

Bragg is new AIAA vice president; Muellner assumes organization's presidency



Michael B. Bragg

AE Prof. Michael B. Bragg is the new Vice President, Publications, of the American Institute of Aeronautics and Astronautics.

Bragg was selected during the 2008 AIAA Board of Directors election in April, and assumed office in May. Also at that time, AE alumnus and Alumni Board member George

K. Muellner, BS 1967, assumed office as AIAA President.

In addition to serving on the AE faculty, Bragg also is Executive Associate Dean in the College of Engineering. Bragg served as AE Department Head from 1999 until 2006, having joined AE in 1990.

Bragg's two primary areas of research are aircraft icing and unsteady aerodynamics. He received the 2007 AIAA Aerodynamics Award for "for pioneering research on the aerodynamic effects of ice accretion on aircraft and the aerodynamic phenomena responsible."

Muellner is the recently retired president of Advanced Systems for the Integrated Defense Systems business unit of the Boeing Company, responsible for developing advanced cross-cutting concepts and technologies, and executing new programs prior to their reaching the System Design and Development phase. Since starting with Boeing in 1998, Muellner has held a variety of positions, including vice president-general manager of Air Force Systems and president of Phantom Works, the advanced research and development unit.

Geubelle Earns Best Paper Award

Prof. Philippe H. Geubelle and his colleagues have been recognized by the Materials Division of the American Society of Mechanical Engineers (ASME) as the authors of the Best Fatigue and Fracture paper published in the *Journal of Engineering Materials and Technology* between July 2006 and June 2007.

The paper, "Continuum and Molecular-Level Modeling of Fatigue Crack Retardation in Self-Healing Polymers," was co-written by Spandan Maiti, Chandrashekar Shankar and John Kieffer. The paper, which appeared in the journal's October 2006 issue, describes a multi-scale model of the fatigue response of the self-healing polymers developed at the University of Illinois by a group led by Prof. Scott White.

Geubelle's research interests are theoretical and computational solid mechanics, (dynamic) fracture mechanics, multiscale modeling of complex materials, computational aeroelasticity, massively parallel computing, solid mechanics issues in manufacturing, and computational design of novel autonomic materials.

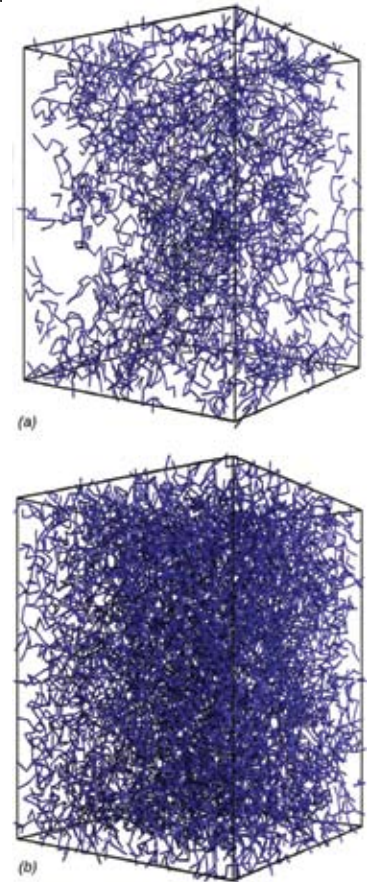
Geubelle is the AE Associate Head for Graduate Programs and directs the Illinois Space Grant Consortium.

He has been an AE faculty member since 1995. He also is a faculty member of the Computational Science and Engineering program, and has joint appointments in Mechanical Science and Engineering, Civil and Environmental Engineering and the Beckman Institute for Advanced Science and Technology. He was a NATO postdoctoral research associate at Harvard University prior to coming to Illinois.

Geubelle earned a bachelor's degree in mechanical engineering from Catholic University of Louvain, Louvain-la-Neuve in Belgium in 1988. He earned a master's and PhD in aeronautics from the California Institute of Technology in 1989 and 1993, respectively.

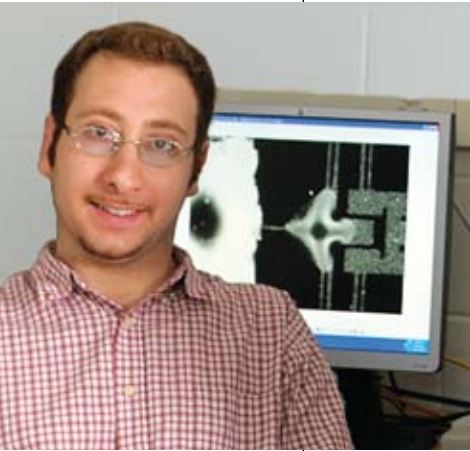


Philippe H. Geubelle



AE PhD Takes First for Second Year in Sandia Lab Contest

Doctoral student Mohammad Naraghi has taken first place for two consecutive years at Sandia National Laboratory's University Alliance competition.



Mohammad Naraghi

Most recently, Naraghi took first at Sandia's fourth annual competition for student microelectromechanical systems designs. His design fit the category calling for a micro design to reliably inspect nanoscale phenomena. The Illinois device featured a mechanical testing platform specifically designed to perform creep/stress relaxation tests on soft polymeric and biological nanostructures. The device incorporated a piezoresistive loadcell with a novel on-chip actuator capable of generating large deformations on the sample. AE

Assistant Prof. Ioannis Chasiotis advises Naraghi.

The University Alliance competition gives universities around the country an opportunity to test their skills in developing all the intricate details of design, analysis, and fabrication of complex MEMS devices, says Mark Platzbecker, technical team lead in Sandia's MEMS Core Technologies Department.

