# Office of University Programs

*Harnessing the Intellectual Power of America's Universities*

Science and Technology

## About the Office of University Programs (OUP)

*OUP harnesses the intellectual power of America's universities to provide innovative research, development, and education to the Homeland Security Enterprise (HSE). One of the department's most forward-looking programs, OUP supports the HSE by: identifying emerging trends and pursuing groundbreaking research through the DHS Centers of Excellence; developing current and future homeland security talent through Workforce Development; and providing opportunities that cultivate a diverse and talented workforce through the Minority Serving Institutions program.*

## Centers of Excellence

The DHS Centers of Excellence (COEs) are multidisciplinary academic consortia that engage leading experts to conduct groundbreaking research on threats facing the Homeland. In an operationally-driven department, the DHS COEs play a unique and pivotal role by offering rigorous, objective knowledge and solutions that directly enable DHS missions. Additionally, each DHS COE actively contributes to workforce development through the development of education resources and training.

- Center for Accelerating Operational Efficiency (CAOE)
- Cross-Border Threat Screening and Supply Chain Defense (CBTS)
- Criminal Investigations and Network Analysis Center (CINA)
- Critical Infrastructure Resilience Institute (CIRI)
- Coastal Resilience Center (CRC)
- Masters of Business Administration - Security Technology Transition (MBA STT)
- National Counterterrorism, Innovation, Technology, and Education Center (NCITE)
- Soft-Target Engineering to Neutralize the Threat Reality (SENTRY)

## Minority Serving Institutions

The Minority Serving Institutions (MSI) program provides opportunities that foster and cultivate a diverse university-based research capability and talented workforce and prepares motivated students to launch successful homeland security-related careers.

- Advance the research capabilities of students and contribute to MSI capacity building,
- Cultivate scientific leadership in areas of study critical to homeland security,
- Recruit and diversify the next generation of the homeland security workforce, and
- Provide opportunities for students to directly engage with professionals in their areas of interest.

## Workforce Development

Workforce Development helps ensure that the current homeland security workforce is performing to the best of its ability and cultivates the next generation of talent. The COEs, in concert with OUP, develop courses and offer a multitude of workshops and other opportunities for current employees to refine existing and develop new skills. Additionally, OUP grants, internships, and fellowships provide students with advanced technical knowledge and training through experiential learning.

# OUP Impacts

## Advancing our Understanding of the Structure and Operations of Criminal Networks

Transnational criminal organizations operate across the nexus of physical, cyber, and social space. CINA researchers are developing innovative approaches to understanding the complex structure and operations of such networks in order to develop more effective means to disrupt the organizations that pursue them.
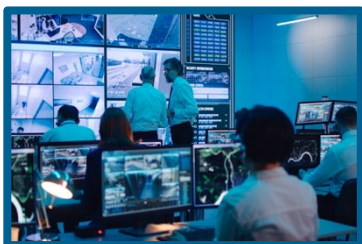
## Guiding Resilient Planning and Rebuilding

CRC developed the Plan Integration for Resilience Scorecard (PIRS)™ to assess community plans for their ability to work collectively to reduce future flooding and storm risks. PIRS™ has been used in Norfolk, Virginia, and League City, Texas, and is being used in Nashua, New Hampshire, and to assess communities near Houston, Texas, following Hurricane Harvey. In the wake of Hurricane Matthew, CRC worked with several communities to develop community rebuilding plans.

## Cyber Risk Scoring and Mitigation

The Critical Infrastructure Resilience Institute (CIRI) cybersecurity risk measurement tool known as the Cyber Risk Scoring and Mitigation (CRISM), was selected as the winner of the Homeland Security Startup Studio Program. This tool measures the software and hardware security capabilities of a company's cloud IT infrastructure.

## Countering Terrorist Threats to the United States

NCITE researchers partner closely with HSE professionals at the Counterterrorism Mission Center, the FBI's Joint Terrorism Task Force, and state and local law enforcement and intelligence officers through the fusion center network. Through user-inspired projects, NCITE develops tools and improves the analytic work of identifying and neutralizing emerging and existing terrorist threats across rural towns, tribal territories, and urban U.S. cities.

## Workforce and Professional Development

SENTRY workshops, conferences, and events expose students, faculty, and researchers to professional development opportunities and open the door for government and industry professionals to learn about the Center's latest research. SENTRY works to enhance broader participation of underrepresented groups in STEM fields, higher education, and the Homeland Security Enterprise.

## Improving Airport Checkpoint Performance

With more than 2.5 million passengers flying each day through U.S. airports, CAOE is working with TSA to improve airport checkpoint performance using resource allocation decision tools that evaluate passenger demand. Outcomes include reduced average wait time, improved customer service, and quicker responses to unplanned events without compromising security.