Northeastern University’s **George J. Kostas Research Institute for Homeland Security** is a secure, state-of-the-art research center. Designed in accordance with federal security standards, the 70,000-square-foot facility gives Northeastern the capacity and clearances to conduct both open and secure translational research in a restricted environment. Private-public multidisciplinary research teams will work in areas ranging from cyber security to resilience of critical systems and infrastructure, explosives detection and mitigation, and response to terrorism, as well as legal, ethical, and policy-related issues.

**Meeting a Critical Need**

*Translating basic research findings into practice* — The Kostas Institute gives Northeastern the research capacity to work with sensitive data sets, equipment, and protocols that are constrained by restricted access, and provide a seamless path between academic research and its application to practice.

**Challenge:** No academically based facility existed to translate and apply research to create solutions to real security issues, particularly those that require access to sensitive and classified data, protocols, and technical specifications. These constraints have made it very difficult to convert basic research into successful applications that can meet urgent operational homeland security challenges.

**Solution:** The Kostas Institute will provide a secure environment that supports collaborative work among world-class academic researchers, federal agencies, and private companies. Northeastern is positioned to lead projects that require access to the operational parts of DHS, such as Immigration and Customs Enforcement (ICE) and Transportation Security Administration (TSA), and opportunities to collaborate with private firms, including those that receive DHS funding.

**Challenge:** There is an increased need for the resilience of critical systems and infrastructure to better withstand, respond to, recover from, and adapt to disruptive risk created by man-made and natural events. Solving this challenge requires the assembly of private-public multidisciplinary research teams that, until now, have lacked the necessary facility resources.

**Solution:** The Kostas Institute will bring together government agencies, the private sector, and civil society in a national resilience initiative to create innovative solutions to disruptive risk. In this way, infrastructure, cyber security, and resilience concepts can be researched, developed, built, and tested under real-world conditions with private sector partners. Their performance, limitations, costs, and lessons learned can then be assessed and documented quantitatively, before new technology is procured and security measures are fielded. Currently, the Kostas Institute is addressing this need by undertaking work with the Port Authority of New York & New Jersey in support of the Port Authority’s new Applied Center of Excellence for Infrastructure Resilience (ACEIR).

**Building on Existing Strengths**

Northeastern is already home to one DHS Center of Excellence—the ALERT (Awareness and Localization of Explosives-Related Threats) center. Since 2008, ALERT has been conducting leading-edge research with the goal of achieving ultra-reliable screening, long-distance explosives detection, and unequivocal pre- and post-blast mitigation. In addition, Northeastern’s Marine Science Research Center is developing robotic technology to detect underwater coastal threats.
A STRATEGIC APPROACH

Northeastern’s research enterprise is organized around three national imperatives: **health**, **security** and **sustainability**. The University’s use-inspired approach to research is particularly powerful when it comes to addressing the issue of national security—arguably the most daunting challenge of our generation. The University has long-standing connections to national defense through deep relationships with the private sector, including partnerships with many defense contractors and other security-focused companies, and through a strong, active ROTC program.

For more information, contact Tim Leshan, vice president for government relations, 617.373.8528, t.leshan@neu.edu.

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Our Team

**Melvin Bernstein, PhD**, senior vice provost for research and graduate education

Before joining Northeastern in July 2010, Bernstein served as the vice president for research at the University of Maryland. Prior to that, he was the founding director of the Office of University Programs in the Science and Technology Directorate of DHS, as well as acting director of its Office of Research and Development. Bernstein has held senior leadership and faculty positions at Carnegie Mellon University, Tufts University, and the Illinois Institute of Technology.

**Peter Boynton**, codirector of the Kostas Institute

Former commissioner of the Connecticut Department of Emergency Management and Homeland Security, he has held leadership positions in port security as a Coast Guard Captain of the Port and in aviation security as a TSA federal security director. He was also director on the White House National Security Council staff and served at the U.S. Department of State.

**Stephen Flynn, PhD**, codirector of the Kostas Institute

Former president of the Center for National Policy, he was also a senior fellow for National Security Studies at the Council on Foreign Relations. The author of several leading books and articles on homeland security, he is a frequent expert witness before the U.S. Congress, and one of the nation’s foremost authorities on and proponents of resilience as a security and societal imperative. He has served in the White House as a part of the National Security Council staff and was a part of the Obama presidential transition team.