Office of University Programs
Scientific Leadership Award Program
Information Overview

Science and Technology Directorate
April 2014

www.hsuniversityprograms.org
Department of Homeland Security, Science and Technology Directorate, Office of University Programs

What does OUP do? The Office of University Programs streamlines access to the expertise of the nation’s colleges and universities to address pressing homeland security needs.

How does OUP do it? Through OUP Programs – the Centers of Excellence; Minority Serving Institutions; and the workforce and professional development programs – DHS components can access academic expertise to answer research questions, deliver technical solutions, and build a highly specialized workforce.

Why does OUP do this? Homeland Security Act of 2002 states “The Secretary, acting through the Under Secretary for Science and Technology, shall designate a university-based center or several university based centers for homeland security. The purpose of the center or these centers shall be to establish a coordinated, university-based system to enhance the Nation's homeland security.”
• Started in 2007

• Distributed 54 awards

• A list of previous SLA recipients can be found at: http://www.hsuniversityprograms.org under the Minority Serving Institutions Tab

• Funding level started at $200k in 2007 and peaked at up to $1.5 million in 2012.
The SLA program will help develop enduring educational and research capabilities within the MSI communities. Critical elements of SLA program:

1. Coordinated teaching and DHS relevant research projects or initiatives with significant involvement of an early career faculty
2. Establishment of collaborative relationships with the DHS research COEs, DHS / DOE and other federal labs
3. Homeland Security related Science and Engineering curriculum development and course content
4. Financial support for undergraduate students in the form of scholarships and other direct student support
5. Student internships and other experiential learning opportunities
6. Best practices for successful student mentoring and career guidance
7. Processes with the potential for highly successful transition of supported students to Homeland Security Science and Engineering careers, or admission to graduate school
8. Student success tracking, measurement, and reporting methodology
DHS will award funds in **two phases**.

Minimum award amount for each phase is $500k with a maximum of $750k.

All equipment must be purchased in phase 1.

Phase 2 funding is contingent upon phase 1 progress and you will be required to submit a phase 2 plan.

Note the recipient must use at least **50% of the total phase 1 and phase 2 grant funds for the direct support of students**. However, the total proposed budget does allow for up to 75% of the phase 1 funds to be spent on equipment and faculty development.
SLA Timeline

- Application Start Date: February 25, 2014
- Application Submission Deadline Date: May 5, 2014 at 11:59:59 PM ET
- Anticipated Funding Selection Date: July 21, 2014
- Anticipated Award Date: September 4, 2014
# DHS Centers of Excellence Leads

<table>
<thead>
<tr>
<th>Center of Excellence</th>
<th>Lead University(s)</th>
<th>Example Capabilities</th>
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</table>
| 1 Center for Awareness and Location of Explosives-Related Threats (ALERT) | Northeastern University                                                           | • Explosives characterization  
 • Explosives detection                                        |
| 2 Coastal Hazards Center (CHC)                                   | University of North Carolina at Chapel Hill  
 Jackson State University                                                          | • Emergency management decision support and analysis  
 • Coastal hazard modeling                                                |
| 3 Center for Risk and Economic Analysis of Terrorism Events (CREATE) | University of Southern California                                                  | • Risk assessment and management  
 • Economic assessment                                                       |
| 4 Center for Visual and Data Analytics (CVADA)                   | Purdue University  
 Rutgers University                                                                 | • Public safety coalition projects  
 • Visual analytics for security applications                             |
| 5 Center for Maritime, Island, Remote and Extreme Environment Security (MIREES) | University of Hawaii  
 Stevens Institute of Technology                                                     | • Coastal radar detection & satellite tracking of ships  
 • Layered maritime awareness                                              |
| 6 National Center for Border Security and Immigration (NCBSI)    | University of Arizona  
 University of Texas at El Paso                                                        | • Screening and tracking  
 • Immigration, governance, & border policy                                |
| 7 National Center for Food Protection and Defense (NCFPD)        | University of Minnesota                                                            | • Biological and chemical agents behavior  
 • Event modeling                                                            |
| 8 National Consortium for the Study of Terrorism and Responses to Terrorism (START) | University of Maryland                                                            | • Terrorist recruitment and group formation  
 • Community resilience against terrorist threats and attacks                |
| 9 National Center for Zoonotic and Animal Disease Defense (ZADD) | Kansas State University  
 Texas A&M University                                                               | • Biological detection tools  
 • Business continuity and incident command                                  |
| 10 New Center of Excellence                                     | TBD                                                                               | • TBD                                                       |
### Mission
- To evaluate the risks, costs, and consequences of terrorism, and provide decision support tools to protect the Nation

