

International Research Grant Program

International Cooperative Programs Office
Science and Technology Directorate
U.S Department of Homeland Security

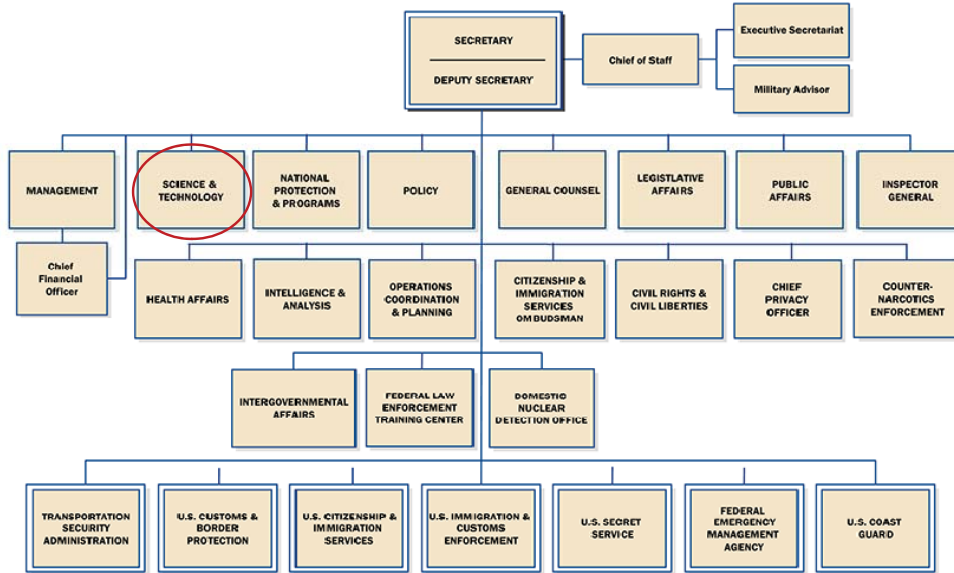


International Cooperative Programs Office (ICPO)

- Established in accordance with the Implementing Recommendations of the 9/11 Commission Act of 2007 (codified as amended at 6 U.S.C. 195c).
- ICPO advances the vital mission of securing the Nation through international collaborative research partnerships, which enable the U.S. to leverage foreign capabilities, expertise, environment, and resources, including financial and/or in-kind contributions.
- ICPO facilitates the matching of U.S. entities engaged in homeland security research with foreign counterparts so that they may partner in cooperative research activities through 12 **bilateral DHS S&T Agreements** and the **DHS International Grant program**.
- Specifically:
 - Coordinating with partner nations, DHS, and other agencies to identify viable areas for cooperation and partnership opportunities.
 - Engaging international partners to participate in the DHS Centers of Excellence program and encouraging U.S. institutions to partner with academic institutions abroad.
 - Requiring grant recipients to include both a U.S. and foreign institution.
 - Developing strategic priorities with Office of International Affairs and other Federal agencies in support of the homeland security mission.

ICPO provides the strategic framework and policy guidelines to establish, facilitate, and sustain effective international partnerships in homeland security RDT&E.

U.S. Department of Homeland Security



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DHS S&T Mission



Strengthen America's security and resiliency by providing knowledge products and innovative technology solutions for the Homeland Security Enterprise



