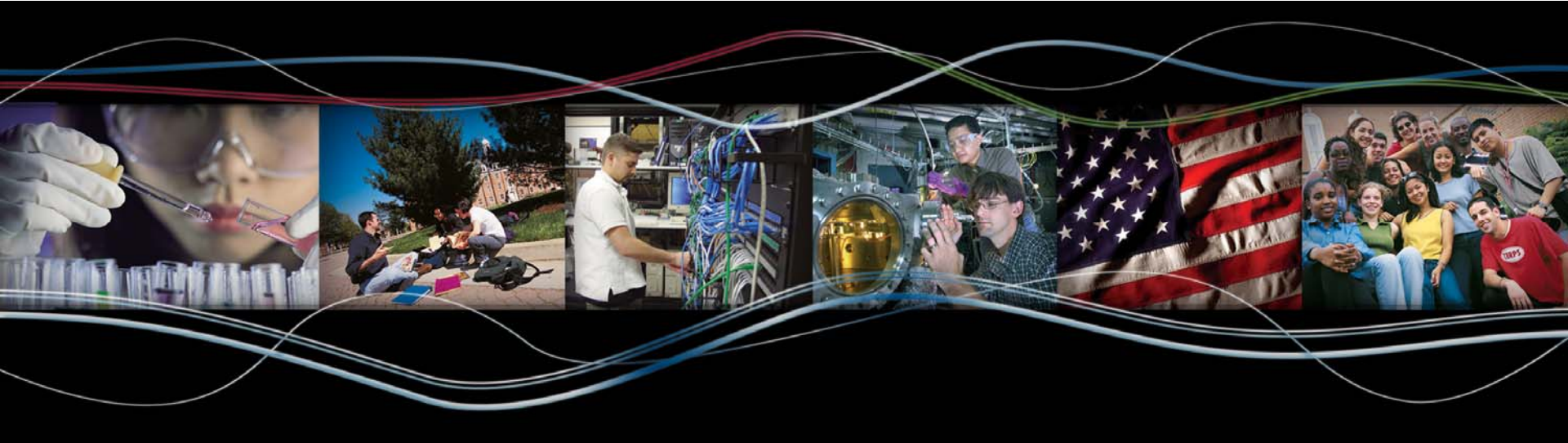


# DHS Office of University Programs Minority Serving Institutions Initiatives



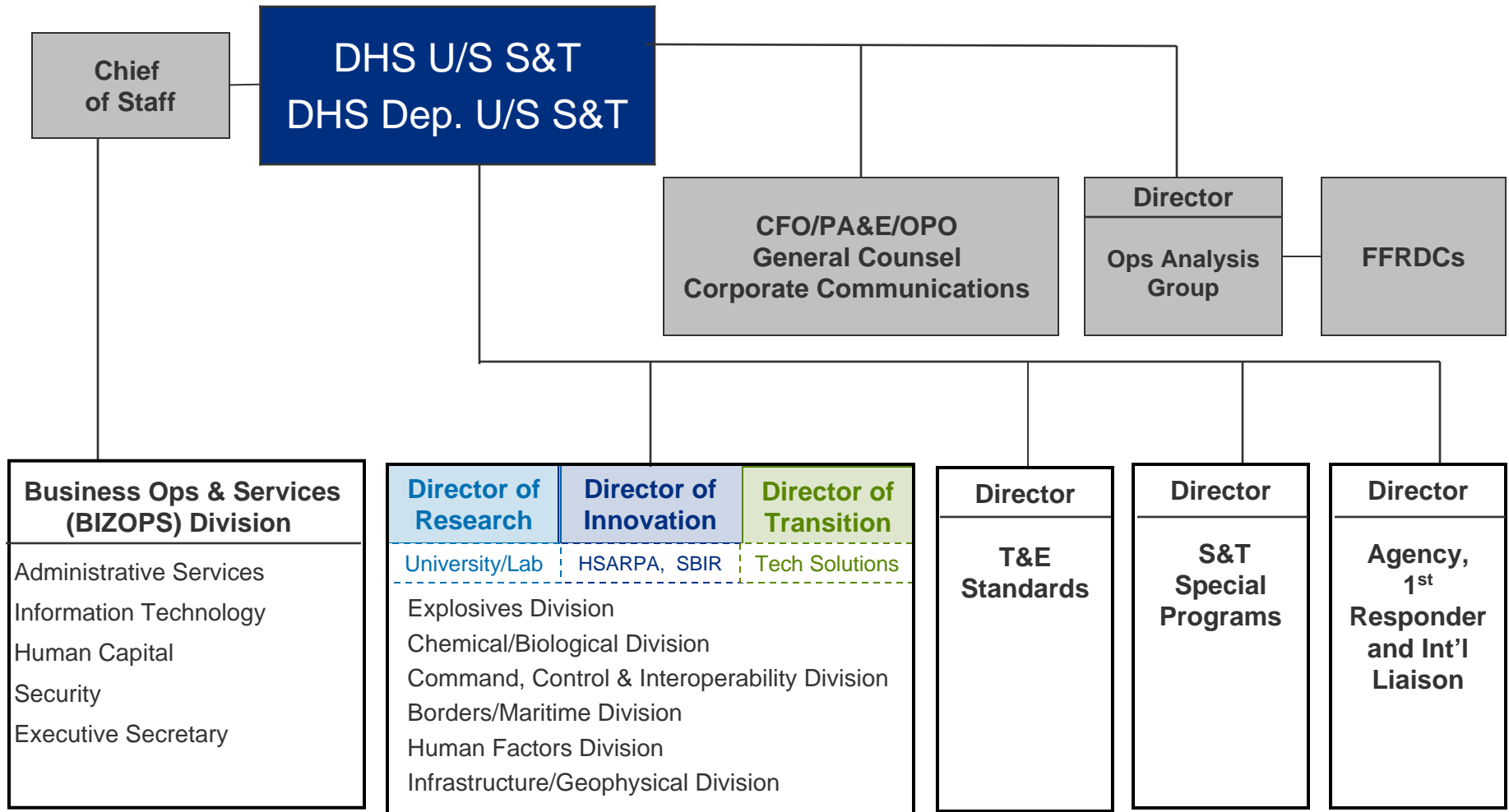
Office of University Programs  
Science and Technology Directorate

April 2010



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# DHS S&T Directorate



