THE NATIONAL CENTER FOR BORDER SECURITY AND IMMIGRATION, CO-LED BY THE UNIVERSITY OF ARIZONA IN TUCSON AND THE UNIVERSITY OF TEXAS AT EL PASO, IS CONDUCTING BASIC RESEARCH BY DEVELOPING TECHNOLOGIES, TOOLS AND ADVANCED METHODS THAT BALANCE IMMIGRATION AND TRADE WITH EFFECTIVE BORDER SECURITY, AS WELL AS ASSESS THREATS AND VULNERABILITIES, IMPROVE SURVEILLANCE AND SCREENING, ANALYZE IMMIGRATION TRENDS, AND ENHANCE POLICY AND LAW ENFORCEMENT EFFORTS.

Research Lead - University of Arizona

Program Objectives

BSI’s research team is a consortium of 14 premier institutions that are dedicated to the development of innovative technologies, proficient processes, and effective policies that will help protect our Nation’s borders, foster international trade, and enhance long-term understanding of immigration determinants and dynamics. BSI’s focus is to provide government agencies and stakeholders with scientifically-informed knowledge to expedite the development of innovative, practical, and cost-effective solutions to meet the ever-changing operational demands at the northern and southern borders.

Current Projects

BSI’s research focuses on 8 interrelated areas.

- **Detection: Humans and Vehicles.** Rapidly detect deception and hostile intent; convey real-time alerts to screening agents; formulate profiles of activity and identity; extend biometric measures; identify high-risk vehicles.

- **Networks: Interoperability, Reliability and C3.** Build self-sustaining sensor networks for ground, water and subsurface deployment; improve lifetime, robustness, and fault tolerance of sensor nets; utilize renewable energy to power sensors; develop advanced imaging of objects obscured by rough terrain; develop interoperability of C3 activities.

- **Fusion: Tools and Approaches.** Fuse cross-jurisdictional security data; identify patterns in dynamic data generated by sensors; create a “Common Operating Picture” from human and non-human sensors; dynamically link users with sensors for improved situational analysis; reduce sensor false alarms.

- **Risk: Mitigation, Assessment and Alignment.** Measure threats and security levels; simulate and model countermeasures; inventory and evaluate current technologies; identify, test and evaluate easily-deployed and commercially available technologies; identify technology gaps requiring further development.

- **Population: Methods, Metrics and Estimates.** Attempt to find answers to the following questions: How do we improve estimates of the unauthorized population? What factors influence immigrant migration patterns? How do we improve estimates of visa overstays?

- **Immigration: Economics and Policies.** Better explain and predict the effects of current and future immigration policies, with particular respect to workforce demands, economic and social impacts, and public institutions.

- **Governance: Enforcement and International.** Optimize inter-agency coordination; Central American gangs as a proxy for crime & terrorism; assess local law enforcement collaborations to identify, investigate and prosecute criminal aliens; balance international trade and border security.

- **Law: Civil Liberties and Rights.** Ensure all tasks and projects will conform to civil rights; civil liberties; human rights protections, and laws and treaties of the United States.
Questions/Comments
If you have any questions or comments about the DHS Center for Border Security and Immigration, please send an email to any of the following:
- University of Arizona, Executive Director – Elyse Golob, EGolob@email.arizona.edu
- University of Texas, El Paso, Managing Director – Luis Barker, LBarker@utep.edu

If you would like to be added/removed from this distribution list or have any additional questions about the Centers, please contact the DHS Program Manager, Theophilos Gemelas at Theophilos.Gemelas@dhs.gov.