S&T Goals

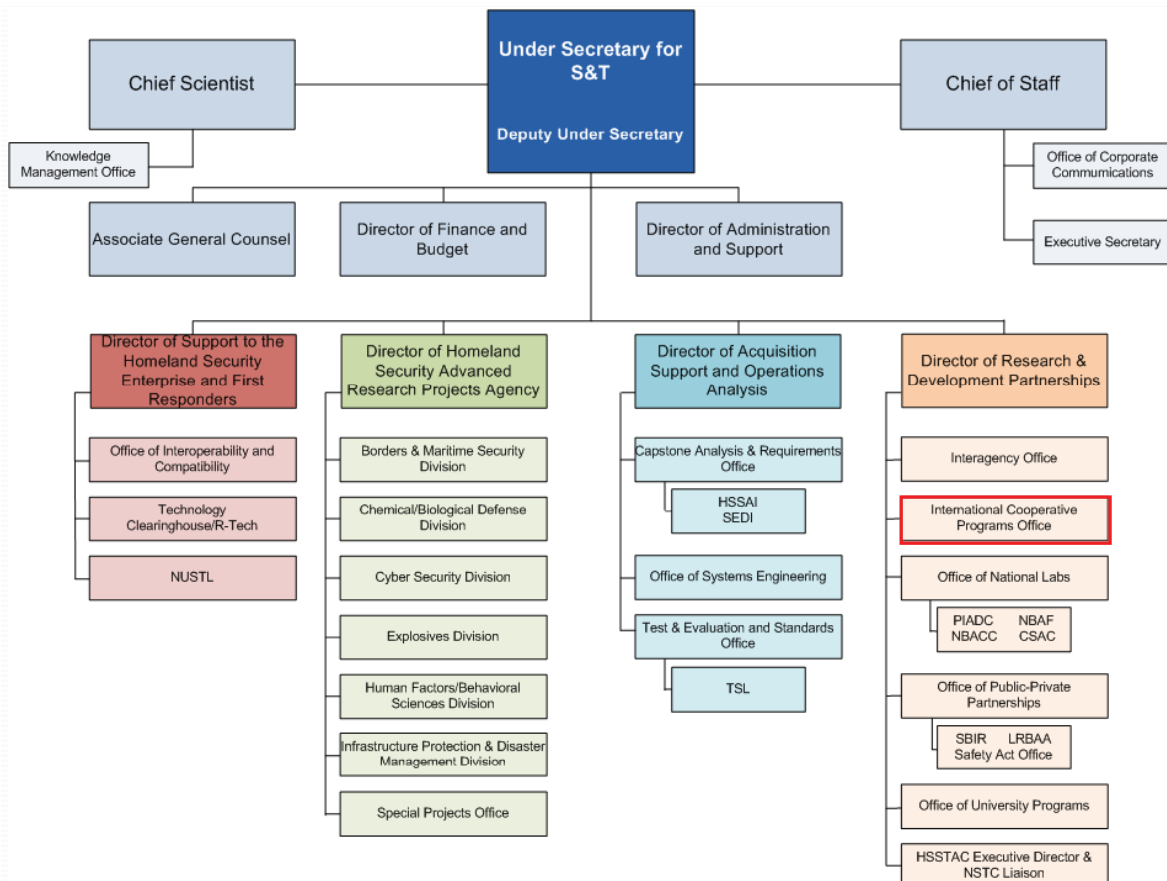
Goal 1: Rapidly develop and deliver knowledge, analyses, and innovative solutions that advance the mission of the Department

Goal 2: Leverage technical expertise to assist DHS components' efforts to establish operational requirements, and select and acquire needed technologies

Goal 3: Strengthen the Homeland Security Enterprise and First Responders' capabilities to protect the homeland and respond to disasters

Goal 4: Conduct, catalyze, and survey scientific discoveries and inventions relevant to existing and emerging homeland security challenges

Goal 5: Foster a culture of innovation and learning, in S&T and across DHS, that addresses challenges with scientific, analytic, and technical rigor



Existing Bilateral Agreements



**Homeland
Security**

Science and Technology

International Research Grants

**** New Grant Announcement has been posted –
please check grants.gov for latest information
FON DHS-11-ST-108-002 ****

Yearly solicitation for international research proposals, aligned with S&T's mission, issued (pending the availability of appropriated funds) for:*

- Evaluation of novel tools or approaches to confronting homeland security challenges.
- Basic research to provide data, understanding, or models that support S&T or policy decisions by the Department of Homeland Security.
- S&T and operations research evaluations to support revolutionary improvements in the DHS mission and its component agencies' operations.
- **Opportunities will be posted at www.grants.gov**
- For more information email S&T-InternationalPrograms@dhs.gov