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# DHS Office of University Programs (OUP)

## Programmatic Areas

- Centers of Excellence (COEs)
- Education Programs
- Minority Serving Institutions (MSIs) Initiatives



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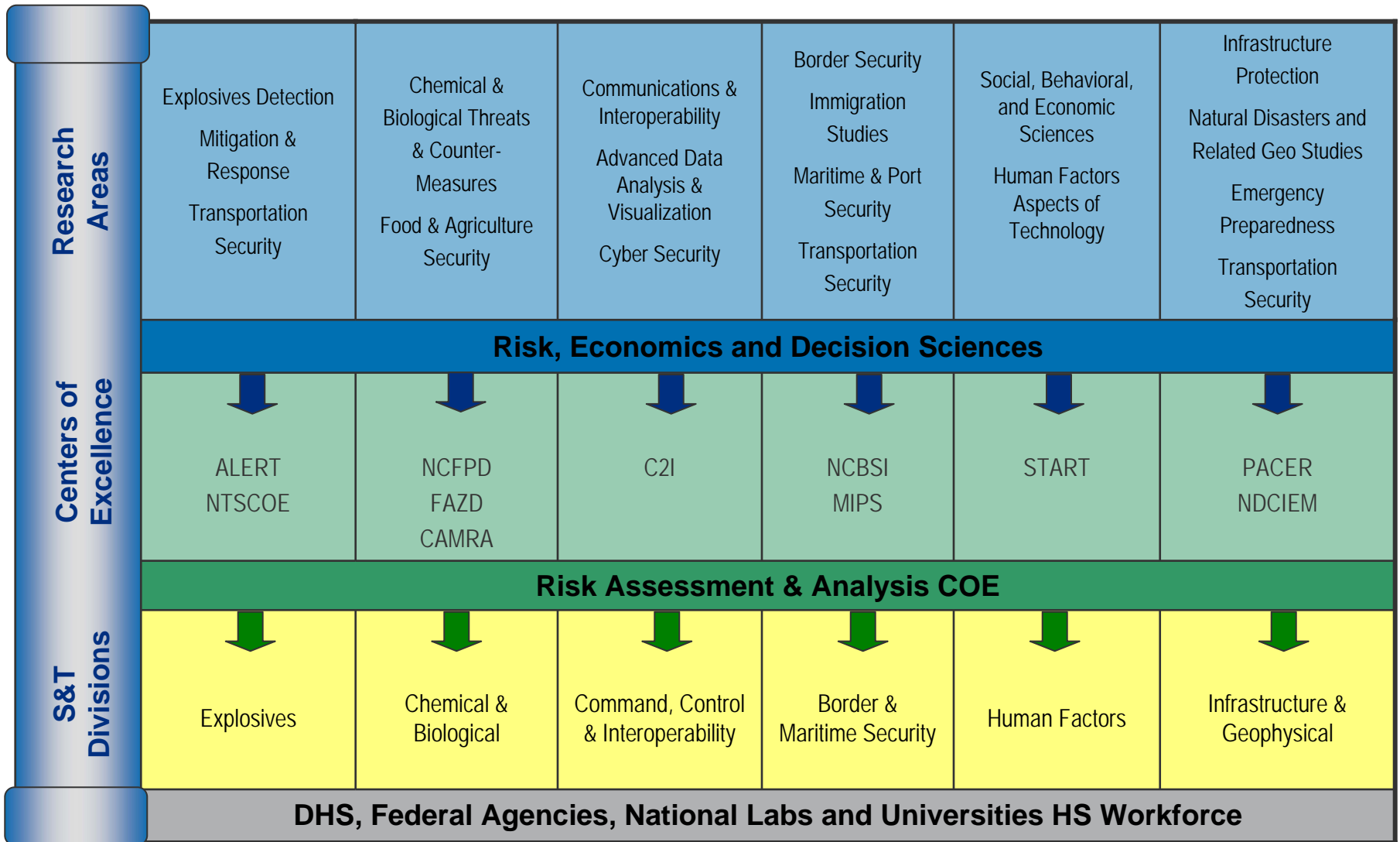
# S&T has 17 Priority Research & Education Areas

