

BTI Institute

Borders • Trade • Immigration

A Department of Homeland Security Center of Excellence

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This product, along with everything we do, is dedicated to the men and women of the United States Department of Homeland Security. We thank them for their tireless efforts to secure our Nation and safeguard our economic prosperity by facilitating lawful travel and trade.



Prosperity and Security in Central America

Research in response to BTI RFP 19-01

The Borders, Trade, and Immigration Institute, in response to United States Government commitments delineated in the “Prosperity and Security in Central America” Initiatives to promote a safer and more prosperous Central America, launched RFP19-01, a request for proposals surrounding the key questions focused on ways to expand cooperation to address economic, security, and governance issues facing the region.

The United States and Mexico co-hosted the second Conference on Prosperity and Security in Central America as a follow up to the first conference held in 2017. Participants included the United States Secretary of State, Secretary

of Homeland Security, Mexican Foreign Secretary, Mexican Secretary of Government, the President of Honduras, the President of Guatemala and the Vice President of El Salvador.*

BTI, in collaboration with the Department of Homeland Security Office of Strategy, Policy, and Plans, and DHS Science and Technology Office of University Programs, is conducting four projects selected from RFP19-01.

*According to the U.S. Department of State website on the Second Conference on Prosperity and Security in Central America (<https://www.state.gov/fact-sheet-the-second-conference-on-prosperity-and-security-in-central-america/>)

PERSPECTIVES

Principal Investigators:

Skye Cooley, Ph.D., Asya Cooley, Ph.D., Oklahoma State University; Robert Hinck, Ph.D., Sara Kitsch, Ph.D., Monmouth College.

The project *Mexican and Northern Triangle Perspectives on Mass Migration: Identifying and Assessing Strategic Narrative Alignment*, will provide a comprehensive perspective on migration coming from the Northern Triangle by examining the last 20 years of related Salvadoran, Honduran, Guatemalan, Mexican and US news media and by conducting field interviews and focus groups with relevant stakeholders in locations near the Mexico-Guatemala and US-Mexico borders. The researchers will extend a developing theory of strategic narrative that utilizes narrative as a tool to identify points of common concern, preferred solutions, and value standards mitigating competing interests relevant to Northern Triangle migration. In addition, this project seeks to compile and evaluate literature and proposals concerning effective comprehensive approaches to migration management including: migrant worker programs, workforce and vocational training, assisted voluntary return and reintegration programs, and migrant educational programs.

The project will provide Northern Triangle and Mexican national perspectives on what the humanitarian, economic, and political crises associated with migration are as well as perspectives on how to best address those crises through policy. The project will also give insight to local perspec-

“The United States views the security and prosperity of Central America as key to regional stability and to the security of the United States.”

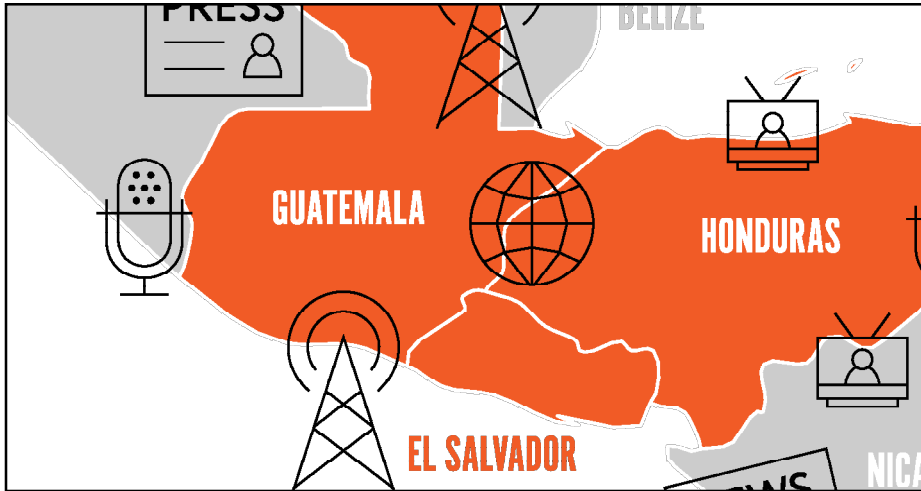
- White House Statement on the Conference on Prosperity and Security in Central America, June 2017