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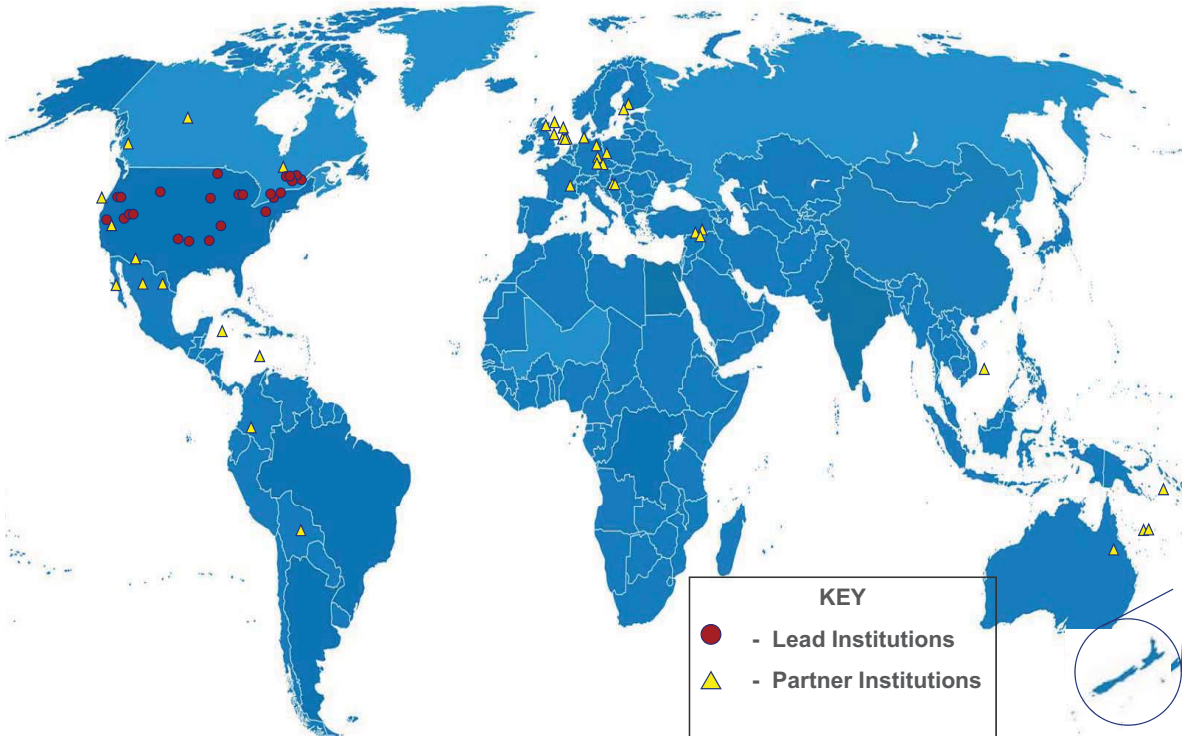
International Research Grants

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Eligibility:

- A single accredited institution of higher education (foreign or domestic) must be identified as the lead entity for proposal submission and subsequent discussions
- Sub-awardees may include:
 - Foreign public entities
 - Foreign or domestic private entities
 - Foreign governmental organizations
 - Foreign or domestic businesses
 - Domestic federally funded research and development centers
 - Other foreign or domestic accredited institutions of higher education
- All proposals must include participation by both foreign and domestic institutions

International Research Grants 2007 - 2011



International Grant Program in the Media



Previously Funded International Project Areas

- Bioforensics
- Structure Resilience
- Zoonotic Disease
- Explosives Detection
- Visual Analytics
- Supply Chain Management
- Biometrics
- Surveillance
- Tunnel Detection
- Radicalization
- Organization Resilience
- Natural Disaster Detection



Ocean Acoustic Hurricane Sensing
March 2008



Composite-Reinforced Glass
May 2009



Resilient Tunnel Demonstration
August 2008



Tunnel Detection
August 2009



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S&T International Research Grants

