# Index to Charts: Guidance to Dept of Homeland Security (DHS) Funding

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To get copies of these charts, pertinent reports and other reference information go to:
Central Desktop  http://www.centraldesktop.com/
to login to the USC site, get username and password from nlwalker@usc.edu

Revised 5/24/2013
DHS Research Funding Information
Available from the DC Res Adv Office

Succinct “Guide to FY2014 DHS Research Funding Opportunities”

Agency (DHS) Research Program Charts (~15)

DHS Program Officer Datasheets

Various resources - charts, plans, workshops, presentations

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Within its Basic Research Portfolio, S&T generally funds quality research projects that meet at least one of these selection criteria:

- Addresses an important Department issue without a near-term solution.
- Pursues a creative solution that addresses a unique, long-term Department need, which is not addressed elsewhere.
- Exploits new scientific breakthroughs (for example, from universities, laboratories, or industry) that could strengthen homeland security.

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A pre-submission inquiry is optional / proposals anytime up to 31 Dec 2013
Basic science ideas which hold promise for transformative performance improvements. Generic areas are identified in charts 8-12

**Resources**  
DHS S&T Directorate Strategic Plan  2011
High Priority Technology Needs  2009
S&T’s five goals are:

Rapidly develop and deliver knowledge, analyses, and innovative solutions that advance the mission of the Department.

Leverage technical expertise to assist DHS components’ efforts to establish operational requirements and select and acquire needed technologies.

Strengthen the Homeland Security Enterprise and first responders’ capabilities to protect the homeland and respond to disasters.

Conduct, catalyze, and survey scientific discoveries and inventions relevant to existing and emerging homeland security challenges.

Foster a culture of innovation and learning, in S&T and across DHS, that addresses the challenges with scientific, analytic, and technical rigor.
To maximize DHS' return on investment in university-based research and education, the OUP will:
• Build a stable community of homeland security researchers and educators at U.S. colleges and universities.
• Foster a homeland security culture within the academic community through research and educational programs.
• Strengthen U.S. scientific leadership in homeland security research and education.
• Generate and disseminate knowledge and technical advances to advance the homeland security mission.
• Integrate homeland security activities across agencies engaged in relevant academic research.
• Develop a permanent homeland security science and engineering workforce.

Programs:
• **Centers of Excellence** engage the academic community to deliver tools, technologies, knowledge products, training and talent to enhance the Department’s homeland security capabilities.
• **OUP Education Programs** engage, educate and ultimately direct academically high performing individuals toward choosing Homeland Security-Science, Technology, Engineering, and Mathematics (HS-STEM) related careers.
• **Minority Serving Institutions (MSI) Programs** ensure that the face of America is reflected in the future of Homeland Security science and technology work force.
DHS UOP
University Centers of Excellence

• The Center for Risk and Economic Analysis of Terrorism Events (CREATE), led by the University of Southern California, develops advanced tools to evaluate the risks, costs and consequences of terrorism.

• The Center for Advancing Microbial Risk Assessment (CAMRA), led by Michigan State University and Drexel University established jointly with the U.S. Environmental Protection Agency, fills critical gaps in risk assessments for mitigating microbial hazards.

• The Center of Excellence for Zoonotic and Animal Disease Defense (ZADD), led by Texas A&M University and Kansas State University, protects the nation's agricultural and public health sectors against high-consequence foreign animal, emerging and zoonotic disease threats.

• The National Center for Food Protection and Defense (NCFPD), led by the University of Minnesota, defends the safety and security of the food system by conducting research to protect vulnerabilities in the nation's food supply chain.

• The National Consortium for the Study of Terrorism and Responses to Terrorism (START), led by the University of Maryland, informs decisions on how to disrupt terrorists and terrorist groups through empirically-grounded findings on the human element of the terrorist threat.

• The National Center for the Study of Preparedness and Catastrophic Event Response (PACER), led by Johns Hopkins University, optimizes our nation's preparedness in the event of a high-consequence natural or man-made disaster.

• The Center of Excellence for Awareness & Location of Explosives-Related Threats (ALERT), led by Northeastern University and the University of Rhode Island will develop new means and methods to protect the nation from explosives-related threat.

• The National Center for Border Security and Immigration (NCBSI), led by the University of Arizona in Tucson (research co-lead) and the University of Texas at El Paso (education co-lead), are developing technologies, tools, and advanced methods to balance immigration and commerce with effective border security.

• The Center for Maritime, Island and Remotes and Extreme Environment Security (MIREES), led by the University of Hawaii and Stevens Institute of Technology focuses on developing robust research and education programs addressing maritime domain awareness to safeguard populations and properties in geographical areas that present significant security challenges.

• The Coastal Hazards Center of Excellence (CHC), led by the University of North Carolina at Chapel Hill and Jackson State University in Jackson, Miss., performs research and develops education programs to enhance the nation's ability to safeguard populations, properties, and economies from catastrophic natural disaster.

