



National Center for  
Risk and Economic Analysis of Terrorism Events

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## Announcements



Update

CREATE Helps the U.S. Coast Guard Randomize

August 1, 2011



Event

CREATE Director Gives Keynote Address "Decision Sciences in the War on Terrorism"

July 7, 2011



Event

CREATE Researchers Examine Integrated Disaster Risk Management at USC July 14-16

July 5, 2011



Event

Announcing CREATE's Distinguished Speaker Series featuring Daveed Gartenstein-Ross on August 4th

June 27, 2011

Report/Publication

CREATE Reports Published in Earthquake Spectra

June 20, 2011

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## CREATE Helps the U.S. Coast Guard Randomize

Date: August 1, 2011



CREATE's ARMOR research team, led by Dr. Milind Tambe, was presented the Commander, First Coast Guard District's Operational Excellence Award for their work on the PROTECT project being carried out at Boston Harbor.

Rear Admiral Daniel Neptun presented the award to Drs. Milind Tambe and Isaac Maya, along with commendations to United States Coast Guard (USCG) personnel, for the scheduling software developed to intelligently randomize boat patrols of critical infrastructure around Boston Harbor.

The PROTECT scheduling tool has been extremely successful in maximizing the effectiveness of USCG resources in conducting its terrorism prevention mission. At a teleconference with other USCG Districts presenting the PROTECT results in Boston, Admiral Neptun announced his support and intent of deploying the technology to the USCG's New York Sector.

This pilot program for the US Coast Guard, named PROTECT which stands for Port Resilience Operational/Tactical Enforcement to Counter Terrorism, illustrates the benefits of game-theoretic randomization in their patrolling to protect our ports. PROTECT stems from CREATE's highly successful ARMOR project which was first deployed at the Los Angeles International Airport. ARMOR is a technology which achieves intelligent randomization of security polices using game-theoretic analysis. The ARMOR research team develops and applies general methods for randomizing security strategies (patrols, checkpoints, inspections, etc.) based on rigorous game-theoretic modeling and solution algorithms.

ARMOR provides the fastest known algorithms of its type to generate randomized schedules from the game-theoretic formulation of the problems for optimal security allocation. The research focuses on improving the effectiveness of limited security resources by intelligent randomization, accounting for the capability of adversaries to observe and exploit predictable security methods and schedules.






Post-doctoral researcher, Dr. Bo An, and graduate student, Eric Shieh, both at the University of Southern California, have made substantial contributions in the development of PROTECT.

[View ARMOR Video](#)



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