THE GEORGE J. KOSTAS INSTITUTE FOR HOMELAND SECURITY

On September 22, 2011, Northeastern will formally open The George J. Kostas Institute for Homeland Security. Built with a $12 million gift from Northeastern alumnus George J. Kostas, E’43, H’07, the 70,000-square-foot Burlington campus facility will address homeland security challenges with use-inspired, user-informed research. The research may range from cyber security and providing modeling and technology solutions to detect, mitigate and respond to terrorist attacks to improving the resilience of critical local and regional infrastructure and systems for more resilient communities.

The institute’s capacity to work with sensitive data sets, equipment and protocols as well as access the entire Northeastern academic portfolio, distinguish it among universities within the twelve DHS-sponsored Centers of Excellence and six national laboratories currently engaged in homeland security-related work. This unique facility will provide a seamless path between academic research and its application to practice in areas which are strictly constrained by requirements for access to secure databases, export control regulations and other classification regulations.

It is expected that the institute will increasingly serve as a resource for industry and for government at the federal, state and local levels. Its activities will be supported through externally-funded projects involving private-public multidisciplinary research teams working in global partnerships on homeland security-related challenges. Within five years, the institute seeks to be recognized nationally and internationally for its partnerships on homeland security-related challenges. Within five years, the institute seeks to be recognized nationally and internationally for its partnerships on homeland security-related challenges. Within five years, the institute seeks to be recognized nationally and internationally for its partnerships on homeland security-related challenges. Within five years, the institute seeks to be recognized nationally and internationally for its partnerships on homeland security-related challenges.

To provide leadership to bring this vision to reality, the University is pleased to announce the appointment of two co-directors, Peter Boynton and Dr. Stephen Flynn.

Peter Boynton was most recently commissioner of the Connecticut Department of Emergency Management and Homeland Security. He brings experience across all levels of government and major functional areas of 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 also brings national level experience as a former director on the White House National Security Council staff and at the U.S. Department of State.

Dr. Stephen Flynn, currently president of the Center for National Policy in Washington D.C., is one of the nation’s foremost authorities on and proponents of resilience as a security and societal imperative. He has been an external advisor to the White House, DoD, and DHS. He served on the Obama Presidential Transition Team and led the effort to organize the summit that was the main event in Washington, D.C. to mark the tenth anniversary of the 9/11 attacks. Dr. Flynn currently leads a number of major projects in infrastructure and community resilience and cyber security that are likely to be moved to the Kostas Institute.

This new chapter in Northeastern’s commitment to leadership in use-inspired research promises to be an exciting one.

WASHINGTON UPDATE

By Tim Leshan, V9 for Government Relations

On August 2, Congress and the President came to an agreement to raise the national debt ceiling by $900 billion in deficit reductions over 10 years. The committee, which includes Senator John Kerry (D-MA), must report its recommendations by November 23, 2011, and a vote on the committee’s report must take place by December 23, 2011. An additional $1.5 billion in automatic defense and discretionary spending cuts will take place beginning in January 2013 if the committee is deadlock.

With the FY12 year starting October 1, Congress is working to cut $7 billion from last year’s funding levels. The House Appropriations Committee has begun to move FY12 spending bills, but both chambers have yet to pass the Labor-HHS-Education bill that funds the NIH and Department of Education. Thus, the debt deal will have an immediate impact on NIH and other health, education and research programs.

FY12 budget levels set by House FY12 appropriations bills:

- Homeland Security Appropriations
  - DHS’s University Programs for FY12 are set at $36 million, $4 million below the FY11 level
  - Department of Defense (DoD) Appropriations
  - DoD Basic Research for FY12 is set at $2.1 billion, an increase from the FY11 level of $1.9 billion. Funding for DoD Applied Research for FY12 is set at $4.67 billion, an increase from the FY11 level of $4.45 billion
  - Energy and Water Appropriations
  - Department of Energy’s Office of Science is set at $4.8 billion for FY12, a cut from the FY11 level of $5 billion
  - Commerce-Justice-Science Appropriations
  - Funding for the NSF for FY12 remained level at $6.9 billion

Northeastern continues to advocate for federal research funding, but researchers should anticipate some cuts to the federal programs they rely on this year and beyond.

For more information: northeastern.edu/governmentrelations

FACULTY NEWS

Dennis Miller, Professor of Music, had a number of his works screened in New York City this August as part of the Big Screen Project, a new 30-by-16-foot HD-format LED screen that is part of a 10,000-square-foot multimedia complex on Sixth Avenue. The screening was curated by the New York-based artist collective, Leaders in Software.

Ginestra Bianconi, Assistant Professor of Physics, was part of a team of scientists who discovered an innovative way of using external stimuli, such as x-rays, to bring disorganized oxygen atoms to a state of equilibrium in only one day—a process that would normally take months to accomplish. The findings, published August 21 in the online journal Nature Materials, constitute a major breakthrough in the field of cuprate superconductivity, a branch of science that investigates the highly efficient and conductive manner of metal oxides.