Awards Made in FY 2011

Title	Primary Institution	International Component	S&T Division	Award Amount
Radio Frequency Identification (RFID) Systems For Small Vessel Maritime Security	University of Houston	Pontificia Universidad Javeriana, Colombia; Instituto Tecnológico de Costa Rica	Borders and Maritime	\$171,276
Genomic Sequencing and Signature Identification in <i>Clostridium botulinum</i> Strains from Argentina	Northern Arizona University	Universidad Nacional de Cuyo, Argentina	Chemical & Biological	\$602,433
Smart Monitoring of Complex Public Scenes	University of Nevada, Reno	Kingston University, UK; University of Ulster, UK; Sapienza University, Italy	Infrastructure Protection and Disaster Management	\$561,135
Biometric Uniqueness and Permanence Analysis	Purdue	Bion Biometrics, Canada	Human Factors	\$558,307
Development of Full-Scale Testing of Early Detection Tools for Flood-Control Infrastructure	Rensselaer Polytechnic Institute	Deltares, The Netherlands	Infrastructure Protection and Disaster Management	\$243,125



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S&T International Research Grants

Awards Made in FY 2010

Title	Primary Institution	International Component	S&T Division	Award Amount
Keeping our Structures Standing and Our People Alive: The Next 25 Years	University of Texas, Austin	The Imperial College of London, UK	Infrastructure & Geophysical	\$749,994
Technology and Data Integration – Whole Genome Sequencing and Bioforensics	Northern Arizona University	Bundeswehr Institute of Microbiology (BIM), Germany	Chemical & Biological	\$750,000
High Strain Rate Behavior of Dam Concrete: Experiments and Multiscale Modeling	Rensselaer Polytechnic Institute	Politecnico di Milano, Italy; European Commission Joint Research Centre, Ispra, IT	Infrastructure & Geophysical	\$442,535
Spread of Animal Disease Within US livestock: Improving Decisions and Interventions	Colorado State University	Linköping University, Sweden; University of Edinburgh, United Kingdom	**Funded by** Chemical & Biological	\$556,137



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S&T International Research Grants

Awards Made in FY 2009

Title	Primary Institution	International Component	S&T Division	Award Amount
Coordinated Search and Surveillance by a UAV Team	University of New Orleans	Ben Gurion University of the Negev, Israel	Borders & Maritime	\$200,000.00
Deriving and Applying Cognitive Principles for Human/Computer Approaches to Complex Analytical Problems	UNC Charlotte	Simon Fraser University, Canada	Command, Control & Interoperability	\$200,000.00
Development and Experimental Validation of Multistatic Millimeter-Wave Radar for Standoff Concealed Explosives Detection	Northeastern University	FGAN - Research Institute for Applied Science, Germany	Explosives	\$200,000.00
Threat Assessment of Terrorist and Extremist Organizations in Indonesia, the Philippines, and Thailand	University of Maryland	Griffith University, Australia	Human Factors	\$199,993.00
Enhancing High Fidelity Ten Print Capture for Department of Homeland Security Applications	Purdue University	Biometix, Australia	Human Factors	\$283,704.00*

* Received cost extension in FY 2010



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S&T International Research Grants

Awards Made in FY 2009, cont'd

Title	Primary Institution	International Component	S&T Division	Award Amount
Multi-Robot Teams for Environmental Monitoring	University of Nevada, Reno	Kingston University, UK; Sapienza University, Italy	Human Factors; Command, Control & Interoperability; Infrastructure & Geophysical	\$306,852.00*
Ocean Acoustic Hurricane Classification	Massachusetts Institute of Technology	National Meteorological Service of Mexico and the Mexican Navy	Infrastructure & Geophysical	\$255,582.00*
Rail Vehicle Hazard Guidance	Worcester	ARUP Australia	Infrastructure & Geophysical	\$199,903.00

