

Session Abstracts

National Environmental Health Association (NEHA)
71st Annual Educational Conference & Exhibition

Hazardous Materials and Toxic Substances

Thursday, June 21

8:30 – 9:20am

The Resurgence of Nuclear Power from a Local Environmental Health Perspective: Chernobyl Twenty Years Later

Daniel D. Sprau, DrPH, Associate Professor, East Carolina University, NC

Environmental Health Science students and faculty from East Carolina University (ECU) visited the International Atomic Energy Agency (IAEA) headquarters in Vienna and the Chernobyl reactor site near Kiev as part of semester-long special topics course on the Resurgence of Nuclear Power from a Local Environmental Health Perspective. The course and the trip were designed to help prepare ECU environmental health students to deal with the new nuclear power plants being planned for North Carolina and other sites around the country. The goals of the course and the trip were to study the benefits, potential risks and the possible environmental health impacts of future nuclear power plants. Students obtained a positive and optimistic perspective on the future of nuclear power from their visit to the IAEA as well as an understanding of what went terribly wrong in the Chernobyl incident.

9:30 – 10:20am

When the Siren Sounds: Review of the Blue Grass Army Depot Demilitarization of Chemical Weapons and Community Preparation for a Chemical Stockpile Emergency

Steve Konkol, PhD, AICP, FRIPH, Associate Professor, Eastern Kentucky University, KY

Bryan G. Makinen, MPH, Director of the Instant Care Center and Occupational Medicine Center, Pattie A. Clay Regional Medical Center, KY

Is the community of Richmond, KY adequately prepared for a chemical stockpile emergency through release of a chemical agent at the Blue Grass Army Depot (BGAD)? Like many southern communities, Richmond, Kentucky, is a thriving community with many opportunities for an individual and family to grow and learn. Buried in the heart of this community lies a threat that, if manifested, would jeopardize the health and well being of the community. Currently, chemical agent munitions, including nerve gas in M55 rockets, are being stored at the Blue Grass Army Depot, as well as at seven other sites in the continental United States. The United States Government has signed the Chemical Weapons Convention Treaty; this Treaty has timetables and requirements for the destruction of these munitions. The BGAD site will use a neutralization process for demilitarization of the chemical agents. Until destruction of the chemical munitions

occurs, the Blue Grass community must prepare itself for the possibility of a chemical agent exposure and plan emergency response activities. Emergency preparedness exercises have been held now for several years; this applied research reports on insights from data collected during the exercises, but not widely understood or communicated to yield “lessons learned.” The findings will be of interest to a wide array of communities facing challenges to threats requiring emergency planning and response.

10:30 – 11:20am

The New CDC Director’s Emergency Operations Center: Involvement with Large and Small Public Health Hazards

CAPT Ralph O’Connor, Operations Chief, USPHS, CDC, GA

The CDC Director’s Emergency Operations Center (DEOC) operates on a 24/7 basis to coordinate the response to several types of public health threats. The DEOC functions on a day to day basis to help meet the CDC goals of early detection to control and resolve public health emergencies. The DEOC has been involved with over 30 major public health emergency responses since March 2003. Several recent examples and the responses, such as fatal chemical poisonings in Panama, E. Coli in spinach and tacos, etc. will be discussed. This discussion will describe how the new DEOC facilities (completed in February 2006) and CDC public health experts help assist state, local, tribal, federal, and international partners respond to public health hazards around the world. CDC experts utilize the all-hazards approach. Experts have developed an Incident Management System based on the principles of ICS, NRP, and NIMS.

1:00 – 1:50pm

Biological Monitoring of Chemical Exposure: Practical Applications

Crispin H. Pierce, PhD, Assistant Professor, University of Wisconsin–Eau Claire, WI

The use of biological samples to estimate chemical exposures --- such as mercury levels in hair --- provides much better estimates of health risks than exposure levels in air, water, and food. Examples from our laboratory of MTBE metabolites in breath, and of heavy metals in children’s hair will be presented. The practical use of biomarkers of exposure to protect public health will be emphasized.

2:00 – 2:50pm

New York to Florida: Safe Movement and Treatment of Anthrax Waste

Edith Coulter, MPH, Environmental Administrator, Florida Dept. of Health, FL

In February of 2006, a New York City drum maker contracted naturally occurring inhalation anthrax from raw animal hides that were imported from Africa and with which he was working to make drums. Health officials determined that the contents of the man’s apartment and his work place must be declared waste and destroyed as potentially infectious waste materials. Treatment could not legally occur in New York State. This presentation discusses how the State of New York and the State of Florida, a state with experience in treating anthrax contaminated materials, worked together to destroy the contents of both buildings in a manner that provided protection to any person who had

contact with the materials, including workers who packed, removed, transported and treated the materials.

3:00 – 3:50pm

Pilot Biomonitoring Study in New Hampshire to Explore Arsenic Levels in Participant's Urine and Private Bedrock Well Water: Preliminary Findings

John Dreisig, MPH, Toxicologist, New Hampshire Public Health Laboratories, NH

Elevated levels of arsenic in bedrock wells in parts of eastern New England are well documented, with 20-30% of such wells observed exceeding 10 ug/L. It is estimated that 37% of the population in New Hampshire relies on private wells for drinking water. We are conducting a small pilot study to explore arsenic levels in urine of approximately 200 adults who live in the three southeastern NH counties and rely on private bedrock wells as their drinking water source. The relationship between levels of arsenic found in urine and in well water will be examined. We are collecting data on consumption of potentially relevant dietary items and recent water consumption patterns, and exploring the relationship between these variables and observed urinary arsenic levels. Sample collection for the first phase of our study is complete, and preliminary findings will be presented.