



## Grants in Support of Interdisciplinary Research Projects

We are pleased to announce a new internal grant program, developed in collaboration by the Office of the Provost and the College Deans, designed to stimulate and support

interdisciplinary research at Northeastern and to increase the competitiveness of external proposals.

**TIER 1:** Seed Grant/Proof of Concept Program: This competitive program provides funds to support and encourage individual faculty members to form multidisciplinary teams to secure proof of concept, with a goal of successfully competing for sponsored research opportunities. Funds are also available as seed grants for faculty teams to develop new and innovative research directions. An explicit strategy for securing external funding must be outlined. Total support of up to \$50,000 for one year, provided by College(s), Department(s) and VPR is available, with the possibility of a second year renewal. Proposals will be peer reviewed internally and award decisions will be made by the VPR and relevant Dean(s). Funding cannot be requested for faculty salary support. *Proposals are due to the Office of the VPR by April 1 for support beginning July 1.*

**TIER 2:** Federally Designated Centers/Major Programs Initiative: The VPR and the Dean(s) will provide incentive support to faculty groups pursuing large, multi-disciplinary Federal funding opportunities. Grants of up to \$75,000 will be available to facilitate the preparation of highly competitive proposals and/or post-award annual operating support up to 10% of the IDC, or post-award cost sharing support.

**TIER 3:** Campus-wide Research Initiatives Program (CRIP): This competitive program provides support for development of broad, multidisciplinary research initiatives and centers that will position the university to become a national leader in an emerging or sustained area of research that responds to a national or societal need. Successful applicants will receive planning grants of up to \$150,000 and post-CRIP designation support of up to \$150,000 from the VPR and Dean(s) for a designated time period.

### Application Procedures:

Those interested in applying for any of these programs may go to the NU Research website to find guidelines and application forms. Endorsements are required from relevant Chair(s) and Dean(s) prior to forwarding proposals to the VPR.

[http://www.northeastern.edu/research/interdisciplinary\\_grants/](http://www.northeastern.edu/research/interdisciplinary_grants/)

## Government Relations at Northeastern University

By Tim Leshan, VP for Government Relations

On January 25, President Obama delivered his annual State of the Union address, stressing the importance of higher education and research as vehicles for job creation. Unfortunately, he also called for a five-year freeze in non-security discretionary spending and promised to veto any bill that includes earmarks. On February 14, the President released his FY 12 budget, and while his \$3.73 trillion proposal would cut more than 200 programs throughout the government, it makes investments in university research and education. Overall spending would drop by 2.7 percent from the \$3.8 trillion budget Obama had proposed for the current fiscal year. This is the first step in a very long process that will be drawn out over the year, and we are likely to see a much different outcome in the end for the FY 12 budget.



Meanwhile, Congress has not finalized the FY 11 budget, and the federal government is running on a Continuing Resolution through March 18. The Republican-controlled House passed HR 1, which made significant cuts to the FY 11 appropriations bills that were originally crafted under the previous Congress. They are also calling for the FY 12 budget to be reduced to 2008 levels, which would have a significant impact on federal research agencies. While these cuts are not likely to ultimately be enacted, the chart below shows what they would entail.



### Proposed Budget Cuts in H.R. 1

	Proposed FY 11 cuts	FY 10
NIH	\$31,005.00	\$29,500.00
NSF	\$6,926.50	\$5,467.90
DOE	\$4,904.00	\$4,017.70
NEH	\$167.50	\$145.00

*Nominal dollars in millions*

The Senate, still under Democratic control (51D-47R-21), does not want to cut the budget as drastically as the House. This is likely to result in gridlock over the budget and other policy issues, and we might see the Continuing Resolution last for much of the year, or even a government shutdown. Either way, research funding is likely to tighten in the coming years making it that much more competitive. Northeastern, along with advocacy organizations the university belongs to, will be advocating for research funding with Congress and the Administration.