**Lead:** University of Southern California

### Impact and Relevance
- Developing models and tools for generating random security/protection plans (e.g., ARMOR – Assistant for Randomized Monitoring Over Routes)
- Established spin-off company for implementation of ARMOR technologies
- Developing Advancing Computable General Equilibrium models for calculating economics and decision analysis tools to the terrorist enterprise and uncertainty reduction via expert elicitation
- Supporting the risk assessments of the National Bio-defense Analysis and Countermeasures Office
- Providing risk-based resource allocation for California Buffer Zone Protection Program Funds
- Creating veterans pathway for careers in homeland security
- Awards: 2010 Homeland Security Award for Border & Transportation Security from Christopher Columbus Foundation; 2011 Military Operations Research Society Rist Prize & First Coast Guard District’s Operational Excellence Award

### Customers
- TSA – Headquarters; Rail
- Federal Air Marshal Service (FAMS)
- U.S. Coast Guard
- DNDO
- U.S. Customs and Border Protection
- U.S. Immigration and Customs Enforcement
- DHS - Office of Policy
- NPPD - Office of Infrastructure Protection & Office of Risk Management and Analysis
- DHS S&T National Biodefense Analysis and Countermeasures Center
- DHS Counter-MANPADS Office
- State of California
- Los Angeles International Airport
- Ports of Los Angeles and Long Beach
- California Energy Commission
- California Emergency Management Agency
- LA Sheriff’s Department
# National Consortium for the Study of Terrorism and Responses to Terrorism (START)

## Mission
- To advance science-based knowledge about the human causes and consequences of terrorism that is directly relevant to homeland security policymakers and practitioners.

**Lead:** University of Maryland

## Impact and Relevance
- Maintaining world’s largest and most up-to-date open-source database of international and domestic terrorist events
- Developing models specifying characteristics of groups that may be most likely to engage in terrorism in the future
- Contributing to Presidential Policy Directive on National Preparedness
- Training a next generation of homeland security practitioners and researchers
- Is a major strategic partner in socio-behavioral research of the Defense Nuclear Detection Office on violent non-state actors and their capability to smuggle or use radiological and/or nuclear material

## Global Terrorism Database (GTD), an open-source database including information on terrorist events around the world. The GTD now includes data on over 98,000 attacks from 1970 to 2010.

## Customers
- Department of Homeland Security Components
  - Science and Technology
  - Office of Intelligence and Analysis
- United States Secret Service
- National Counterterrorism Center (NCTC)
- Federal Bureau of Investigations (FBI)
- Port Authority of New York and New Jersey
- State/Local Homeland Security and Emergency Management Offices
- U.S. Attorneys’ Office
- Department of State
- Department of Defense
- State and Regional Fusion Centers
# National Center for Food Protection and Defense (NCFPD)

## Mission
- Defend the safety of the food system through research and education, from pre-farm inputs through consumption, by developing new tools and strategies to:
  - Respond to and recovery from catastrophic food contamination events
  - Address the vulnerability of the nation's food system to attack through intentional contamination with biological or chemical agents

**Lead:** University of Minnesota

## Impact and Relevance
- Providing Food Defense Curriculum
- Developing prototype food event modeling systems
- Conducting rapid risk assessment on imported foods
- Maintaining two Economically Motivated Adulteration (EMA) databases
- Developing coordination and communication platform (CoreSHIELD) for food and agriculture stakeholders
- Enabling food and agriculture stakeholders to evaluate infrastructure and identify most critical systems, nodes and assets
- Developing technologies to identify chemical or biological agents based on the fundamental behaviors in food
- Establishing strategies to identify and predict intentional and catastrophic food system disruptions that result in health and economic consequences

## Customers
- DHS Office of Infrastructure Protection
- DHS Customs and Border Protection
- DHS Office of Health Affairs
- USDA APHIS, FAS, and FSIS
- HHS Assistant Secretary for Preparedness and Response
- FDA ORA and CFSAN
- EPA
- CIA
- DOD
- Food and Agriculture Organization of the United Nations
- State and Local Food System Agencies
Coastal Hazards Center (CHC)

**Mission**
- To enhance the Nation’s ability to safeguard populations, properties and economies and improve community resiliency to the consequences of natural disasters.