Margaret Burnham, Professor of Law, is being honored by Massachusetts Lawyers Weekly as a trailblazer and role model, along with Northeastern School of Law alumni Kathleen Guilfoyle ’85, Mary Sullivan ’81, Lilliana Mangiafico ’01, and Kate MacDougall ’97.
Research and educational activities at Northeastern University may involve the development, use, or shipment of products, goods, hardware, software, materials or technology subject to U.S. export control laws and regulations. The U.S. government takes compliance with these laws and regulations very seriously and Northeastern is committed to following all applicable export control rules. Failure to fully comply with these laws can have very serious consequences, both for the institution and for the individual researcher. Potential penalties include fines and possible imprisonment.

The site also contains a sample list of the types of items and information that may fall under export control and the NU policy on openness of research. This policy expresses the University’s commitment to avoid research with restrictions on openness or academic freedom on campus. The tutorial is followed by a simple quiz/test. After answering the test questions correctly, respondents will be presented with a Certificate of Completion, a requirement for all investigators submitting funding proposals.

THE GORDON-CenSSIS SECURITY LEGACY

When it was founded as a National Science Foundation Engineering Research Center in 2000, The Bernard M. Gordon Center for Subsurface Sensing and Imaging Systems represented a new model for use-inspired academic-industrial research collaboration.

The center has focused on developing a broad range of sensing and imaging applications—underwater, underground, inside a single cell or within a building—then transitioning its discoveries to industry partners for further development.

The model for this multi-institution center led by Northeastern—with total National Science Foundation (NSF) funding of about $37 million over 10 years—has been successful, spawning several funded centers and dozens of successful proposals.

Among the centers have been ALERT, PROTECT and Gordon-CenSSIS. These include requests for funding (DHS) Center of Excellence focused on explosives detection and mitigation; the Department of Homeland Security (DHS) Center of Excellence focused on following all applicable export control rules. Failure to fully comply with these laws can have very serious consequences, both for the institution and for the individual researcher. Potential penalties include fines and possible imprisonment.

The tutorial can be found at: northeastern.edu/research/ExportControl

SELECTED FUNDED PROJECTS

Lee Makowski, Professor of Electrical and Computer Engineering, received funding from Argonne National Laboratory to continue studies of catalytic conversion of biomass into useful fuels and chemicals. Characterization of the degradation process of plant materials is deemed critical for the optimization of large-scale design refinements.

Heather Clark, Associate Professor of Pharmaceutical Sciences, has received NIH funding to extend her inquiries into the dependence of health on sodium concentrations in the blood using sophisticated nanosensors. Her current studies focus on understanding sodium concentrations in cardiomyocyte cells.

Albert-László Barabási (left), Distinguished Professor of Physics, and David Lazer (right), Associate Professor of Political Science, have been funded by the Defense Threat Reduction Agency to develop a course-of-action analysis during and following an attack with weapons of mass destruction.

Miriam Leeser, Professor of Electrical and Computer Engineering, received support from MathWorks to model many-core computer architectures for easy mapping and acceleration in computational applications of MATLAB and Simulink. Her results should enable users to achieve substantial desktop acceleration.

UPCOMING RESEARCH EVENTS

SEPTEMBER 30—OCTOBER 2 | 371 Holmes Hall | 2011 Workshop in Applied Philosophy: Ethical Issues in Engineering Biological and Ecological Systems

For more information: northeastern.edu/ethics/workshop/about

OCTOBER 6 | 223A Hayden Hall | 3:45-3:50pm

Network Configuration for Product and Service Innovation: Inducing Others to Go Beyond the Necessary

Speaker: Helen Perks, Professor of Marketing and Product Innovation, Manchester Business School, UK

OCTOBER 13 | Curry Student Center Ballroom

The 12th Annual Research and Industrial Collaboration Conference: Research to Reality

An ALERT, PROTECT and Gordon-CenSSIS Conference

For more information: neu.edu/RICC

OCTOBER 25 | Raytheon Amphitheater | 11:30am-12:30pm

Biotechnology Entrepreneur Lecture

Speaker: Mark Levin, partner and cofounder, Third Rock Ventures

OCTOBER 27 | Raytheon Amphitheater

Graphics Processing Units Research Day at Northeastern

A showcase of some of the latest advances in GPU research and technology

NOVEMBER 10 | Raytheon Amphitheater | 10am-4pm

The Presidential Election of 2012: Candidates, Issues and Parties

NOVEMBER 18 | Cabral Center, John D. O’Byrant African-American Institute | 4pm

Paul Starr on Remedy and Reaction: The Peculiar American Struggle over Health-care Reform

Speaker: Paul Starr, winner of the 1994 Pulitzer Prize for Nonfiction and Bancroft Prize in American History for The Social Transformation of American Medicine