



THE UNIVERSITY OF ARIZONA

# Mel & Enid Zuckerman College of Public Health

## Environmental and Occupational Health Seminar

*Community, Environment & Policy Department Presents*



**Jeff Burgess, MD, MS, MPH**  
Professor  
Associate Dean for Research  
Mel and Enid Zuckerman College of Public Health  
University of Arizona

### **“Exposure assessment and biomarkers of effect in firefighters”**

**Thursday, September 24, 2015**

**12:00 PM - 12:50 PM**

**Drachman A116**

Dr. Burgess has a broad research program working with both occupational and environmental populations. His occupational research projects are focused on reducing toxic exposures and preventing injuries among miners, firefighters and other first responders. His environmental focus has been on evaluation of population-level exposures to arsenic in drinking water and diet and improvement of emergency preparedness.

This seminar will describe a new cancer prevention study funded by the Federal Emergency Management Agency (FEMA). Cancer is a leading cause of fire service morbidity and mortality. Exposure to carcinogens occurs through skin contamination, through the lungs when respiratory protection is not worn during all phases of fire suppression and overhaul, and through inhalation during standby, operation of apparatus and off-gassing of equipment. Since cancer has a long latency period between exposure and disease onset, measurements are needed that can determine the effectiveness of new interventions on a much shorter time interval. The purpose of the proposed research is to identify effective methods of reducing firefighter exposure to carcinogens and associated toxic effects through completion of the following specific aims: 1) Evaluate exposure to carcinogens throughout the work shift; 2) Measure biomarkers of carcinogenic effect in relation to workplace exposures; and 3) Within a risk management framework, test the effectiveness of interventions to reduce fire service carcinogen exposure and effects.

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