RESEARCH PROJECTS

tives from the Mexico-Guatemala and US-Mexico border areas on what the humanitarian, resource and legal crises associated with migration are, as well as perspectives on how to best address those crises. Overall, the research is meant to provide a cogent narrative framework that helps US policymakers

uncover the symbolic, language-related barriers inhibiting common understandings necessary for cooperative policymaking among US, Northern Triangle, and Mexican authorities and their respective populace. Narrative structures reveal elements of interdependence, resilience, and decency within and

between cultures. Further, it aids in determining realistic migration management programs and developing messaging strategies that stabilize migrant perspectives and expectations of US policies concerning the benefits of legal migration. The study, which will produce a final report and peer-review academic published paper, will utilize the narrative policy framework (NPF) to better contextualize those elements of narrative with particular policy implications.



ECONOMIC MOTIVATIONS

Principal Investigators:

Detlof von Winterfeldt, Ph.D., Jonathan Eyer, Ph.D., University of Southern California

Migration from Northern Triangle countries is driven in part by weak economic conditions in origin countries. One policy mechanism through which the United States could reduce illegal immigration would be to promote strong economic institutions in those countries. In order to design optimal development policies for Northern Triangle countries, officials and decision-makers need to better understand who the migrants are and what policy and program measures might be most effective in influencing their decision-making.

The project *Economic Motivations of Migrants from the Northern Triangle* consists of three core components. First, an analysis of the characteristics of actual and po-

tential migrants in terms of where they live, what their economic situation is, and the degree to which economic motivations cause them to want to emigrate will be conducted. Those who have emigrated or intend to emigrate will be compared to those who do not want to emigrate in order to understand the key systematic differences between these populations.

Second, development of a

graphical-interface tool will allow users to project changes in migrations from the Northern Triangle based on assumptions about the impact of U.S. policies on local economic and security conditions in the Northern Triangle. This tool will be based on statistical analysis that will relate the intention to emigrate to various underlying root-cause factors causing people to want to emigrate, including



their economic situation, income, and local violence conditions. The projection tool will permit users to assess the impact on emigration of economic development programs that increase income and employment or security improvement programs that reduce crime. The tool can be used to establish key quantitative metrics for economic development or security improvement programs in terms of how these programs need to improve economic or security outcomes in order to mitigate emigration from the Northern Triangle. It will also identify geographic areas and sectors of Northern Triangle populations and economies that have the highest rates of intended emigra-

tion and should, therefore, be the focal points of economic development efforts. The tool will be developed in the R/Rstudio language using the shiny interface. The resulting source code that is used to compile the tool will be provided to DHS with instructions for internal compilation. Alternatively, the app can be hosted either on a CREATE server or on a password-protected instance of the shinyapps distribution network.

Third, an assessment of historical evidence related to policies that have affected emigration flows from the Northern Triangle, Puerto Rico, and Mexico to the U.S. will be performed. This assessment will be based on LAPOP

data as well as case studies on historical cessations of large-scale migrant flows from less-developed countries and territories to the U.S. Insights from the assessment will be used to identify how economic conditions changed as migratory flows ended, and which U.S. policy initiatives were effective in stemming the flow of migrants. These case studies will shed light on the role that economic development played in impacting migrant flows, as well as the policies that were adopted to bring that development about.

REGIONAL APPROACH

Principal Investigators:

Andrew Selee, Ph.D., Randy Capps, Ph.D., Migration Policy Institute

Near-record apprehensions along the U.S.-Mexico border have made it urgent to address the new flows from Central America and other world regions. Families traveling together, children traveling alone, and adult asylum seekers comprise a majority of the new flows, thereby reducing the effectiveness of traditional U.S. border security strategies that were designed to address flows of largely Mexican men seeking work in the United States. At times during the past year, the sheer volume of arrivals has challenged CBP's ability to carry out basic border enforcement activities such as migrant detection, processing, custody, and transportation.