• The National Transportation Security Center of Excellence (NTSCOE) The NTSCOE will develop new technologies, tools and advanced methods to defend, protect and increase the resilience of the nation's multimodal transportation. It comprises seven institutions.

• The Center of Excellence in Command, Control and Interoperability (C2I) led by Purdue University (visualization sciences co-lead) and Rutgers University (data sciences co-lead) will create the scientific basis and enduring technologies needed to analyze massive amounts of information to detect security threats.
HSARPA uses innovation and modernization to push scientific limits and produce frontline products that support organizations like the Secret Service, bomb squads, first responders, Transportation Security Administration, and officers along our borders. HSARPA conducts analysis to understand these organizations’ current missions, systems, and processes and ultimately identifies operational gaps where new technologies can have the most impact. Program managers lead teams of national experts to develop, test, and evaluate these new homeland security technologies and capabilities.

HSARPA Divisions:

• Borders and Maritime Security Division (BMD) Ms Ahn Duong, Director
  Prevent contraband, criminals and terrorists from entering the U.S. while permitting the lawful flow of commerce and visitors.

• Chemical and Biological Defense Division (CBD) Dr. Alan Rudolph, Director
  Detect, protect against, respond to, and recover from potential biological or chemical events.

• Cyber Security Division (CSD) Dr. Douglas Moughan, Director
  Create a safe, secure and resilient cyber environment.

• Explosives Division (EXD) Dr. Eric Houser, Director
  Detect, prevent and mitigate non-nuclear explosives attacks against people and infrastructure.

• Resilient Systems Division (RSD) Mr. Jalal Mapar, Director
  Human factors/identification, physical security systems, decision support systems

Two prior Divisions, since integrated into RSD
• Human Factors and Behavioral Sciences Division - Identify and analyze threats, enhance societal resilience, and integrate human capabilities in technology development.
• Infrastructure Protection and Disaster Management Division - Strengthen situational awareness, emergency response capabilities and critical infrastructure protection.
DHS S&T Long Range Broad Agency Announcement: Topics
DHSS-TLRBAA12-07 (open to 31 Dec 2013)

Chemical/Biological Division (CBD)

Chemical/Biological Detection

CBD.02 Improved Sampling
CBD.03 Sample Preparation
CBD.04 Instruments and Detection
CBD.05 Facility Protection

Threat Characterization and Attribution

CBD.06 Integrated Chem-Bio Rad Nuclear Explosives Program
CBD.07 CBRN Threat Characterization Program

ARGO Defense

CBD.08 Biological-based Countermeasures
CBD.09 Diagnostics for Foreign Animal Disease
CBD.10 Scalable Architecture for Modeling and Analysis of Foreign Animal Diseases
CBD.11 Animal Depopulation Methods

Explosives Division (EXD)

EXD.02 Standoff Detection of Explosives
EXD.03 Trace Detection of Explosives
EXD.04 Cargo Security
EXD.05 Test and Evaluation Expertise and Facilities for Counter IED Detection
EXD.06 Data Fusion and Automated Detection for Aviation
EXD.07 Advanced Detection Technologies
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Cyber Security Division (CSD)

CSD.02 Internet Infrastructure Security
CSD.03 National Research Infrastructure
CSD.04 Homeland Open Security Technology
CSD.05 Forensics Support to Law Enforcement
CSD.06 Identity Management
CSD.07 Data Privacy Technologies
CSD.08 Software Assurance
CSD.09 Cyber Security Education
CSD.10 Cyber-physical control and Critical Infrastructure Systems and Security
CSD.11 Internet Measurement and Attack Modeling Techniques
CSD.12 Securing the Mobile Workforce
CSD.13 Security in Cloud Based Systems
CSD.14 Experiments and Pilots - test in operational environments
CSD.15 Research Data Repository
CSD.16 Cybersecurity Economic Incentives
CSD.17 Data Analytics
CSD.18 Tailored Trustworthy Spaces
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Border and Maritime Security (BMD)
BMD.01 Land Border Security
BMD.02 Maritime Border Security

Resilient Systems Division (RSD)
Human Factors/Identification Systems
RSD1.1 Behavior-based models/methods/training/technologies to enhance community resilience
RSD1.2 Detection/analysis/understanding/mitigation of violent extremists
RSD1.3 Non-invasively identifying deceptive and suspicious behavior
RSD1.4 Biometrics

Physical Security Systems
RSD2.1 Surveillance Systems
RSD2.2 Resilient and Sustainable Critical Infrastructure Sectors