1. Explosives Detection, Mitigation and Response
2. Social, Behavioral, and Economic Sciences
3. Risk and Decision Sciences
4. Human Factors Aspects of Technology
5. Chemical Threats and Countermeasures
6. Biological Threats and Countermeasures
7. Food and Agriculture Security
8. Transportation Security
9. Border Security
10. Immigration Studies
11. Maritime and Port Security
12. Infrastructure Protection
13. Natural Disasters and Related Geophysical Studies
14. Emergency Preparedness and Response
15. Communications and Interoperability
16. Advanced Data Analysis and Visualization
17. Community, Commerce and Infrastructure Resilience


















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# University Programs Education & Research Pipeline



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# COE Alignment with the S&T Divisions

COE Alignment with S&T Divisions					
Explosives	Chemical-Biological	Command, Control & Interoperability	Borders & Maritime	Human Factors	Infrastructure/ Geophysical
					
					 NDCIEM
National Transportation Security COE		National Transportation Security COE		National Transportation Security COE	National Transportation Security COE
					
		Risk, Economics and Operations Analysis Risk Sciences Branch & HSI Risk Determination			



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# MSIs and DHS Centers of Excellence

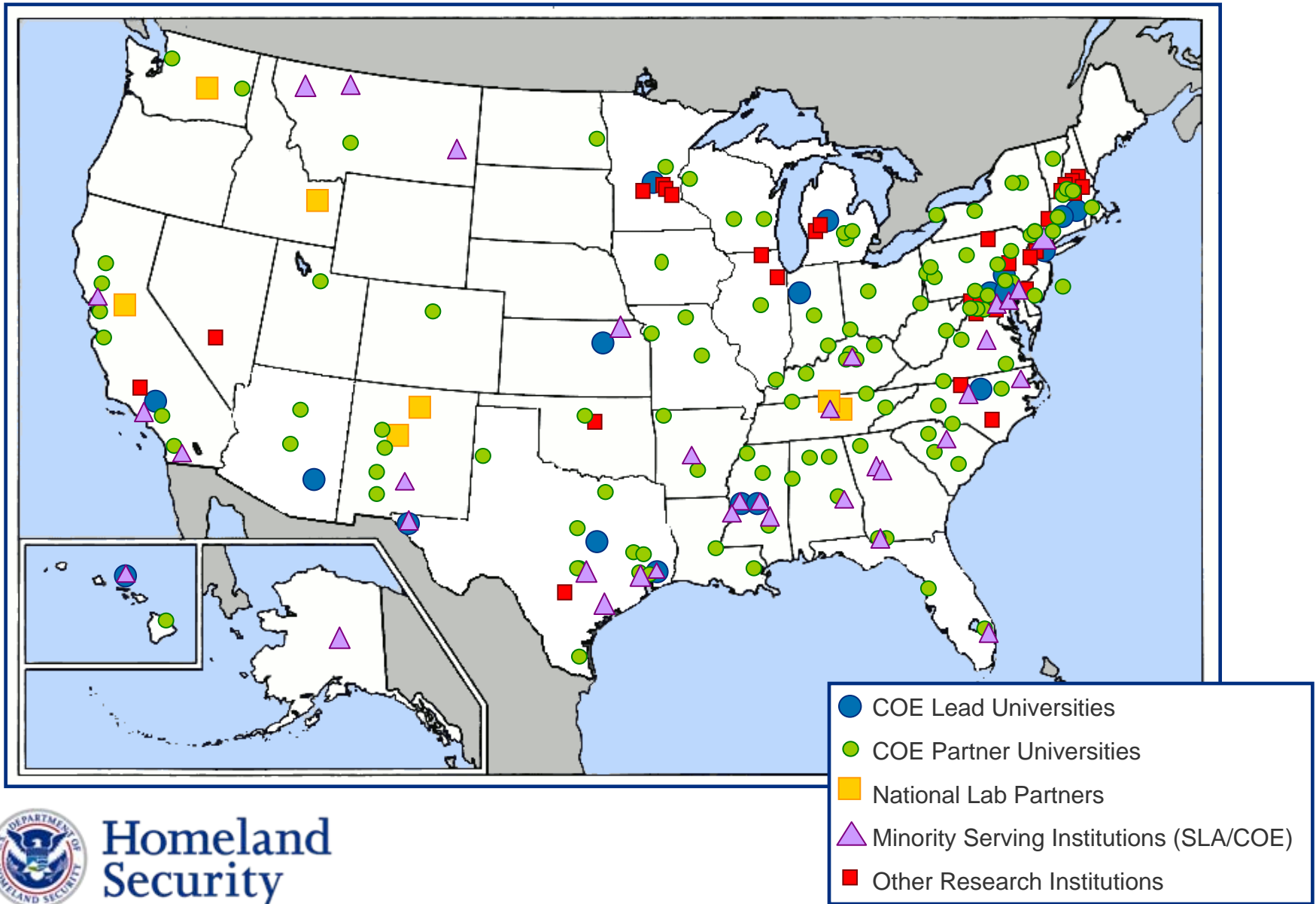
MSIs are strongly supported within the COEs, both as partners and as lead institutions. Current MSIs associated with the various COEs are (lead institutions are in bold):

- Alcorn State University
- Chief Dull Knife College
- Florida A&M University
- Howard University
