CALL FOR PAPERS

2007 Transportation Research Board Annual Meeting

“BIOSECURITY AND TRANSPORTATION”

Sponsored by: TRB ABE40 Critical Transportation Infrastructure Committee
(Chair, Jeffrey Western)

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This CALL FOR PAPERS solicits papers that describe state-of-the-art and emerging technologies as well as policy issues and programs that are related to the protection and security of transportation assets and systems from attacks or accidental contamination by biological threat agents or weapons.

The threat of the intentional use or even accidental release of biological threat agents or weapons (BAs) in transportation systems is, in several ways, far more frightening than that of bombing or a chemical release for which there may be known specific antidotes and counter-measures. The current concern over Bird Flu accentuates the possibility that there may be no known effective treatment for known, mutated or genetically engineered strains of BAs (e.g., of Ebola or some hemorrhagic fever). By genetically combining one of the particularly virulent bio-agents, for instance, with a rapidly and easily spread common virus like the flu, a terrorist organization may be able to cause a heretofore unknown airborne spread of a deadly bio-toxin. In the case of biological agents, there is a range of possible delivery methods that may be used by terrorists (e.g., contamination of the water or food supply, spreading of the agent on surfaces that are touched frequently, introduction into HVAC systems, etc.) One method does not require the development of a BA by a terrorist group. In an analogous case of the use of commercial aircraft in the 9/11 disasters, biocontamination can be produced by intervention and disruption of commercial or government shipments of biological specimens, infectious agents and other biological materials that are regulated by governmental and non-governmental, consensus development organizations. The spread of deadly pathogens could take place without any immediate recognition on the part of the emergency or medical community, until after the incubation period is over and hundreds or even thousands of people had been infected. For example, in the absence of an effective detection or air-treatment system, an attack involving a slow-acting agent might go unrecognized for days, until the exposed victims began exhibiting symptoms of disease. Since the incubation periods for the appearance of symptoms of illness caused by slow-acting agents are typically long compared with the residence time of travelers in an airport terminal or aircraft, victims would be geographically dispersed by the time symptoms had appeared, and it might be difficult to locate them. Attacks on critical nodes within an airport terminal, such as control rooms and emergency-response centers, could incapacitate key decision makers or deny authorities the use of these spaces, so as to prevent an effective response.
CALL FOR PAPER TOPICS include, but are not limited to, the following:

- Detection and identification of biological threat agents
- Emerging, real-time sensor technologies
- Integrated sensor networks and countermeasure protection systems
- Decontamination technologies
- Transportation and Shipment of Biological Materials
- Emergency management and use of highly trained specialist units

Authors and presenters should submit an abstract of their proposed paper and/or presentation topic by June 1, 2006. The abstracts should be submitted to Dr. Dan O’Neil (doconeil@bellsouth.net). Selected authors and presenters will be notified shortly after submission of his/her/their abstract, and papers must be submitted no later than August 1, 2006 via the online TRB review process.