Position Available: NRC RAP Fellowship @ WPAFB, Dayton, OH

NOVEL TECHNIQUES FOR PASSIVE DOSIMETRY and CHEMICAL SENSING

Description

Defense Health Agency has established a need for the development of sensors that can determine Individual Longitudinal Exposure Records which falls under a new focus area described as "Force Health Protection."

To accomplish this, novel materials, devices and application methods need to be developed to capture and then analyze contaminants present in military-relevant environments. Ideally, the devices should be compact, easy to use, and capture a wide variety of organic compounds. The requirement has been well publicized by Congress, The White House and Defense Health Agency.

Recent work at USAF/AFRL/School of Aerospace Medicine has concentrated on two materials - silicone and meso-porous silica. Considerable money has been invested to develop and study these materials. Currently, researchers are needed to evaluate materials and device form factors for their abilities to function in passive dosimetry and to assist in the identification of new materials/devices suited for these purposes.

The ideal candidate should have a working knowledge of tandem mass spectrometric techniques (gas chromatographic, liquid chromatographic, supercritical fluid chromatographic) as well as adsorbent-based sample collection and preparation. Experience with multiple techniques in mass spectrometry is highly desired.

Finally, some knowledge of exposure science and toxicology is also valuable.

Keywords

GCMS; Permeation; Silicone; Meso-Porous Silica; Thermal Desorption; Supercritical Extraction/Chromatography; Selected Ion Flow Tube Mass Spectrometry

Eligibility

Citizenship: Open to U.S. citizens
Level: Open to Postdoctoral and Senior applicants

Application Instructions

Google search the following:

- “search opportunities NAS”
- Enter “Rubenstein” in the field titled “Advisor last name”

Online Applications open September 1
Proposals due November 1