- **Jackson State University**
- John Jay College, CUNY
- Kentucky State University
- Morehouse College
- Morgan State University
- Montana State University
- North Carolina A&T University
- Prairie View A&M University
- Salish Kootenai College
- South Carolina State University
- Tennessee State University
- **Texas Southern University**
- **Tougaloo College**
- Tuskegee University
- University of Arkansas at Pine Bluff
- University of New Mexico
- University of Puerto Rico at Mayaguez
- University of Puerto Rico at Ponce
- **University of Texas at El Paso**
- University of Texas at San Antonio
- Virginia State University





# The DHS S&T University Network



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# Education Programs

- The **Homeland Security Science, Technology, Engineering and Mathematics (HS-STEM) Career Development Grants Program** provides institutional grants to colleges and universities to award scholarships and fellowships to students in HS-STEM disciplines.
- The **DHS Scholarship and Fellowship Program** provides individual scholarships and fellowships to support undergraduate and graduate students pursuing degrees in homeland security-focused courses of study.
- The **Summer Internship Program** provides undergraduate juniors and seniors the opportunity to work with homeland security professionals and researchers during the summer.
- The **K-12 STEM Education Initiatives** pilot innovative approaches to K-12 stem education using technologies focused on homeland security issues
- The **National Defense University Science and Technology Leadership Program** provides partial fellowships for DHS employees to pursue Master's degrees in science and technology leadership.



