



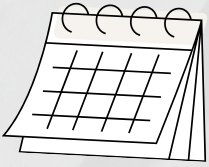
# IHS NEWSLETTER

***Welcome to the inaugural IHS Newsletter! The Institute for Homeland Security exists to provide innovative, value-added knowledge tailored to the needs of industry and public institutions, to protect critical infrastructure supporting Texas and the nation's economy. We aim to enhance the security and resilience of the transportation, energy, chemical, and healthcare sectors for Texans and the Texas economy.***



## ***Homeland Security Student Association***

In Fall 2023, the Homeland Security Student Association (HSSA) was established by a small group of dedicated students. Sponsored by Dr. Shannon M. Lane and Dr. Nathan Jones, the organization received official university recognition in Spring 2024. Currently, the HSSA has a projected membership of around 40 students. The elected officers, pictured from left to right, are Elyzabeth Huff (Treasurer), Elicia Rojas (Historian), Gabriela Castillo Rodríguez (President), Jonathan Varnum (Alumni Relations Coordinator), Cooper Spain (Vice President), and Conner Campbell (Secretary). The purpose of the HSSA is to foster a professional environment for students within the sphere of Homeland Security. The organization aims to promote excellence in the field, provide networking and internship opportunities, cultivate academic achievement, and create a community of like-minded, supportive individuals for personal and collective growth. Additional goals include encouraging academic collaboration, ensuring equal participation among all members, and strengthening the relationship with the Institute for Homeland Security. By achieving these objectives, the HSSA seeks to create a supportive and engaging environment for students interested in Homeland Security, facilitating both their academic and professional development.



# RESEARCH



[Online Research Link](#)



## Leveraging Artificial Intelligence for Supply Chain Risk Management

Alexander B. Kinney, Ph.D.

The rise of artificial intelligence (AI) solutions in the corporate landscape has prompted a wider discussion among public stakeholders and policymakers about the best practices for leveraging this evolving technology to coordinate the global supply chain.

In area of supply chain risk management (SCRM), scholars and practitioners have only recently turned their attention to how AI can bolster, or even supplement humans in decision-making processes. While AI holds a great deal of promise in reducing the potential for severe supply chain disruptions, ethical considerations and the novelty of AI-based solutions



can introduce multiple challenges for critical infrastructure organizations that may be eager to incorporate this technology. This technical paper discusses the growing influence of artificial intelligence (AI) in corporate supply chain management, emphasizing its potential benefits and challenges. It explores how AI can enhance decision-making in supply chain risk management (SCRM) by reducing disruptions, but also highlights ethical considerations such as algorithmic bias and responsible data use. The paper reviews recent advancements in AI applications for quantifying crisis readiness and strategic decision-making amidst identified risks. It concludes by proposing best practices for integrating AI into SCRM protocols and predicts future trends in this evolving field.

## TEAM MEMBER HIGHLIGHT <<<

### Heberto Villarreal

Project Manager I



**Heberto Villarreal**, a native of Brownsville, Texas, is dedicated to enhancing the resilience of South Texas through his role at the Institute for Homeland Security. As Project Manager, he brings a unique, bilingual perspective to critical infrastructure protection and supply chain resilience. His journey from intern to Project Manager reflects his commitment to the security of the region. By developing new partnerships with entities such as the Brownsville Public Utilities Board and the Port of Brownsville, Villarreal is instrumental in strengthening the collaboration and resources needed to safeguard the community against various threats.

## >>> EVENTS <<<



### PAST

- **Public Utilities of Brownsville Critical Infrastructure Training**
  - IHS had the honor of teaching a certificate program on Critical Infrastructure Protection for Executive Leadership for the Brownsville Public Utilities Board. Managers, supervisors, and foremen from the electrical side of the house attended, gaining a different perspective on security measures.

### UPCOMING

- **July 25th, 2024**; Partnership for Healthcare and Emergency Management Summer Roundtable
  - Contact [John Suarez](mailto:John.Suarez@ihsonline.org) (936-294-3079, ext. 4274) for more information
- **August 2nd, 2024**; State Office of Risk Management: Continuity Symposium
  - Location: The SHSU Woodlands Center
  - Contact [Robert Crane](mailto:Robert.Crane@ihsonline.org) (936-294-4103) for more information

## PODCAST <<<

How can Texas preserve its energy security while juggling competing interests in traditional and green energy? Could we adapt our existing energy infrastructure to convert natural gas into powdered carbon and clean hydrogen? In the first of a new series of episodes on sponsored research at the Institute for Homeland Security, we chat this week with *Benjamin Dierker*, the executive director of the Alliance for Innovation and Infrastructure, about emerging methods to separate - and sell - carbon from hydrogen in natural gas. You can find IHS sponsored research on our website, where we also mention **Modern Hydrogen** and **Northwest Natural**.



<https://ihsonline.org/podcast>