

Lead Speaker Gregory S. Parnell Says Homeland Security Necessitates New Risk-Analysis Tools

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Scenario-modeling techniques developed in the field of risk analysis are becoming a critical step in homeland security decision making, an expert involved with the U.S. National Security Agency said May 21 in remarks at The University of Texas at Dallas School of Management.

Unlike natural disasters, threats from intelligent adversaries or terrorists are requiring the design of new approaches to risk analysis, Gregory S. Parnell, Ph.D., told those attending the opening session of a two-day [Decision and Risk Analysis Conference](#) .

The International Center for Decision and Risk Analysis at The School of Management hosted the conference, which featured 125 international experts, scholars and practitioners from a range of disciplines.

Dr. Parnell said the question is how to model the kinds of decisions that support national homeland security decision makers. This is a critical step, and it must be made in advance of the event to have any value.

A member of the Technology Panel of the National Security Agency Advisory Board, Dr. Parnell is a professor at the United States Military Academy at West Point and a scholar of decision and risk analysis techniques.

Noting that current U.S. national security strategy is focused on protecting against weapons of mass destruction, especially bioterrorism, Dr. Parnell said planners are employing such techniques as event trees and attacker-defender models of game theory. These analysis techniques give planners the advantage of looking at the problem from the opponents point of view, which focuses on maximizing the consequences.

Planners ask how we can harness forecasting models in use today to conduct real-time analyses in a national security event, he said. Employing the newest techniques and technologies allows us to consider the optimal things to do using complex mathematics in reaction to what opponents decide to do.