The project *Developing a Regional Approach to Managing Migration Flows from the Northern Triangle through Mexico to the United*

States looks at how, over the past few months, the outline of a more robust regional approach to managing migration flows is emerging, with the governments of Mexico, Guatemala, El Salvador, Honduras, Costa Rica, and Panama making commitments to partner with the United States. The U.S. and Mexican governments have worked closely together on the Migrant Protection Protocols (MPP) as

well as enhancements to Mexican enforcement efforts. The Guatemalan government has signed an agreement to process asylum claims from third country nationals in Guatemala, while Honduras and Guatemala have made commitments to deal with migrant smuggling and repatriation of their nationals. Panama and Costa Rica already collaborate extensively with DHS around screening mi-



RESEARCH PROJECTS

grants passing through their territories, but they are in discussions with U.S. authorities on further measures to limit northward flows.

Through extensive interviewing of government and non-governmental leaders, the following will be conducted: an assessment of the institutional and policy capacity of these governments to implement current agreements; determination of the respective government's ability to strengthen their institutional structures to deal with migration flows, potentially provide asylum, and reintegrate repatriated mi-

grants; and other potential options for regional cooperation in managing migration effectively.

Mapping of detailed migration flows from Central America and from countries outside the region (including from Asia and Africa) will also be performed. Publicly available datasets, supplemented by qualitative interviews in Central American countries, will be used to construct a more detailed map of primary sending regions and how these have shifted between 2014 and 2019.

Results will be published in an accessible report and dissemi-

nated via a private roundtable for key stakeholders, a public launch event, and through media and web-based platforms.

This study will inform DHS, the U.S. government, regional stakeholders, and the public about the complex and quickly changing dynamics of regional migration and the possibilities of a sustainable regional approach to better management of migration flows.

ROAD LESS TRAVELED

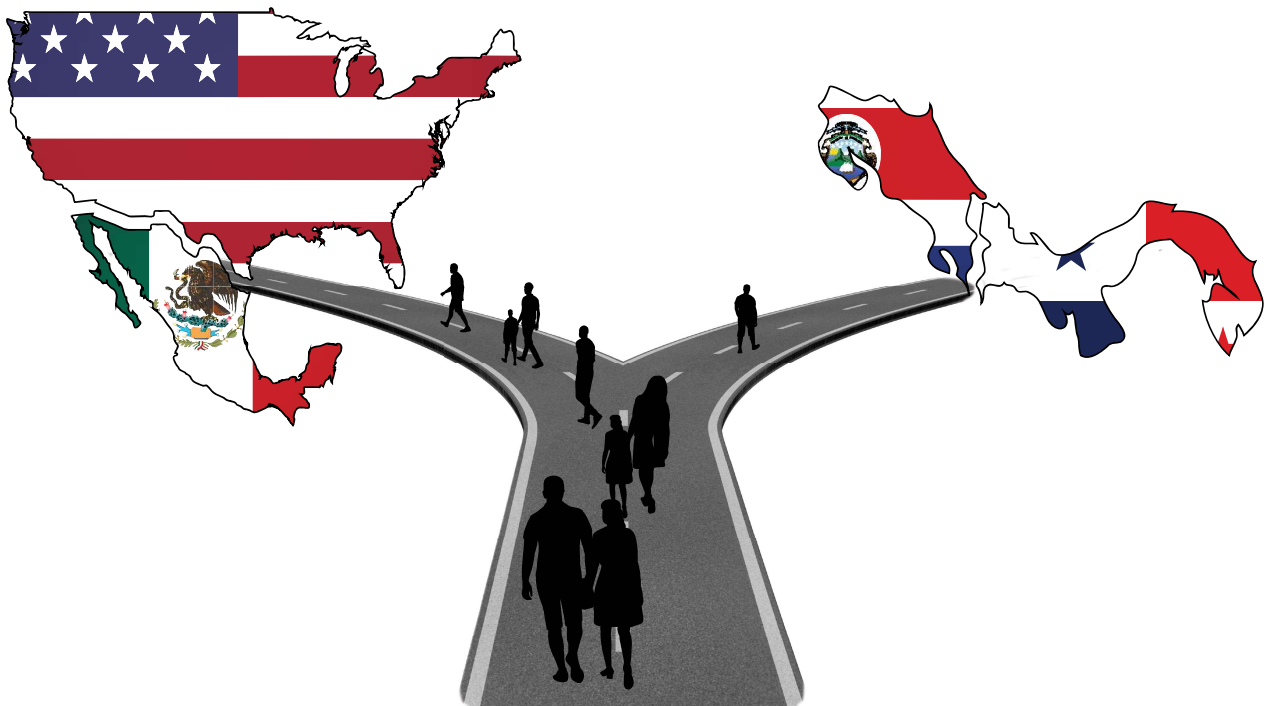
Principal Investigators:

