Five faculty members receive NSF CAREER Awards

Any college would be delighted when one faculty member is selected to receive a National Science Foundation (NSF) Faculty Early Career Development Award (CAREER). However, five members of the PAMS faculty earned this prestigious honor this year—and by coincidence, one in each department.

"The odds of getting five in a single year are pretty low, and receiving one in each department is amazing," said Dean Daniel Solomon. "But it speaks very well of the dedication of these young faculty members, and the belief the NSF has in the direction and quality of their research."

NSF established the CAREER Award program in 1995 to help the most promising scientists and engineers early in their careers to develop simultaneously their contributions and commitment to research and to education.

The PAMS recipients are:

Subhashis Ghosal
Dr. Subhashis Ghosal, assistant professor of statistics, received a five-year $400,000 grant for further research into non-parametric Bayesian procedures, an area in which he has contributed significantly to recent breakthroughs.

The award will provide Ghosal with graduate student support, equipment, supplies and other resources as he develops extensions of the existing theory as well as computational techniques and software for implementing his procedures. This is the first NSF CAREER Award received in the Statistics Department.

Maria Oliver-Hoyo
Dr. Maria Oliver-Hoyo, assistant professor of chemistry, received a five-year, $552,900 grant.

Her research team designs chemistry experiments for physically challenged students, finds innovative approaches to chemistry instruction, and develops highly interactive instructional modules, among other projects.

Celeste Sagui
A five-year, $400,000 grant was awarded to Dr. Celeste Sagui, assistant professor of physics, for her research in the field of computational biophysics designed to improve understanding of protein solvation and protein/nucleotide recognition.

This research builds on methodological advances made by Sagui and her colleagues aimed at improving the treatment of delicate long-range electrostatic interactions between biomolecules. This effort is part of a $3 million, NSF-funded grant to develop new multiscale methods for large-scale biomolecular simulations. Sagui leads the Triangle-area team conducting the research.

Agnes Szanto
Dr. Agnes Szanto, assistant professor of mathematics, received a $440,000 five-year grant. Over-constrained systems occur frequently in areas such as robotics, geometric modeling, computer vision and fluid dynamics. Szanto’s project seeks to combine both symbolic and numerical methods to improve the reliability and efficiency of the computations involved in solving these systems.

The award extends the scope of a previous three-year, $153,000 NSF research grant Szanto received in 2003. This is the first CAREER Award received in the Mathematics Department.

Yang Zhang
Dr. Yang Zhang, assistant professor of marine, earth and atmospheric sciences, received a five-year, $578,105 grant. Her research interests include air pollution modeling and forecasting, atmospheric chemistry and transport, chemistry and dynamics of aerosols and clouds, sensitivity and uncertainty analysis, and the interactions among atmospheric chemistry, meteorology, climate change and health effects.