Please see *Government Relations* website for more information:  
<http://www.northeastern.edu/governmentrelations>



Northeastern University has joined with four other leading institutions – MIT, the University of Massachusetts, Boston University, and Harvard University – and the

Commonwealth of Massachusetts, the City of Holyoke, EMC and Cisco Systems, in a historic project to develop a world-class, high-performance academic research computing facility in Holyoke, MA, and a statewide collaborative computational research, education and outreach program.

The Massachusetts Green High Performance Computing Center (MGHPCC) will be powered by a combination of green and cost-competitive energy, making it a cost-effective and environmentally sound facility.

The MGHPCC will serve as a collocation facility for hardware supporting the computational research needs of the individual academic institutions, but also represents a unique opportunity to serve as:

- A collaborative facility for strengthening the state's leadership in the development and application of HPC in addressing major challenges facing society;
- A facility for advancing and showcasing both the research and practice of green computing and smart grids;
- A catalyst for the development of the IT industry throughout Massachusetts, with economic, educational and workforce development benefits to the city of Holyoke, Western Massachusetts, and beyond.

The 90,300 sq.ft. data center facility is being built on 8.6 acres in the downtown Holyoke canal district. The flexible design of the facility supports up to 10 MW of HPC equipment through two phases in the first 10 years, with space onsite for further expansion. Partner institutions will benefit from the use of inexpensive hydro-electric power, a low PUE green facility design, a modern, controlled facility with high-speed connectivity, and opportunities for shared services and collaboration with other institutions. The facility will also have flexible meeting and classroom

areas and serve as a hub for education and outreach activities for the partner universities, local colleges and the Holyoke community.

**Northeastern representatives are actively involved in all facets of this project, including teams focused on research and education, information technology, design and construction, business and operating models, governance and external affairs. Construction is expected to commence in June 2011, with the building ready for use by the end of 2012.**

A number of researchers in Northeastern's interdisciplinary research centers are actively considering the benefits of centralized high

Photo Credit: The Republican / John Suchocki



*A time capsule is set in place by Massachusetts Secretary of Housing and Economic Development Gregory Bialecki to mark the groundbreaking of a \$168 million high performance computing center in Holyoke as President Aoun and other partner institution presidents look on.*

performance computing services, e.g., Cybersecurity research in the Institute of Information Assurance (IA), Physical Security in the DHS Center of Awareness of Localization on Explosives-Related

Threats (ALERT), and the Gordon Center for Subsurface Sensing and Imaging Systems (CenSSIS).

Of broad interest to many NU researchers will be the availability of clusters containing Graphic Processing Units (GPUs), which provide the most attractive energy-performance design points on the market today. Researchers David Kaeli, Alain Karma, and Miriam Leeser are currently applying this new computing technology to address a range of science and engineering problems.

*Anyone interested in learning more about the Center and its capabilities can contact Dave Kaeli (d.kaeli@neu.edu), Gene Kooperman (g.kooperman@neu.edu), or Rajiv Sridhar (r.sridhar@neu.edu)*



## UPCOMING RESEARCH EVENTS

**March 19-20**

*English Graduate Student Association Annual Conference: "Raw Material"*

315 Behrakis Health Sciences Center

Keynote Speakers: Professor Elizabeth C. Britt, Department of English, Northeastern University, Professor Ann Laura Stoler, Willy Brandt Distinguished University Professor of Anthropology and Historical Studies, The New School

**March 23**

*"Legalizing Social Rights: Experience from the Global South."*

12-1:30pm

220 Dockser Hall

Speaker: Balakrishnan Rajagopal, Associate Professor of Law and Development and Director of the Program on Human Rights and Justice at MIT

*The annual Valerie Gordon Lecture of the Program on Human Rights and the Global Economy (PHRGE) at NUSL*

**March 29**

*Joint CIRCS & Physics Colloquium*

4pm

114 Dana Hall

Speaker: Gregor Neuert, MIT

**April 6**

*10th Anniversary Research Expo*

11am-2pm

Cabot Center

**April 14**

*Boston Action Club*

5-6:30pm

340 Egan Research Center

Speaker: Francisco Valero-Cuevas, Biomedical Engineering, USC  
*A forum of interactive, interdisciplinary meetings on movement neuroscience for Boston area researchers*

