wind and blown for hundreds of miles, and may be an important source of metal exposure in rural communities. Located in Northern Arizona, the Iron King Mine and Humboldt Smelter Superfund Site has soil concentrations of arsenic and lead reaching 12,000 and 10,400 mg/kg respectively. The goal of the Metals Exposure Study in Homes was to assess exposures and potential exposure pathways in children living within 5 miles of the site, paving the way for follow-up epidemiological studies. Children in this community have higher arsenic exposures than the general US population, and these exposures are associated with arsenic concentrations in their yard soil, house dust, and tap water. Children in this community did not have elevated lead exposures. Study results were reported to participants using a tailored community-engagement process. Given the importance of early-life arsenic exposures on long-term adverse health outcomes, more studies are needed to understand the contributions of multiple exposure pathways so that more targeted interventions can be designed specifically for children.

Paloma Beamer, PhD

Associate Professor

Environmental Health Sciences

Mel and Enid Zuckerman College of Public Health

Monday, March 30, 2015 -- 3:00pm

Marley 230

Refreshments at 2:45

