UNH Receives $3.4M to Address Gender Imbalance in STEM Faculty

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DURHAM, N.H. – The University of New Hampshire has received a $3.4 million ADVANCE Institutional Transformation (IT) grant from the National Science Foundation to strengthen policies and implement practices to address gender imbalance, primarily in the STEM disciplines of science, technology, engineering, and mathematics.

John Aber, UNH provost, is the principal investigator on the grant. The three co-principal investigators are Karen Graham, professor of mathematics and director of the Joan and James Leitzel Center; Sam Mukasa, dean of the College of Engineering and Physical Sciences; and Christine Shea, professor of technology and operations management at the Whittemore School of Business and Economics.

“This high-impact award comes to UNH through a very competitive proposal process, and is the result of wonderful dedication and collaboration among the ADVANCE team here on campus, especially Professors Graham and Shea and Dean Mukasa, the co-principal investigators on this grant. The award carries a high expectation for the effectiveness of outcomes. Institutional transformation means just that, and I look forward to leveraging this investment from NSF to continue and enhance the success of all underrepresented minorities on campus,” Aber said.

Under the ADVANCE IT grant, UNH will seek to:

- Increase STEM faculty women representation at all ranks through changes in recruitment and retention policies and practices.
- Improve support and department level climate for STEM faculty women by increasing awareness and knowledge, department chair professional development and assessments, and establishing formal mentoring policies.
- Conduct a wage equity analysis and recommend any policy changes that might be indicated.
- Develop more flexible workplace policies to support career advancement for STEM faculty women.
- Create and maintain campuswide awareness of the issues addressed and policy changes made under this IT initiative.

Shea sees the advancement of women in the STEM disciplines as a crucial ingredient in economic growth.

"Research shows that women faculty face many obstacles at every stage of their career, many of which can be addressed by institutional policies and practices. These obstacles can include a chilling climate at the department level, lagging salaries, serving less often as principal investigators on large

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grants, being evaluated at harsher standards, performing more service, and teaching more courses than their male colleagues, all of which indirectly lead to less time for research and work on publications,” Shea said.

“As long as women are underrepresented in senior faculty positions, female students will not see themselves as reaching the top in either industry or academia. Economic recovery and growth requires that we rally all aspects of cognitive and workforce diversity to add perspective and improve the creative problem solving and innovation required to compete in the 21st century global economy,” she said.

Mukasa, who is the former president of the Geochemical Society, has written about gender bias in the recognition of women by geoscience societies in the United States and Europe.

“Research shows that women's scholarly contributions in the STEM field tend to be undervalued, which can impact the speed with which they advance academically. These gender biases are universal, practiced by both men and women,” he said.

This ADVANCE grant builds on a $1.3 million ADVANCE PAID grant that UNH received in 2008 as part of a national effort to transform institutions of higher education in areas where women are traditionally underrepresented. The earlier grant resulted in the significant strengthening of the UNH Faculty Mentoring and Professional Development Program and a partnership program between tenure-track and research faculty to enhance each partner’s ability to balance teaching and research.

The 2008 ADVANCE PAID grant project also included in-depth analysis of faculty climate and historical institutional data that pointed to the need for further work to strengthen the voice of women and other underrepresented minorities, especially at the department level, and increase their representation in disciplines and at ranks where they are vastly outnumbered by men.

“Through the work of the ADVANCE PAID grant and initial seed funds from the UNH Office of the Provost, we have significantly deepened our institutional self-knowledge about the employment of and climate for women in the STEM disciplines. The ADVANCE IT work will build on these successful efforts and help to transform UNH into an institution that is capable of recruiting, retaining, and promoting women in the STEM disciplines without bias. The type of policies and practices implemented will ultimately benefit the entire UNH community,” Graham said.

Since 2001, the National Science Foundation has invested more than $135 million to support ADVANCE projects at more than 100 institutions of higher education. UNH was one of nine selected from 80 proposals submitted in 2011. While nationally women now earn slightly more than 50 percent of all doctoral degrees awarded by American universities and make up 33 percent of the faculty among doctoral level higher education institutions, they continue to be underrepresented in the majority of STEM disciplines.

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, and space-grant university, UNH is the state's flagship public institution, enrolling 12,200 undergraduate and 2,300 graduate students.