**April 21**

Department of Civil and Environmental Engineering

*Senior Capstone Presentations*

8am

Snell Engineering Center rooms 108, 168, 153

**April 22**

*IGERT Nanomedicine Science and Technology Reception*

2-3:30pm

Raytheon Amphitheatre

**May 13**

*Pharmaceutical Sciences Department: Annual Research Showcase*

All-day event

Curry Center Ballroom

Keynote Speaker: Rudolph Jaenisch, Professor of Biology, MIT/Whitehead Institute

**SELECTED FUNDED PROJECTS AT NORTHEASTERN**

**Purnima Ratilal**, Associate Professor of Electrical and Computer Engineering, received NSF support for the development of an oceanographic acoustic sensor array system to instantaneously monitor large shoals of fish and marine mammal groups over vast areas, thus helping to understand ocean ecosystem dynamics and aid in the management of important fisheries



**Kim Lewis**, Professor of Biology, received an NIH grant to grow unculturable microorganisms in the gut with a novel cultivation approach, to understand the role of the gut microbiome in health and disease



**Mansoor Amiji**, Distinguished Professor and Chair of Pharmaceutical Sciences, received NIH support to overcome tumor drug resistance via a multimodal approach that enhances drug delivery efficiency, overcomes cellular resistance, and will impact ovarian and lung cancers



**Olin Shivers**, Associate Professor of Computer and Information Sciences, received support from the Defense Advanced Research Projects Agency for "GnoSys: raising the level of discourse in programming systems," which will lead to vastly improved operating systems

## FACULTY NEWS

- **Ron Smith**, Associate Professor of Music, has been awarded a commission by the Fromm Music Foundation — Northeastern University's first faculty member to win this honor. The Harvard University-based foundation chose only 12 of more than 200 applicants for a commission, which grants a composer the money to create a work of his or her choice and have a musician or ensemble bring that music to life. Smith will compose a piece for Vicky Chow ([www.vickychow.com](http://www.vickychow.com)), whom he met a year ago at an electronic music festival at the Beijing Conservatory in China, where she performed a piece of his music.
- **Robert Tillman**, Associate Professor of Civil and Environmental Engineering, received the 2010 ASEE/CEED Best Presenter Award for his presentation "Co-op and Internship Programs: Positive Strategies for Challenging Times," at the 2011 American Society for Engineering Education Conference for Industry and Education Collaboration (ASEE/CIEC) held in San Antonio this February.
- **Graham Jones**, Professor and Chair of Chemistry & Chemical Biology, Associate Professor of Chemistry **Michael Pollastri**, and Professor of Chemistry **George O'Doherty** delivered plenary lectures at two international conferences in India under the theme "Chemistry for Mankind – Innovative Ideas in Life Sciences." The work presented is from a multi-university project led by Northeastern University involving **Professor Eric Jacobsen** of Harvard University and 2005 Nobelist in Chemistry Professor **Robert Grubbs** of CalTech. The project is concerned with application of new technologies for the development of natural product based pharmaceuticals, and involves collaboration with the National Research Laboratories in India.
- **Alan Zaremba**, Associate Professor of Communication Studies, has captured the energy of March Madness and casino gambling in his latest book, "The Madness of March: Bonding and Betting with the Boys in Las Vegas."
- **Vladimir Torchilin**, Distinguished Professor of Pharmaceutical Sciences, is the world's second-most prolific researcher in pharmacology and toxicology, according to the Times Higher Education, a London-based international publication. Times Higher Education ranked the world's top scientists in the field according to publication counts and citation data compiled over the last 10 years by Thomson Reuters. Torchilin published 56 papers in pharmacology and toxicology journals between January 2000 and August 2010. The papers attracted an average of 56.8 citations.

