



## Federal Stimulus Money Received By UNH For Research Tops \$3 Million

Media Contact: [Erika Mantz](#)  
603-862-1567  
UNH Media Relations

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DURHAM, N.H. - The University of New Hampshire has received more than \$3 million in federal stimulus money for research projects ranging from climate change impacts on shell fish and oyster habitats, to creating low cost sensors that will increase the productivity of the milling process, to studies that contribute to the ability to make future climate change predictions. These competitive grants from the National Science Foundation and the National Institutes of Health will benefit the state's economy as well as contribute to a greater body of scientific knowledge worldwide.

"I am very pleased to see our faculty and staff compete for and receive these research grants," said UNH President Mark Huddleston. "They will bring additional resources into the state, increasing the university's contribution of more than \$1.3 billion every year to New Hampshire's economy."

In April, UNH held a conference to inform faculty and staff about opportunities created by the American Recovery and Reinvestment Act (ARRA) and encouraged them to apply for the grants. The ARRA includes \$21.5 billion to be invested in federally-supported research and development over the next two years. Since May, the university has received research awards totaling \$3.12 million. The awards, researchers and areas of study include:

**\$139,938 - National Institutes of Health**

Vaughan Cooper, assistant professor of molecular, cellular and biomedical sciences, will study the impact of climate change on bacterial growth in oysters and shellfish habitats. This information will be used by scientists to understand the effects of climate change overall, and by shell fisherman, government officials, scientists and citizens as they work together to protect estuary habitats and the shellfish that live in them.

**\$195,423 - National Science Foundation**

Mark Fahnestock, research associate professor in the Complex Systems Research Center, will determine the extent and cause of change in the rate of ice discharge through fast-flowing outlet streams so that future trends can be projected and be included in world-wide assessments and predictions of climate change.

**\$528,395- National Science Foundation**

Todd Gross, professor of mechanical engineering, and Kent Chamberlin, professor of electrical and computer engineering, will create a low cost, high bandwidth wireless sensor system for automated manufacturing to increase productivity of the milling process while simultaneously improving the quality of finished parts.

**\$196,775 - National Science Foundation**

Vaughan Cooper, assistant professor of molecular, cellular and biomedical sciences, in collaboration with two other universities, will study how genetic background and different environments affect the response of bacteria and determine whether those can be predicted

from known relationships between environments and genotypes. Understanding how bacteria adapt to novel environments and whether those adaptations would be favored in alternative environments is essential to medicine, public health, biotechnology, industry, and as a foundation for the science of biology. The strains of bacteria developed will be made available to the broader scientific community.

\$453,679 - National Science Foundation

Alexander Proussevitch, Complex Systems Research Center, and Dork Sahagian, Lehigh University, will develop a technique to determine the range of sizes of the gas bubbles in molten rock through the imprints the exploding bubbles leave on volcanic ash. This technique will also be a tool for volcanologists studying other aspects of volcanic activity.

\$772,709 - National Science Foundation

Cheryl Whistler, department of molecular, cellular and biomedical sciences, with teams from five other universities, will study the genetic characteristics of the *Vibrio* bacteria that live in squid to see how the genetic characteristics of the colonizing bacteria are related to the success of the host-symbiont unit. The teams - almost exclusively undergraduates - will compile the data into a database that will be available to researchers worldwide.

\$340,920 - National Science Foundation

Wilhelm Wollheim, research assistant professor in UNH's Complex Systems Research Center, will do research that will lead to providing scientists, policy makers and resources managers with a tool to predict the impact of climate change on the flow of nutrients from the land into the Arctic Ocean.

\$135,244 - National Science Foundation

Junhao Shen and Liming Ge in UNH's department of mathematics and statistics will do mathematical research that will contribute to continued advances in our understanding of the nature of the atom and the origin and character of the universe, as well as contribute to improvements in our ability to predict behavior and risk in areas of public life, to communicate with each other, and to store, process, and use information.

\$360,000 - National Science Foundation

Amitava Bhattacharjee, professor of physics and affiliated with the Space Science Center in the Institute for the Study of Earth, Oceans and Space, will oversee research that will help broaden our understanding of the relationship between the Earth and the sun in space and how that interaction might influence phenomena observed on Earth (failure of power grids and satellites, for example.)

The University of New Hampshire, founded in 1866, is a world-class public research university with the feel of a New England liberal arts college. A land, sea, space-grant and community-engaged university, UNH is the state's flagship public institution, enrolling 11,800 undergraduate and 2,400 graduate students.

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