* Received cost extension in FY 2010



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Awards Made in FY 2008

Title	Primary Institution	International Component	S&T Division	Award Amount
Intelligent Food Defense Systems for International Supply Chains: The Case of Mexican Fresh Product to the U.S.	Arizona State University	Caades/CIDH;CIAD Unidad Culiacán; and Tecnológico de Monterrey, Mexico	Chemical & Biological	\$247,091.00
Visual Analytics Applied to Automated Multimedia Content Analysis	Univ of NC at Charlotte	University of Konstanz, Germany	Command, Control, & Interoperability	\$231,743.00
Novel Explosives Sensor Using Signal-Amplifying Molecularly Imprinted Conducting Polymer	University of Connecticut	Nanyang Technological University, Singapore	Explosives	\$292,000.00*
The Impact of Israeli Counterterrorism Interventions on Rate and Intensity of Terrorist Activity: Hazard Modeling and Time Series Approaches	University of Maryland (START)	Institute for Counterterrorism, Herzliya, Israel	Human Factors	\$249,985.00
Developing a New Glass Window Panel for Security Against Projectile and Small Explosion Threats at Close Proximity	University of Missouri	University of Sydney, Australia	Infrastructure and Geophysical	\$249,982.00

* Received cost extension in FY 2010



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S&T International Research Grants

Awards Made in FY 2007

Title	Primary Institution	International Component	S&T Division	Award Amount
International Collaboration in Food Defense Exercises	National Center for Food Protection and Defense (NCFPD) at the University of Minnesota	G8	Chemical & Biological	\$149,797.00
Detection of Clandestine Tunnels Using Seismic Refraction Tomography	University of Mississippi	University of Alberta, CA	Borders & Maritime	\$198,865.00
Inflatable Plug for Underwater Tunnel Protection	University of West Virginia	Lindstrand Technologies Ltd, UK ; International Center for Numerical Methods in Engineering (CIMNE), Spain	Infrastructure & Geophysical	\$200,000.00
Ocean Acoustic Hurricane Classification	Massachusetts Institute of Technology	Mexican Navy	Infrastructure & Geophysical	\$43,935.54



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S&T International Research Grants

Center of Excellence Awards Selected in FY 2007

Title	Primary Institution	International Component	S&T Division	Award Amount
Peroxide-Based Explosives: Properties, Detection, Technologies, and Risk Assessment	University of Southern California (CREATE)	Technion - Israel Institute of Technology	Explosives	\$200,000.00
Islamic Radicalization in Europe and North America: Parallels and Divergence	University of Pennsylvania (START)	Swedish National Defence College; King's College, London	Human Factors	\$200,000.00
Social Determinants of Terrorist Organizations' Resilience in Latin America	University of Maryland (START)	Grupo de Analisis para el Desarrollo, Peru	Human Factors	\$195,649.00

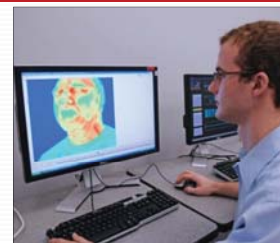


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Doing Business with DHS S&T

- www.fedbizopps.gov - Posts DHS S&T and all U.S. government business opportunities
- <https://baa.st.dhs.gov> - Solicitations Portal for **Broad Agency Announcements** that address needs of S&T divisions
- www.sbir.dhs.gov **SBIR Program** for Small Businesses posts two solicitations annually seeking technical capabilities that cut across DHS S&T divisions
- <https://www.safetyact.gov> **SAFETY Act** helps facilitate development and use of qualified anti-terrorism technologies by providing limited liability protection to manufacturers
- www.dhs.gov/techsolutions **TechSolutions** addresses technology gaps identified by first responders by fielding prototypical solutions within 12-15 months
- www.dhs.gov search "**SECURE**" - **SECURE** program leverages private sector resources and experience to develop solutions aligned with DHS operational requirements



One DHS: Integrated Product Teams

How S&T Captures Technical Requirements of Components

DHS S&T IPT	DHS Lead
First Responder	FEMA, I&A, NPPD
Border Security	CBP, ICE
Cargo Security	CBP
Maritime Security	USCG
Cyber Security	NCSC, USSS, NPPD
Information Sharing	I&A
Interoperability	FEMA, OEC
Transportation Security	TSA
Counter-IED	OBP, USSS
Chemical/Biological Defense	OIP, OHA
People Screening	SCO, CIS
Infrastructure Protection	OIP
Incident Management	FEMA, OEC



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