Marcus A. Boyd, Ph.D., Barnett Koven, Ph.D., Kathryn Lindquist, Ph.D., University of Maryland

The project *The Road Less Traveled: Bolstering the Absorptive Capacity of Southern Central American States to Facilitate the Southern Flow of Northern Triangle Immigrants* will examine to what extent Northern Triangle migrants are choosing alternative locations, spe-

cifically Panama and Costa Rica. If so, is there more that the U.S. Government (USG) could be doing to aid Panama and Costa Rica's absorption of Northern Triangle migrants. If not, why not? What are the specific policies/investments that the USG could undertake to encourage migration to those nations? Furthermore, recognizing that the drivers of migration likely vary between distinct groups of migrants (those from Northern

Triangle countries, those from elsewhere in the western hemisphere, and those from outside of the western hemisphere), this study will explore how the drivers of destination choice and the potential activities the U.S. Government may consider employing to increase absorptive capacity vary between migrants from the Northern Triangle versus those the aforementioned types of non-Northern Triangle migrants. The goal of the



project will be to identify at what rate Northern Triangle (and other) migrants choose to emigrate south as opposed to north. The countries that make up the Northern Triangle have systemic issues that affect the livelihoods of the citizens of those countries. Costa Rica and Panama have more developed economies and more stability than the Northern Triangle countries. Northern Triangle countries lack the stable agricultural and manufacturing industries and substantial international investment that are present in Costa Rica and Panama. Our

project will use demographic data collected by the target countries, field interviews, a scan of the literature, and econometric modeling to determine if Costa Rica and Panama could serve as alternative destinations for Northern Triangle (and other) refugees and migrants. A secondary goal of the research will be to determine if economic investment in Costa Rica, and/or Panama could affect the flow of migrants/refugees from Northern Triangle (and other) countries. As the present situation is not sustainable and the United States

cannot absorb the additional labor force, this project will identify alternative destinations. The results from the project could be used by the Department of Homeland Security, U.S. Government, and U.S. business interests to work with the governments and industries of Costa Rica and Panama to absorb a proportion of the Northern Triangle (and other) refugees and migrants.

Project abstracts and overview information is available at www.uh.edu/bti/research. Additional information on the other BTI Institute research projects is also available.

UAS-Based Sensors Project Video



View the project highlight video for *Exploring Homeland Security Applications Unmanned Autonomous Systems*.
<https://www.youtube.com/watch?v=vGY4b6Iv0dc&t=2s>



▶ Brian Harrell, Assistant Director for Infrastructure Security at the Cybersecurity and Infrastructure Security Agency (CISA), provides the opening keynote during the Port of the Future Conference at the University of Houston in Houston, on TX March 11, 2020. CISA, a component of the Department of Homeland Security, is the Nation's risk advisor, working with partners to defend against today's threats and collaborating to build more secure and resilient infrastructure for the future.

Port of the Future 2020

This feature can be viewed online at www.uh.edu/bti/news/

The BTI Institute co-hosted the inaugural Port of the Future Conference with the University of Houston College of Technology on 11-12 March 2020 in Houston, TX. The Conference brought influential members of industry, government and academia together to discuss the current challenges and solutions relevant to land, air, and seaports. Additionally, the discussions revolved around the future of ports and the potential technologies or policies that can be implemented now to facilitate the needs of the future. Anthony Ambler, Ph.D., Director of BTI and Dean of the UH College of Technology provided opening remarks. A research showcase portion of the conference was canceled due to increased precaution and guidance over COVID-19. However, of note, multiple researchers associated with the BTI Institute were able to present during the conference to

highlight their research efforts and initiatives.

Ben Rohrbaugh, the Chief Executive Officer of Lantern UAS and Principal Investigator for Exploring Homeland Security Applications Unmanned Autonomous Systems, discussed the potential uses of Unmanned Autonomous Systems during a panel on Unmanned Surveillance Systems at ports of entry. His project video can be found on the BTI Institute YouTube page. ▶



Ben Rohrbaugh



Weidong "Larry" Shi, Ph.D.

