Wednesday Morning, November 6, 2002

Homeland Security
Room: C-209 - Session HS-WeM

Plenary Session on Homeland Security
Moderator: R.J. Colton, Naval Research Laboratory

8:20am **HS-WeM1 Chemical and Biological Agent Decontamination of Civilian Facilities**, ***T. Carlsen***, Lawrence Livermore National Laboratory **INVITED**

The purpose of this presentation is to discuss the existing and emerging decontamination technologies for use following a chemical and/or biological weapons incident at civilian and/or public sector facilities. Additionally, the necessary requirements of these technologies to successfully decontaminate civilian facilities and the approach needed to obtain regulatory compliance will also be discussed. The types of decontamination methods likely to be most successful are different than would be most effective in response to a military and/or wartime incident. Current military decontamination techniques aimed at CBW agents are corrosive and/or toxic and can cause collateral damage to facilities and equipment. As a result of recent terrorist events, there is increased interest in decontaminating agents and their effectiveness for the civilian sector. The optimum technology would be non-toxic, non-corrosive, and easily deployable, thereby insuring effective use by first-line responders. Methods should allow for detoxification and/or degradation to environmentally acceptable components rather than necessitate complete destruction. Effective decontamination requires the use of reagents that can be dispersed as solids, liquids, and/or gases, depending on the particular scenario involved. Several technologies currently under development are aimed at meeting these requirements. however, there are some distinct scenarios for which current technology is still inadequate to respond in a rapid and effective manner. Effective decontamination also requires effective sampling and verification methods to demonstrate that cleanup goals have been attained. The final decontamination must be defensible to regulatory agencies and to an uninformed public. In order to accomplish this we must understand and even influence the answer to the question: "How clean is clean enough?" The level of decontamination required will influence the choice of these systems under consideration.

9:00am **HS-WeM3 Science and Technology for Combating Terrorism**, ***A.T. Hopkins***, Defense Threat Reduction Agency **INVITED**

This briefing describes the Defense Threat Reduction Agency's (DTRA) efforts to accelerate research and development programs for combating terrorism. DTRA is a combat support agency providing a unique blend of operational and technical expertise and experience to reduce weapons of mass destruction threats. DTRA's Technology Development portfolio includes programs in nuclear weapon effects technology, integrated systems applications that include advanced concept technology demonstrations, counterproliferation technology, and nonproliferation and arms control technology. Technology challenges include the detection of dispersed and non-dispersed nuclear, chemical and biological threats, remote detection of weapons of mass destruction, force protection technologies, microscale hazard prediction, information management, hard and deeply buried target defeat, and agent defeat.

9:40am **HS-WeM5 Basic Research Needs for Countering Terrorism**, ***T. Michalske***, Sandia National Laboratories **INVITED**

Improving our ability to counter threats of terrorism has become a high priority in the U.S. and many other countries around the world. While it is widely recognized that science and technology will play an important role in this effort, it must also be recognized that terrorism is a highly complex socio-political problem for which there are simply no "silver bullets" to easily solve the problem. This presentation summarizes key points and recommendations from a recent U.S. Department of Energy Workshop that involved experts familiar with counter-terrorism technologies, strategies, and policies. Direct connections between technology needs for countering terrorism and the underlying science issues are defined along with some specific examples that show how previous science investments have led to new approaches to counter terrorism threats associated with weapons of mass destruction.

10:20am **HS-WeM7 Panel Discussion: Science & Technology Issues for Homeland Security, T. HOPKINS, Defense Threat Reduction Agency; T. MICHALSKI, Sandia Nat. Labs; E. RABER, Lawrence Livemore Nat. Lab; M.J. SAILOR, UC, San Diego; D. WALT, Tufts Univ.; L.J. WHITMAN, NRL** **INVITED**

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