Naraghi's work was supported in part by the National Science Foundation (NSF) under NSF-NIRT grant DMI-0532320.



AE Grad Student Wins NASA Scholarship to Improve Air Transportation

AE PhD student Heather Arneson has received a highly competitive NASA Aeronautics Scholarship, awarded to only five graduate students nationwide each year.

Working with AE Prof. Cedric Langbort, Arneson will use the scholarship to study management of the U.S. air transportation system, in which the current 50,000 flights a day are expected to increase up to three times that many by 2025.

The NASA scholarship will fund two years of research and a third year, if needed. It will provide Arneson with two summer internships at top NASA research centers.



Heather Arneson

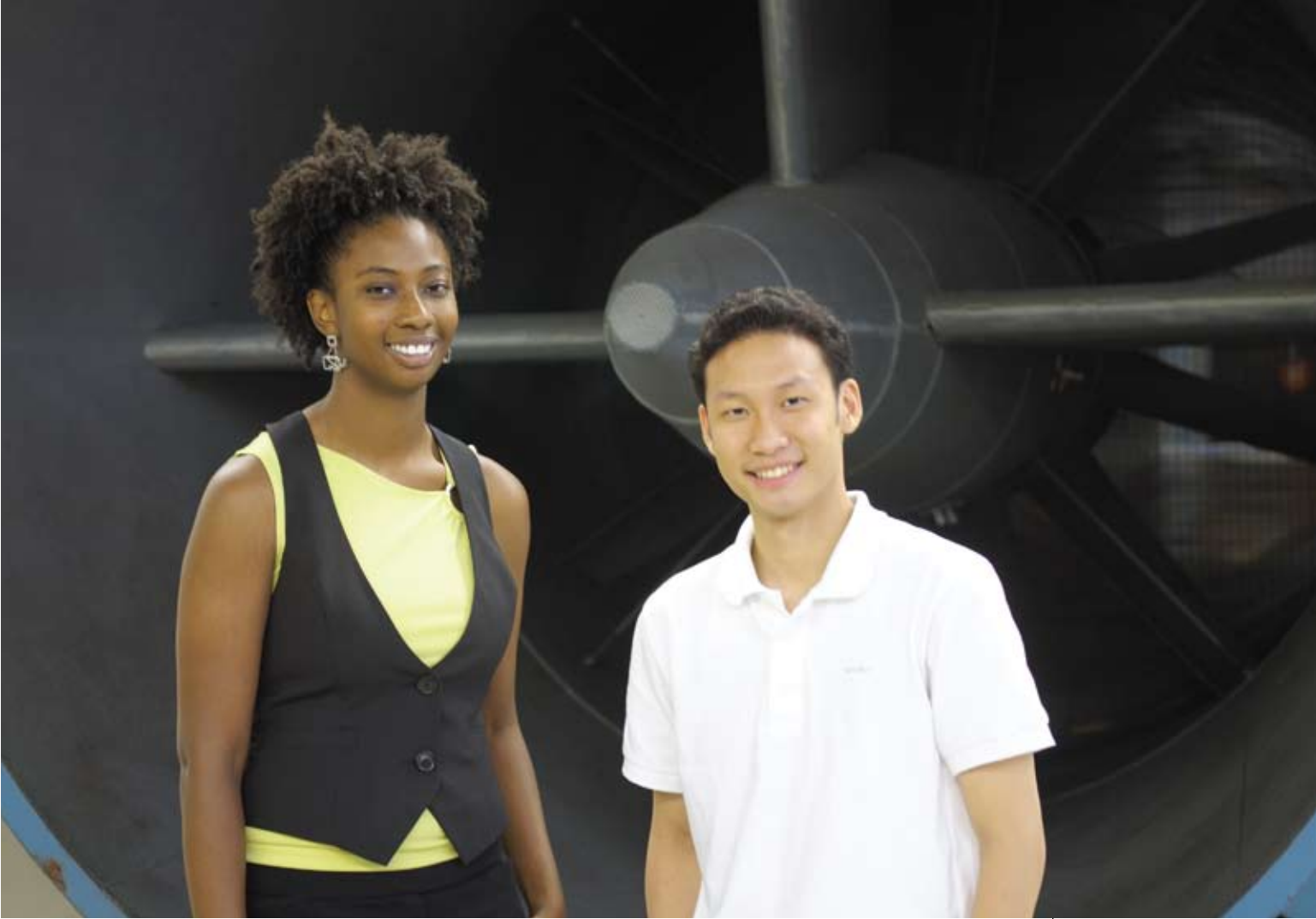
Arneson is working at the flow control level of the new air transportation system. She is interested in management of the flow of large groups of airplanes through specific air spaces. In particular, she is looking at ways to more

efficiently reroute airplane traffic around regions when they become congested due to factors such as weather.

Arneson came to AE in 2005 after working on NASA's Mars Exploration Rover Mission for three years.

As part of her master's work at Illinois, she developed two algorithms that could be applied to an existing Eulerian flow model for air traffic management. Her focus was on air traffic between just a single take-off airport and single landing airport.

Arneson's PhD research will build on her master's work, dealing with increasingly more complex network scenarios. She and Langbort will concentrate on distributed control algorithms to solve problems with air traffic delays, primarily those caused by weather.



Graduate students Ingrid Chiles and Yong-Han Yeong work with fellow undergraduate student Joe Bottalla and AE Profs. Mike Bragg, Eric Loth and Greg Elliott on research to reduce the sonic boom for a potential supersonic business jet. Chiles and Yeong are doing computational and experimental studies to evaluate the bypass flow and investigate improved bypass flow designs.

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