

## Summary of Research Areas

- Explosives Detection, Mitigation and Response (e.g. the detection, mitigation, and response to explosives in a wide variety of contexts)
- Social, Behavioral and Economic Sciences (e.g. social and behavioral analyses of terrorist threats; community preparedness, response and recovery from catastrophic events; economic assessments of terrorism and catastrophic events; and economic and mathematical decision models of terrorist behavior)
- Risk and Decision Sciences (e.g. applications of advanced methods and techniques to support decision making; quantitative analysis)
- Human Factors (e.g. integration of human factors concerns into homeland security technologies to improve usability and operator safety; assessments of public acceptance of homeland security technologies)
- Chemical Threats and Countermeasures (e.g. assessment, characterization and prioritization of chemical-biological threats; detection and warning systems; agro-defense and food security; chemical countermeasures; and decontamination, restoration and medical response to chemical threat events)
- Biological Threats & Countermeasures (e.g. assessment, characterization and prioritization of chemical-biological threats; detection and warning systems; agro-defense and food security; biological countermeasures; and decontamination, restoration and medical response to biological threat events)
- Food and Agriculture Security (e.g. assessment, characterization and prioritization of chemical-biological threats; detection and warning systems; agro-defense and food security; biological or chemical countermeasures; and decontamination, restoration and medical response to biological or chemical threat events)
- Transportation Security (e.g. applications of advanced methods and techniques to support decision making; quantitative analysis; improving the Nation's preparedness in the event of a high consequence natural or man-made disaster, and developing best practices to alleviate the event's effects)
- Border Security (e.g. technologies and tools to monitor, survey and inspect cargo and people who cross our land and maritime borders and ports of entry; evaluation of the policies and procedures designed to secure the border while welcoming legitimate visitors and trade; studies of the incorporation of new immigrants into U.S. society and the consequences of successful/failed incorporation)

- Immigration Studies (e.g. technologies and tools to monitor, survey and inspect cargo and people who cross our land and maritime borders and ports of entry; evaluation of the policies and procedures designed to secure the border while welcoming legitimate visitors and trade; studies of the incorporation of new immigrants into U.S. society and the consequences of successful/failed incorporation)
- Maritime and Port Security (e.g. technologies and tools to secure national maritime borders and U.S. maritime interests, support global maritime awareness, defend maritime commerce and global supply chains, minimize damage and expedite recovery from attacks or catastrophic events impacting maritime interests, and protect coastal population centers)
- Infrastructure Protection (e.g., assessment of relative threats and vulnerabilities of critical infrastructure; estimation of consequences of natural disasters or terrorist attacks to critical infrastructure; application of engineering technologies or tools to enhance DHS' ability to prepare for, predict, and minimize or prevent damage to critical infrastructure from natural hazards)
- Natural Disasters and Related Geophysical Studies (e.g., assessment of relative threats and vulnerabilities of critical infrastructure; estimation of consequences of natural disasters or terrorist attacks to critical infrastructure; application of engineering technologies or tools to enhance DHS' ability to prepare for, predict, and minimize or prevent damage to critical infrastructure from natural hazards)
- Emergency Preparedness and Response (e.g. decision support tools to aid in the preparation or response to catastrophic events; studies of public risk communication; training of first-responders to enhance capability to respond to mass casualty events)
- Communications and Interoperability (e.g., interoperable communication for emergency responders; cyber security)
- Advanced Data Analysis and Visualization (e.g., information extraction, knowledge management, and visualization of large quantities of data to enhance data fusion, situational awareness, and threat detection)