

UAV use in Reducing Hazards for Firefighters during Emergency Response

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The utility of Unmanned Aerial Vehicles (UAVs) needs additional investigation. This pilot project will serve to initiate further research evaluating ambient concentrations of contaminants encountered by firefighters in emergency response to chemical releases. This use of UAVs to quickly collect air samples via Tedlar® bags in hazardous environments will allow for rapid monitoring of chemicals during response efforts. By utilizing instruments immediately available on firefighting equipment this will provide a greater level of safety and health for responders. This is the first step in the long term goal of the project to incorporate sensor technology and unmanned aerial vehicles (UAVs) in emergency response, including model development, to better characterize sites and protect workers.

Specifically, the study will examine the utility of UAVs in industrial hygiene sampling combined with a sample pump and Tedlar® bag. Emergency response drills and activities through the use of UAV mounted EO/infrared camera to identify missing or lost individuals in search and rescue scenarios will also be evaluated.



**University of Cincinnati
17th Annual
Pilot Research Project
Symposium
October 13-14, 2016**



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Pilot Research Training Program (PRP) Overview

Welcome to the University of Cincinnati Education and Research Center's (ERC) 16th Annual Pilot Research Project (PRP) Symposium on October 8-9, 2016. Welcome to the University of Cincinnati Education and Research Center's (ERC) 17th Annual Pilot Research Project (PRP) Symposium on October 13-14, 2016, held in the Auditorium of Proctor Hall, College of Nursing. The purpose of the PRP is to increase the research capacity of research trainees and young investigators in occupational health and safety and to encourage those in related disciplines to pursue occupational health and safety research.

Under the administrative direction of Dr. Amit Bhattacharya, research proposals are solicited and peer-reviewed annually from qualifying faculty and graduate students from the **University of Cincinnati and the following PRP partnering institutions – Air Force Institute of Technology, Bowling Green State University, University of Toledo – Health Science Campus, Central State University, Purdue University, University of Kentucky, Western Kentucky University, Eastern Kentucky University, Murray State University, Ohio University and Kentucky State University.**

At this symposium, the 2015-16 awardees will be presenting the results of their research and the 2016-17 awardees will make poster presentations of their proposed work. The keynote speaker on Thursday, October 13, 2016 is **Anita Schill, PhD, MPH, MA**, Senior Science Advisor to the Director and Co-Manager for the Total Worker Health® Program with the National Institute for Occupational Safety and Health (NIOSH), will deliver the keynote address on "**Advancing Well-Being Through Total Worker Health.**"

The University of Cincinnati's Education and Research Center is one of 18 such centers funded by the National Institute for Occupational Safety and Health (NIOSH) nationally. Dr. Tiina Reponen serves as the director of the ERC, which is based in the university's Department of Environmental Health within the College of Medicine. The purpose of the ERC is to train professionals in the didactic and research skills necessary to lead the occupational safety and health disciplines. Results of research are translated into action through an outreach program and shared with professionals and practitioners in the region via continuing education.

Since 1999, the PRP program has allocated over \$1.3 million to support 222 pilot research projects. These projects have served as a catalyst in bringing over \$34 million in additional research support to the region from sources independent of the PRP program, such as, the National Institute for Occupational Safety and Health (NIOSH), National Institutes of Health (NIH), United States

Department of Agriculture (USDA), National Science Foundation (NSF), and the Centers for Disease Control and Prevention (CDC). Additionally, the PRP has brought 47 new investigators from other fields of expertise to the area of occupational safety and health research.

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