# Career Development Grants (CDG) Program

The **Homeland Security Science, Technology, Engineering and Mathematics (HS-STEM) Career Development Grants Program** provides institutional grants to colleges and universities to award scholarships and fellowships to students in HS-STEM disciplines.

- 27 Career Development (institutional) Grants won by 29 universities since 2007
- The Career Development Grants Program supported an estimated 120 undergraduate and graduate students since 2007
- 5 MSIs have received CDG grants since inception
- Please apply next year at [www.grants.gov](http://www.grants.gov)



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# Scholars and Fellowship (S&F) Program

The **DHS Scholarship and Fellowship Program** provides individual scholarships and fellowships to support undergraduate and graduate students pursuing degrees in homeland security-focused courses of study.

- The Scholars and Fellows Program supported 522 Scholars & Fellows since 2003
- 12% awarded to students at MSIs
- Please apply next year at [www.orau.gov/dhsed](http://www.orau.gov/dhsed)



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# Summer Internship Program (SIP)

The **Summer Internship Program** provides undergraduate juniors and seniors the opportunity to work with homeland security professionals and researchers during the summer.

- 20% of student interns attended MSIs
- Please apply next year at [www.orau.gov/dhsinternships](http://www.orau.gov/dhsinternships)



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# Minority Serving Institutions (MSI) Programs

## Goal:

Help ensure that the face of America is reflected in the future Homeland Security science and technology work force.

## Objectives:

- Develop HS-STEM\* capacity at interested MSIs
- Leverage existing HS-STEM capabilities at MSIs
- Provide Scholarships and Fellowships to MSIs for homeland security students
- Provide homeland security career pathways to MSI students



## Programs:

- Scientific Leadership Award Grants
- Summer Research Teams Program
- Centers of Excellence Faculty Exchange

## Funding:

- FY 2007 -- ~\$4 M
- FY 2008 -- ~\$3.9 M
- FY 2009 -- ~\$4.1 M
- FY 2010 ---\$3.8M

\* HS-STEM = Homeland Security Science, Technology, Engineering and Mathematics



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# Minority Serving Institutions (MSI) Programs

- **MSI Scientific Leadership Awards (SLA):** Institutional awards to support the development of HS-STEM teaching initiatives, curriculum development and scholarships in HS-STEM fields
- **Summer Research Team (SRT) Program:** Summer research collaborations that engage early career faculty and students with the DHS Centers of Excellence
- Existing awards given to Centers of Excellence to expand MSIs' STEM capabilities and develop a number of proven career pathways for MSI students



# Scientific Leadership Awards (SLA)

- Support research and education in homeland security-related science, technology, engineering, and mathematics (HS-STEM) at MSIs.
- Provide support for 3 years for:
  - Early career faculty
  - Curriculum development
  - Training
  - Scholarships
- Benefited over 150 students at 28 MSIs from FY2007 to FY2009
- [www.grants.gov](http://www.grants.gov)



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# Open Funding Opportunity Announcements

## **2010 DHS Scientific Leadership Award for Minority Serving Institutions Granting Bachelor Degrees**

- Funding Instrument Type: Grant
- Closing Date: June 7, 2010
- Category of Funding Activity: Education
- Category Explanation: Proposals may be submitted by only accredited academic MSI institutions in the U.S., its territories or possessions, and the Commonwealth of Puerto Rico, that award bachelor degrees in science (including social science), technology, engineering and/or mathematics (STEM) fields.
- Expected Number of Awards: 10
- Estimated Total Program Funding: \$3,600,000



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# Open Funding Opportunity Announcements

## 2010 DHS Scientific Leadership Award for Minority Serving Institutions Granting Graduate Degrees

- Funding Instrument Type: Grant
- Closing Date: June 7, 2010
- Category of Funding Activity: Education
- Category Explanation: Proposals may be submitted by only accredited academic MSI institutions in the U.S., its territories or possessions, and the Commonwealth of Puerto Rico, that award graduate degrees in science (including social science), technology, engineering and/or mathematics (STEM) fields.  
The maximum award for a master degree program proposal is \$250,000 in total.  
The maximum award for a PhD program proposal is \$400,000 in total.
- Expected Number of Awards: 5
- Estimated Total Program Funding: \$1,600,000
- Award Ceiling: \$400,000



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# Open Funding Opportunity Announcements