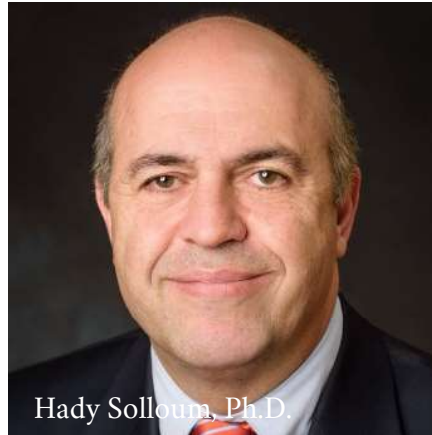
▶ Weidong "Larry" Shi, Ph.D., Principal Investigator for Transforming Trade and Ensuring Global Supply Chain Security with Blockchain and Smart Contracts, presented on the findings of his project during the Blockchain Technology panel. The video of his presentation is available on the BTI Institute YouTube page.

See project videos and Port of the Future highlight videos at the BTI Institute page on YouTube.

Maria Burns, Instructional Assistant Professor and Principal Investigator of the Curriculum Development project, led the panel Intermodal Connectivity and presented during the Workforce Development panel on the status of the Curriculum Development project. Her presentation can be found on the BTI Institute YouTube page. ▼



The conference also saw DHS Center of Excellence collaboration as leadership at other active and *emeritus* Centers participated.



▼ Hady Solloum, Ph.D., Director of the Maritime Security Center (MSC), gave a presentation on the threats to port security.

▼ Major General Randy Kee, United States Air Force (ret) Executive Director of the Arctic Domain Awareness Center of Excellence (ADAC) at the University of Alaska, gave a presentation on A New Arctic: Reflections on the Opportunities and Challenges with Arctic Ports and Shipping. The video of his presentation can be seen on the BTI Institute YouTube page.



▼ James Loy, former Deputy Secretary of Homeland Security and former Commandant, United States Coast Guard Academy, presents during the Port of the Future Conference 2020 on the University of Houston campus in Houston, TX on March 11, 2020.



▼ Steve S. Sin, Director of the Unconventional Weapons & Technology Division at the National Consortium for the Study of Terrorism and Responses to Terrorism (START), participated in the panel Emerging Trends and Threat Intelligence. His presentation can be found on the BTI Institute YouTube page.



PORT OF THE FUTURE

Thomas Guarrieri, Ph.D., Assistant Research Scientist at START, gave a presentation on the Cargo Aviation Insider Threat Assessment Tool. His presentation can be found on the BTI Institute YouTube page.



Thomas Guarrieri, Ph.D.

Rhyner Washburn, Cyber Intelligence Researcher at START, participated in a panel on Cybersecurity. The panel can be found on the BTI Institute YouTube page.



Rhyner Washburn



▶ Alan Bersin, senior fellow at Belfer Center - Harvard Kennedy School and former Commissioner of U.S. Customs and Border Protection, presents a keynote address during the Port of the Future Conference 2020 on the University of Houston campus in Houston, TX, on March 11, 2020.

▶ Rear Admiral Michael P. Ryan, Commander of the U.S. Coast Guard Cyber Command, presents during the Port of the Future Conference 2020 on the University of Houston campus in Houston, TX, on March 11, 2020.



Blockchain and Trade Report

Final Project Report

The final report for the project *Transforming Trade and Ensuring Global Supply Chain Security with Blockchain and Smart Contracts* by Weidong (Larry) Shi, Ph.D., Eleftherios Iakovou, Ph.D., and Vincent Iacopella is publicly available. We want to thank the Business Transformation and Innovation Division Director Vincent Annunziato at U.S. Customs and Border Protection Trade Transformation Office, for many hours spent in consultation and collaboration during the design, conduct, and reporting of this project. Read the complete report on the BTI Institute Research website.

