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Mark Stewart

"Critical Infrastructure Protection: Are We Spending Too Much on Counter-Terrorism?"

Wednesday, September 30, 2009

Noon

Mershon Center for International Security Studies

1501 Neil Ave., Columbus, OH 43201

See a [streaming video](#) of this event. This streaming video requires RealPlayer. If you do not have RealPlayer, you can [download it free](#).

Mark Stewart is professor of civil engineering and director of the Centre for Infrastructure Performance and Reliability at University of Newcastle, Australia. He is currently a visiting scholar at the Mershon Center for International Security Studies.

Stewart is the author with R.E. Melchers of *Probabilistic Risk Assessment of Engineering Systems* (Chapman & Hall, 1997), as well as more than 300 technical papers and reports. He has more than 25 years of experience in probabilistic risk assessment of infrastructure systems, subject to man-made and natural hazards.

Since 2004, Stewart has received Australian Research Council grants worth more than \$500,000 to develop probabilistic terrorism risk-modeling techniques for buildings subject to explosive blast load, and cost-benefit assessments of counter-terrorism protective measures for critical infrastructure.

In his presentation, Stewart will discuss cost-benefit assessments of counter-terrorism protective measures applied to critical infrastructure and key assets. While the Department of Homeland Security uses risk-based approaches to focus mainly on vulnerabilities, Stewart argues that equal attention needs to be given to threat probability as well as to the impact of and recovery from a terrorist attack.



Mark Stewart
 Professor of Civil
 Engineering and Director
 of the Centre for
 Infrastructure
 Performance and
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The presentation will describe a terrorism risk assessment that considers threat scenarios and probabilities. Factors such as the value of human life, physical/direct damages, indirect damages, risk reduction, and protective measure costs will be assessed. Stewart will also demonstrate how a probabilistic terrorism risk assessment can better quantify the costs and benefits of protecting buildings and airport infrastructure.

One example Stewart will consider is the cost-effectiveness of the Federal Air Marshal Service. He will demonstrate how the Federal Air Marshal Service is not cost-effective, whereas hardening of cockpit doors is a more effective solution.

Stewart will present evidence to show that most counter-terrorism protective measures are not cost-effective unless the terrorist threat probability is very high. Many infrastructure systems are highly resilient, as are individuals and institutions. In his presentation, Stewart will address the differences between vulnerability and resilience in infrastructure systems.

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