Decision Support Systems
RSD3.1 Agile Decision Aid Analytics
RSD3.2 Modeling, Simulation and Gaming Technologies
RSD3.3 Geospatial and Remote Sensing
RSD3.4 Emergency Management
RSD3.5 Information Sharing
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First Responder Group (FRP)
FRG.12 Readily Accessible, High-fidelity Simulation tools to Support Training
FRG.13 Protective Clothing and Equipment
FRG.14 Identify Trends, Patterns and Content from Large Volumes of Data
FRG.15 Remotely Monitor Tactical Actions and Progress of Responders
FRG.16 Communicate with Responders in any Environmental Conditions
FRG.17 Share Video from Incident Scene to Medical Services Personnel
FRG.18 Analyze the Performance of a Video Systems transport Component
FRG.19 Understand Public Response to Alert and Warning Messages
FRG.20 Determine when more Granular Geo-targeting is Appropriate

HSARPA/Innovation (HID)
HID.01 New and Emerging Technology affecting DHS missions
HID.02 APEX - Enhancing Operational Component Partner Capabilities to Secure the Homeland
HID.03 APEX - Implement new Technologies to Protect People and Things
HID.04 Information Resources
HID.05 Communications, Surveillance and Reconnaissance
HID.06 Individual Protection
HID.07 Mobile Security
HID.08 APX.01 Big Data Architectures and Analytics

‘Apex’ projects are intended to collaboratively solve a problem of strategic operational importance. Each Apex project is a joint agreement between the head of a DHS operational component and the head of the DHS S&T Directorate. Together, they must approve the project’s goals and approach, providing a leadership imprimatur which energizes both S&T and the partner organization. Apex programs are team-based and interdisciplinary.
The U.S. Department of Homeland Security Science and Technology Directorate's (S&T) Support to the Homeland Security Enterprise and First Responders Group (FRG) strengthens the response community's abilities to protect the homeland and respond to disasters.

**Mission**

In close partnership with first responders at all levels, FRG identifies, validates, and facilitates the fulfillment of needs through the use of existing and emerging technologies, knowledge products, and standards. Prioritized areas of FRG focus and initiatives include:

- Making First Responders Safer.
- Helping First Responders Share Data and Critical Information.
- Helping First Responders Communicate Through Interoperability.
- Engaging, Communicating, and Partnering with First Responders.

**National Urban Security Technology Laboratory** (NUSTL): NUSTL tests, evaluates, and analyzes Homeland Security capabilities while serving as a technical authority to first responder, state and local entities in protecting our cities. NUSTL leads and provides independent Federal oversight for test programs, pilots, demonstrations, and other forms of evaluations of homeland security capabilities both in the field and in the laboratory.

**Office for Interoperability and Compatibility** (OIC): OIC provides local, tribal, state, and Federal stakeholders with the tools, technologies, methodologies, and guidance to enable improved communications interoperability at all levels of government. OIC manages a comprehensive research, development, testing, evaluation, and standards program to enhance emergency interoperable communications and improve alerts and warnings.

**Technology Clearinghouse/R-Tech** (TCR): TRC rapidly disseminates technology information on products and services to local, tribal, state, and Federal agencies and private sector entities in order to encourage technological innovation and facilitate the mission of the DHS. R-Tech provides information, resources, and technology solutions that address mission capability gaps identified by the emergency response community.
The Transformational & Applied Research Directorate consists of technical staff focusing in these areas:

**Academic Research Initiative (ARI)**
- Partnership with the National Science Foundation (NSF) to fund academic exploratory and basic research to stimulate many radiation detection sectors.
- TARD funded academic projects will help create the next generation of scientists and engineers needed to advance the field of radiation detection.

**Exploratory Research Program (ERP)**
- Research driven by identified gaps in the Global Nuclear Detection Architecture.
- Investigations to show feasibility through Proof of Concept demonstrations.

**Small Business Innovative Research (SBIR)**
- Utilize small businesses to meet R&D needs and increase private sector commercialization.

**Advanced Technology Demonstration (ATD)**
- Program builds on technology concepts previously demonstrated under the Exploratory Research Program (ERP) or equivalent.
- Develop and characterize technology in a simulated operational environment to generate performance data for cost-benefit decision to transition to commercial system development and acquisition.
Domestic Nuclear Detection Office / TARD

**Accelerated Research Initiative**

http://www.dhs.gov/about-domestic-nuclear-detection-office

**What:** Domestic Nuclear Detection Office (DNDO) within the Department of Homeland Security (DHS), in partnership with the National Science Foundation (NSF), invests in frontier research at academic institutions. This transformational research effort is focused on detection systems, individual sensors or other research that is potentially relevant to the detection of nuclear weapons, special nuclear material, radiation dispersal devices and related threats.

**Where:** NSF BAA 13-554: Domestic Nuclear Detection Office-National Science Foundation Academic Research Initiative (ARI)

**How Much:** ~$15M for new starts in FY13

**When:** Full Proposal Deadline 10 Jul 2013