## 2010 Scientific Leadership Awards Agency Contacts

- Administrative Contact:  
Janet.Bailey@dhs.gov  
(202) 447-0362
- Technical Contact:  
Stephanie.Willett@dhs.gov  
(202) 254-6679
- Electronic Submissions:  
support@grants.gov  
(800) 518-4726



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# Profile: Scientific Leadership Award Recipient

- Dr. Edu Suarez, Associate Professor, University of Puerto Rico, Ponce
- 2007 SLA Recipient
- Research Areas: Terrorism, Preparedness, Early Detection of Pathogens
- Grant Objectives: HS-related course development, student development, pathogen early detection methodology



# FY 2007 SLA Recipients

Institution	Project Name
University of Puerto Rico in Ponce	Integrated Strategies for Increasing Understanding, Preparedness, Response and Research in Terrorism at UPRP
Wilbur Wright College	Wilbur Wright College Emergency Management Associates in Applied Science Program
Alcorn State University	Development of Undergraduate Interdisciplinary Curriculum for Homeland Security STEM fields
Savannah State University	Research and Curriculum Development for Improved Policy and Planning for Underserved and Disadvantaged Populations
Blackfeet Community College	Blackfeet Homeland Security – First Responder Training Program
University of Texas at El Paso	Visually Explaining Cargo Shipment Threat Detection
The City University of New York Graduate Center	Integrating Education, Research and Professional Development Effort to Train the Next Generation of Homeland Security Experts and Scholars
California State University, Fresno Foundation	DHS Grad. Certificate: Research Emphasis on Border Security and Immigration Studies
North Carolina Agricultural and Technical State University	Developing Expertise of Minority Students in Managing Threats and Response to Emergency Situations through Interdisciplinary Research and Education
Morgan State University	Increasing the Pipeline of STEM Majors Among MSI
Florida International University Board of Trustees	Secure and Trusted Context-Aware Adaptable Sensor Network
The City University of New York, John Jay College	Educating Tomorrow's Homeland Security Leaders Today



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# FY 2008 SLA Recipients

Institution	Project Name
California State University, Los Angeles	Bio-security Research and Education Programs at Cal State University
Florida International University	Information Delivery and Knowledge Discovery for Hurricane Disaster Management
Jackson State University	Scientific Leadership in Bioinformatics for Microbial Threats
Prairie View A&M University	Producing Homeland Security Leaders, Scholars, and experts Through Education, Research and Professional Development
Virginia State University	Curriculum and Faculty Development for New Information Security Concentration



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# FY 2009 SLA Recipients

Institution	Project Name
University of the District of Columbia	The UDC HS-STEM Program
California State University, Dominguez Hills	HS-STARTUP: Homeland Security Science Technology and Research Training Undergraduate Pipeline
Jackson State University - Disaster Response	Jackson State University's Technology Department-HS/STEM-MSI Enrichment Leadership Program
The University of Texas, El Paso	HS-STEM: Integration of Homeland Security into Computational Studies at UTEP
Universidad Politecnica de Puerto Rico	Scholarship to Strengthen Research and Education to Secure our Nation's Critical Infrastructure
Alcorn State University	Homeland Security Science Curriculum with Specialization in Unmanned Systems: Inland, Border, Maritime and Port Security
John Jay College of Criminal Justice	John Jay College Homeland Security Scholars (HSS) Post-Baccalaureate Achievement Program
Virginia State University	Establishment of Information Assurance New Concentration for the Computer Science Graduate Program
North Carolina Agricultural and Technical State University	Interactive Simulation Model for Evaluating the Impact of Port Disruptions
Florida A&M University	An Innovative Master of Science Degree Program for Under-Represented Scholars in Environmental and Agricultural Biosecurity
California State University, Dominguez Hills	Network-Distributed MultiAgent Decision System (NOMADS)



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# Summer Research Team (SRT) Program

Opportunities for faculty members and undergraduate and/or graduate students in HS-TEM disciplines to work on collaborative research with a DHS Center of Excellence

- 10 week full-time research experience
- Opportunity for one year of follow-on research funding
- Faculty and students from eligible community colleges are encouraged to apply
- From 2005-2010, over 40 faculty/student teams from MSIs have been funded
- Please apply next year at [www.orau.gov/dhsfaculty](http://www.orau.gov/dhsfaculty)



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# Summer Research Teams (2005-2010)

