



Cross-Border Threat Screening and Supply Chain Defense (CBTS)

A Nationwide Consortium Led by Texas A&M University

A DHS Center of Excellence

CBTS researches and develops solutions, protocols, and capabilities to support DHS operations that detect, assess, and respond to known and unknown biological threats and hazards that could adversely impact the Nation's people, agriculture, and economy. Learning from and developing partnerships with stakeholders are key to successful projects. Typical projects focus on 1) improving data collection, applications and management; 2) assessing innovations designed to extend our frontiers beyond our physical borders; 3) identifying novel tools and methods created to improve risk assessments; and 4) advancing workforce development and educational opportunities.

Research Capabilities

- Detection of threats and disruptions to people and global supply chains
- Data integration and analytics
- Novel tools and technologies to reduce risk
- Systematic risk assessment
- Workforce development and student educational programs
- Time-critical response support

About CBTS

LAUNCH

2018

PARTNERS

More than 35 universities, public- and private-sector partners

EXPERTISE

Research on the prevention, detection and response to biological threats and hazards for transportation, agriculture, public health, biodefense and supply chain defense; operational logistics; and support workforce development and educational programs

DHS ALIGNMENT

Countering Weapons of Mass Destruction (CWMD), U.S. Customs and Border Protection (CBP), Office of Health Security (OHS), U.S. Immigration and Customs Enforcement (ICE), DHS Science and Technology (S&T)

Feedback from Our Partners

“Working closely with CBTS and the U.S.-Mexico Task Force has yielded important insights about the development of tools, data, and dashboards needed to understand and respond to medical and public health issues along the border.”

Thomas M. Wilkinson, MD, Chief Medical Information Officer, Office of Health Security



University Partners

Arizona State University*
Bethune-Cookman University*
Boston University
Brown University
City University of New York*
Colorado State University
Duke University
Harvard University
Iowa State University
Morgan State University*
North Carolina Central University*
Stevens Institute of Technology
Texas A&M AgriLife
Texas A&M University - Kingsville*
Texas A&M University - Prairie View*
Texas A&M Transportation Institute
Texas A&M University - Galveston
Tufts University
University of California - Davis
University of Chicago
University of Liverpool
University of Missouri - Food and
Agricultural Policy Research Institute
University of Nevada at Las Vegas*
University of Texas - Austin
University of Washington
University of Wisconsin-Madison
**Minority Serving Institution (MSI)*

Enterprise Partners

Anneal Initiative, Inc.
Biomeme
Center for Research in Geography and
Geomatics (CentroGeo) Mathematics
Research Center, A.C. (CIMAT)
Massachusetts Institute of Technology
Migration Policy Institute
National Bureau of Economic Research
National Institute of Statistics and
Geography (INEGI)
Orion Integrated Biosciences Inc.
Quantifind, Inc.
U.S. Department of Health and Human
Services



For more information on CBTS,
please visit: www.cbts.tamu.edu

For more information on DHS
Centers of Excellence, please visit:
www.dhs.gov/science-and-technology/centers-excellence



Impacts



Help Ensure That Customs and Border Protection Training Curriculum Is Addressing Most Up-To-Date Biothreats

Biological threats impact our nation's health, critical infrastructure and economy in a globalized world of cross-border trade and flow of goods, services, people and technologies. It is this convergence of humans, agricultural products and other cargo that increases the potential for introduction of pathogens and invasive species. DHS Customs and Border Protection (CBP) Officers, Agricultural Specialists and Border Patrol Agents are at the front lines, safeguarding our nation from infectious diseases, invasive species, harmful insects, and other pest threats. CBTS is evaluating and improving the education and training of current and future CBP personnel on detection, interception, and deterrence of these biological threats and hazards, which is of paramount importance.



Borders of the Future

CBTS supports research to ensure CBP remains a leader among global customs agencies with respect to the safe and efficient movement of legitimate cargos and people across our borders. The Covid-19 pandemic exposed and exacerbated bottlenecks, while also spurring innovation and suggesting opportunities for improvement. In addition, technologies (especially in terms of data analytics and scanning) have continued to evolve rapidly. This research takes stock of these developments, reflects on how novel and leading-edge innovations could reshape the borders of the future based on international examples.



Improving the Detection of Invasive Species

CBTS supports several research efforts on transboundary pest and disease threats (TPDT) that represent danger to U.S. commercial crop and animal production. One focuses on the development of data integration and forecasting methods and resources needed to build a accurate assessments of the ongoing TPDT risks faced by U.S. agriculture. A second project is identifying and examining existing and novel methods for pest detection in stored products that could be applicable for use at US ports of entry. A third project is examining the performance of existing random sampling inspection protocols to determine optimal inspection protocols that can be employed to efficiently allocate inspection resources.