

National Awards Highlight Cutting-Edge Research From Texas A&M Junior Faculty

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During 2012, 10 Texas A&M University faculty members have been selected to date as recipients of the National Science Foundation's (NSF) most prestigious award for junior faculty at universities nationwide. The NSF's Faculty Early Career Development (**CAREER**) Program was established to support scientists and engineers who exemplify the role of teacher-scholars through outstanding research. The CAREER awardees receive varying levels of financial support from the NSF, with some support stretching to five years.

"These distinguished national awards recognize and advance the groundbreaking research being performed by some of our exceptional faculty at Texas A&M University," said Texas A&M **President** R. Bowen Loftin. "Their work is helping advance breakthroughs in significant research challenges, expanding research and educational opportunities for our students, and elevating the University's status as one of the nation's premier research universities."



Texas A&M is a leader in making significant contributions to knowledge in many fields.

About this year's recipients:

- **James Caverlee** is an assistant professor in the Department of Computer Science & Engineering, Dwight Look College of Engineering. The award will fund his research to develop framework and systems for crowd-oriented search and computing.
- **Zhilei Chen** is an assistant professor in the Artie McFerrin Department of Chemical Engineering, Dwight Look College of Engineering. Chen's research involves engineering novel agents for the treatment of various viral infections, including the hepatitis C virus and HIV.
- **Tatyana Igumenova** is an assistant professor in the Department of Biochemistry

and Biophysics, College of Agriculture and Life Sciences. Her CAREER award-funded research focuses on the biological chemistry of lead and the effects of lead exposure, which she proposes to reveal through unprecedented study of lead-protein interactions involving lipid membranes.

- **Helmut G. Katzgraber** is an assistant professor in the Department of Physics & Astronomy, College of Science. His main research fields are the investigation of disordered and complex systems, as well as the study of topologically protected quantum computing.
- **Wenshe Liu** is an assistant professor of chemistry in the Department of Chemistry, College of Science. His CAREER award will help further his ongoing studies of protein structural rearrangement and folding/unfolding processes — vital analyses, given that many human diseases are caused by the accumulation of misfolded proteins.
- **Grigoris Paouris** is an assistant professor in the Department of Mathematics, College of Science, whose research focuses on functional analysis. His CAREER award will support his long-term goal of understanding the underlying geometry and related properties of high-dimensional probability measures.
- **Gabriel Dos Reis** is an assistant professor in the Department of Computer Science & Engineering, Dwight Look College of Engineering. He received the CAREER award for his investigation of formal-methods-based principles and tools to make programming a more mathematical activity for ordinary programmers.
- **Scott Schaefer** is an assistant professor in the Department of Computer Science & Engineering, Dwight Look College of Engineering. Because of the CAREER award, Schaefer's project, "Parameterization and Tessellation for Computer Graphics," is able to continue through 2017. This work has potential applications in surface design in the automotive, aeronautics and entertainment industries.
- **Le Xie** is an assistant professor in the Department of Electrical & Computer Engineering, Dwight Look College of Engineering. Xie's research areas involve the modeling and control of electric energy systems and the design of competitive power systems.
- **Byung-Jun Yoon** is an assistant professor in the Department of Electrical & Com-

puter Engineering, Dwight Look College of Engineering. He is working on algorithms that can be used for finding local/global network alignment and network querying.

“The junior faculty in the Dwight Look College of Engineering are exceptional by all measures and the number of CAREER awards received — more than 50 in recent years — is an indicator of excellence of which we are extremely proud,” said Kathy Banks, vice chancellor and dean of engineering. “We are dedicated to fostering an environment of continual learning and discovery for students and faculty alike and these rising stars are integral to our success.”

Through the CAREER program, the NSF emphasizes the importance of the early development of academic careers. The award supports early career-development activities by scholars who effectively integrate research and education within the context of the mission of their university or organization.

“We are very fortunate that a high percentage of the assistant professors we have hired over the past 10 years have received these or similar awards,” said H. Joseph Newton, dean of the College of Science.

The NSF is a major federal grantor of research money, with a \$7 billion annual budget.

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About research at Texas A&M University: As one of the world’s premier research institutions, Texas A&M is a leader in making significant contributions to the storehouse of knowledge in many fields, including rigorous scientific and technological disciplines. Research conducted at Texas A&M represents an annual investment of more than \$689 million; the university ranks 20th among all U.S. universities and third nationally for universities without a medical school, according to the National Science Foundation. Research at Texas A&M creates new knowledge that provides basic, fundamental and applied contributions resulting in many cases in economic benefits to the state, nation and world. To learn more, visit <http://vpr.tamu.edu>.

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