- Alabama A&M University
- Bethune-Cookman University
- Bowie State University
- City College of New York
- Clark Atlanta University
- Elizabeth City State University
- Florida A&M
- Hampton University
- Howard University
- Huston-Tillotson University
- Miles College
- Morgan State University
- National Hispanic University
- New Jersey City University
- North Carolina A&T University
- South Carolina State University
- Southern University A&M College
- Spelman College
- Texas A&M University-Kingsville
- The City University of New York, John Jay College of Criminal Justice
- University of Arkansas at Pine Bluff
- University of Houston - Downtown
- University of Puerto Rico at Mayaguez
- University of Puerto Rico in Ponce
- University of Turabo
- Whittier College
- Wiley College



# References

## DHS Office of University Programs

- [http://www.dhs.gov/files/programs/editorial\\_0555.shtm](http://www.dhs.gov/files/programs/editorial_0555.shtm)
- <http://hsuniversityprograms.org/>

## DHS S&T Basic Research Focus Areas

- [http://www.dhs.gov/xlibrary/assets/st\\_basic\\_research\\_focus\\_areas\\_may\\_2009.pdf](http://www.dhs.gov/xlibrary/assets/st_basic_research_focus_areas_may_2009.pdf)

## DHS S&T High Priority Technology Needs

- [http://www.dhs.gov/xlibrary/assets/st\\_basic\\_research\\_focus\\_areas\\_may\\_2009.pdf](http://www.dhs.gov/xlibrary/assets/st_basic_research_focus_areas_may_2009.pdf)

## COE University Network Site

- <http://www.hsuniversityprograms.org/>



# Contact Information

## **Stephanie Willett**

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202-254-6679

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202-254-6186

## **Seema Thomas**

Program Coordinator, MSI Initiatives, OUP

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202-254-5847



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# The 12 DHS Centers of Excellence

1. Center for Risk & Economic Analysis of Terrorism Events (CREATE)  
Lead: University of Southern California
2. National Center for Foreign Animal & Zoonotic Disease Defense (FAZD)  
Lead: Texas A&M University
3. National Center for Food Protection & Defense (NCFPD)  
Lead: University of Minnesota
4. National Consortium for the Study of Terrorism & Responses to Terrorism (START)  
Lead: University of Maryland
5. Center for Advancing Microbial Risk Assessment (CAMRA)  
Lead: Michigan State University, in Partnership with U.S. EPA
6. National Center for Preparedness & Catastrophic Event Response (PACER)  
Lead: Johns Hopkins University



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# The 12 DHS Centers of Excellence

7. The Center for Awareness and Location of Explosives-Related Threats (ALERT)  
Research Co-Lead: Northeastern University  
Education Co-Lead : University of Rhode Island
8. The National Center for Border Security and Immigration (NCBSI)  
Research Co-Lead: University of Arizona  
Education Co-Lead: University of Texas at El Paso
9. The Center for Maritime, Island and Port Security (MIPS) - meets Safe Ports Act  
Maritime and Islands Co-Lead: University of Hawaii (CIMES)  
Port Security Co-Lead: Stevens Institute of Technology (CSR)
10. Natural Disasters, Coastal Infrastructure and Emergency Management (NDCIEM)  
Research Co-Lead: University of North Carolina at Chapel Hill  
Education Co-Lead: Jackson State University
11. National Transportation Security COE (NTSCOE) – Required by HR-1  
Research Co-Lead: University of Connecticut  
Education & Training Co-Lead: Tougaloo College  
Petro-Chemical Transportation Co-Lead: Texas Southern University
12. Command Control and Interoperability (C2I)  
Co-Lead: Purdue University  
Co-Lead: Rutgers University



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# Profile: MSI Recipient of a Career Development Grant

- Dr. Raphael Isokphei, Assistant Professor, Jackson State University, Jackson, MS
- 2007 CDG award recipient
- Research Areas: Bioinformatics, biodefense, avian flu, visual analytics
- Grant Objectives: 10 graduate and undergraduate students received support as a result of this grant



# Profile: Summer Research Team Participant

- Ashley Crump
- Student member of 2007 SRT
- Home Institution – Howard University
- COE Institution– Rutgers University
- BS Degree, Computer Science, Howard University, 2008
- Currently pursuing graduate degree, Applied and Computational Mathematics, Princeton University
- Research Interests – Mathematical Biology and Epidemiology