**Co-Leads:** University of North Carolina-Chapel Hill and Jackson State University

**Impact and Relevance**
- Protect susceptible infrastructures
- Protect populations
- Enhance post-catastrophic recovery
- Improve pre-event communication and planning
- Produce disaster management and coastal engineering workforce needed to enhance disaster resilience
- Developed Advanced Circulation (ADCIRC) tool

**Customers**
- Science and Technology Directorate (RSD and FRG)
- U.S. Coast Guard
- Federal Emergency Management Agency
- U.S. Army Corps of Engineers
- National Oceanic and Atmospheric Administration
- State and local emergency management agencies
- Infrastructure managers
- First responders
The Center for Visual and Data Analytics (CVADA)

**Mission**

- Conduct research and develop technologies, tools, and advanced methods to enable operational personnel, scientists, or decision- and policy-makers to analyze, understand and apply diverse, diffuse, and distributed data on threats and manmade or natural disasters in the presence of uncertainty

**Co-Leads:** Purdue University and Rutgers University

**Impact and Relevance**

- Transitioning GARI software to Indiana State Police for gang graffiti identification
- Transitioning cgSARVA software to U.S. Coast Guard to use in decision making and operational planning
- Working with law enforcement groups to combat child slavery in the sex trafficking arena
- Developing stadium/arena security and counter-terrorism best practices for SAFTEY Act implementation

**Customers**

- Science and Technology Directorate
- Over 20 Federal agencies including:
  - Federal Bureau of Investigation
  - Customs and Border Protection
  - U.S. Citizenship and Immigration Services
  - U.S. Coast Guard
  - Transportation Security Administration
  - Immigration and Customs Enforcement
  - Domestic Nuclear Detection Office
  - Office of SAFTEY Act Implementation
  - Federal Emergency Management Agency
  - State homeland security agencies
  - State and local emergency responders
## Mission
- To conduct transformational research, technology and educational development for effective characterization, detection, mitigation and response to the explosives-related threats facing the country and the world

**Lead:** Northeastern University

## Impact and Relevance
- Conducting basic and transformational research in areas related to properties of explosive materials, detection, single and multi-sensor system approaches, unconventional approaches to identify threat signals, and mitigation of explosives-based terrorist incidents
- Building an outstanding educational program (graduate degree and adjunct certificate programs)
- Offering education for first responders
- Developing Applied Model-Based Iterative Reconstruction (MBIR) algorithms to CT luggage scanning systems

## Customers
- DHS S&T Explosives Division (EXD)
- DHS Transportation Security Administration (TSA)
- U.S. Secret Service (USSS)
- Office of Bomb Prevention (OBP)
- State homeland security agencies
- Joint Improvised Explosive Device Defeat Organization Responders
- Vendors of detection instrumentation
- Vendors of building materials
- Military
The proposal **must** include a letter of support from a DHS COE Director detailing how the MSI will work with the COE.

- Proposals and projects should align with or complement COE related research
- COE researchers should be involved early in the proposal development process
- Budget line for COEs should be minimal
- See www.hsuniversityprograms.org for COE contact information
Eligible Applicants

- Eligibility Criteria:
  - Historically Black College and University (HBCU)
  - Hispanic Serving Institutions (HSI)
  - Tribal College and University (TCU)
  - To determine if your institution fits this category visit: [http://www.ed.gov/about/offices/list/ocr/edlite-minorityinst.html](http://www.ed.gov/about/offices/list/ocr/edlite-minorityinst.html)

- Early-Career Faculty definition:
  - Have received Ph.D. or Master’s Degree within 7 yrs.
  - Have 5 yrs. or less in current position
  - Must be in a tenure-track or equivalent position
  - Must have a significant role in the proposal
Application Review and Selection Process.

- Initial Review – for eligibility requirements
- External Review

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Weight (%)</th>
<th>Scaled Score</th>
<th>Weighted Score</th>
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<tbody>
<tr>
<td>Technical Merit</td>
<td>15%</td>
<td>5</td>
<td>0.75</td>
</tr>
<tr>
<td>Strength of Proposed HS-STEM Program</td>
<td>15%</td>
<td>4</td>
<td>0.60</td>
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<tr>
<td>Rigor and Faculty</td>
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<tr>
<td>Institutional Relationships</td>
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<tr>
<td>Post-Program Transition Planning</td>
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<td>0.45</td>
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<tr>
<td>Fiscal Management</td>
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<tr>
<td>Evaluation Program</td>
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<tr>
<td><strong>Overall Rating</strong></td>
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<td></td>
<td><strong>4.00</strong></td>
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<tr>
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<tbody>
<tr>
<td>Critical Agency Need</td>
<td>30%</td>
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<tr>
<td>Acceptable Past Performance</td>
<td>30%</td>
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<tr>
<td>Financial Management</td>
<td>20%</td>
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<tr>
<td>Reasonable Budget</td>
<td>10%</td>
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<tr>
<td>Research Safety Plan</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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</tbody>
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Application Process

- **Be sure to review the entire FOA before applying!**

- Applying for the SLA award.
  - Submit applications via [http://www.grants.gov](http://www.grants.gov)
  - Prior to submission, applicant must:
    - Obtain DUNS #
    - Register with SAM.gov
    - AOR registration with Grants.gov (see your Office of Sponsored Programs)
Contact Information

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Or

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Homeland Security
Science and Technology