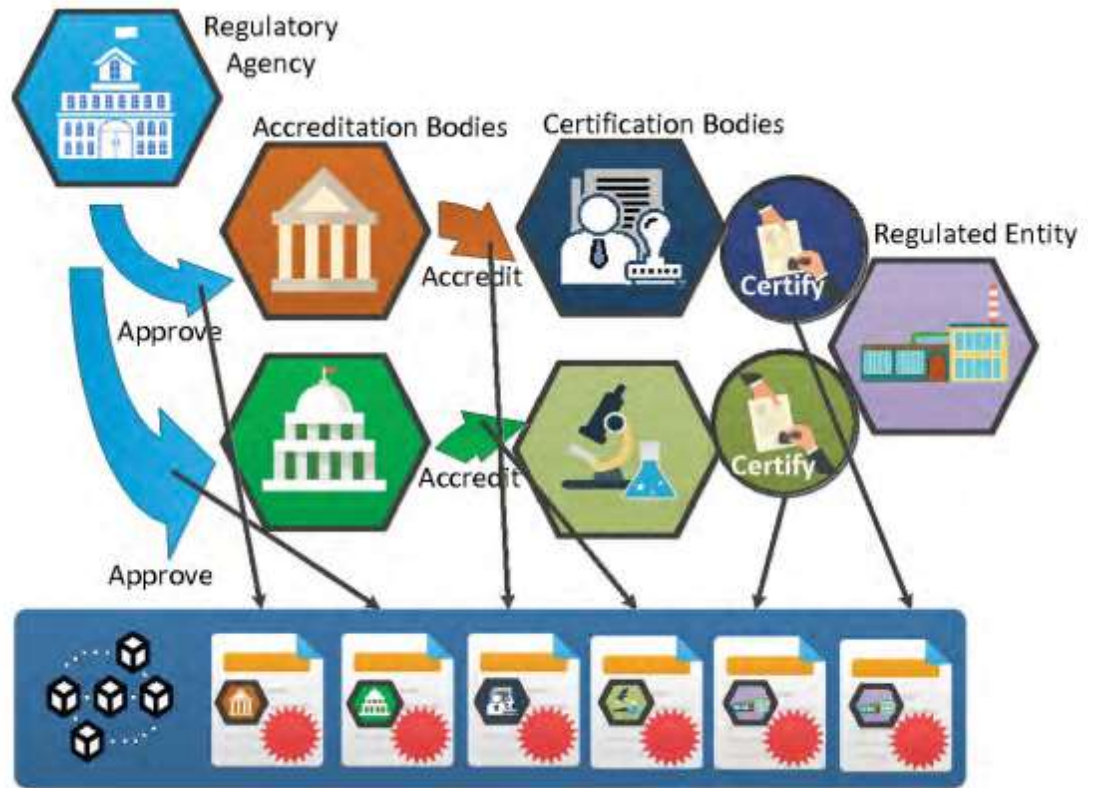


Figure 4.17: Leveraging blockchain and distributed ledger for accreditation and certification.

BTI Institute

Borders • Trade • Immigration

A Department of Homeland Security Center of Excellence

Transforming Trade and Ensuring Global Supply Chain Security with Blockchain and Smart Contracts



Released March 2020

“Blockchain is a technology capable of providing a global view of the supply chain for visibility without using a traditional centralized infrastructure. As such, it holds the potential to improve efficiency in the global supply chain, facilitate data sharing and data exchange among supply chain stakeholders including the regulatory authorities and Customs, ensure compliance with the trade laws, and facilitate legitimate cross-border commerce. Recent global supply chain digitalization initiatives attempt to demonstrate the value of blockchain for end-to-end (E2E) supply chain visibility, facilitating collaboration along the supply chain value chain, and allowing the stakeholders (e.g., suppliers, producers, logistics providers/3PLs, shippers, importers, exporters, Customs brokers, and regulatory agencies) to share and exchange information with improved effectiveness.”

BTI Institute Course Offerings

Maria Burns, project principal investigator and instructional assistant professor at the University of Houston College of Technology, completed development of the Fundamentals of Border Management course. The course will be offered in the summer 2020 schedule at the University of Houston. Additionally, the Introduction to Homeland Security course has been converted to a professional learning management system and is available to Department of Homeland Security professionals and any others interested in working towards the certificate program. Information on both current courses and further course development can be found on the BTI Institute's Education website.



DHS COE Summit Highlight Video



View the U.S. DHS Centers of Excellence Summit highlights video.
https://www.youtube.com/watch?v=NjkeiBV43lc&feature=emb_logo

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