

said. "I don't want to say that we were soft; we just weren't as mentally tough as we should have been."

With his 3.82 grade-point average on a 4.0 scale, McDonald receives a lot of good-natured ribbing from his teammates about his intellectual prowess. His roommate, former Illini offensive lineman J.J. Simmons '06 LAS, said it amazes him that McDonald "doesn't even have a TV in his room."

"I don't understand what he's saying," Simmons said, smiling. "I don't really know what a carbon fiber is. I have no idea what he's talking about."

McDonald, who is a senior academically, looks to graduate next spring (his mom, Jan Seaman-McDonald, graduated from UI-Chicago in 1978, and his dad, Phil '77, played center for Illinois during the mid-'70s). Planning to use his fifth year of eligibility to get started on his master's degree in engineering, McDonald eventually hopes to work in industry.

"He has a demanding workload," Wolford said of McDonald. "I think that he's smart enough and organized enough to have that balance. One day whenever he's done playing football, he's going to be a great person in the workplace just because of all the things that he's had to balance in his life. He's just going to take the world by storm."

(Editor's note: This story is reprinted with permission from the November/December 2007 issue of Illinois Alumni. Since this interview, Ryan McDonald was awarded second-team, All-Big Ten honors for his excellent work on the Illini football team. Congratulations Ryan!)

University of Illinois aerospace team takes first at Sandia National Lab competition

A team from Illinois, led by graduate student **Mohammad Naraghi** and under the direction of **Prof. Ioannis Chasiotis**, has taken a first place at Sandia National Laboratories' third annual University Alliance competition for student microelectromechanical systems designs.

Naraghi's design was entered in a new competition category that called for a micro design that would reliably inspect nanoscale phenomena. The Illinois device featured a mechanical testing platform capable of generating tens of micronewtons of force on highly deformable nanofibers, with a total displacement of 100 micrometers measurable by an integrated folded leaf spring-loaded cell.

"This (University Alliance) competition is an opportunity for universities around the country to participate in an experience that incorporates 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 Dept. The work conducted at UIUC was supported in part by the U.S. Army Research Office under grant number W911NF-06-1-0356 with Dr. B. LaMattina as the program manager, and by the National Science Foundation (NSF) under NSF-NIRT grant DMI-0532320.

AE Senior takes first in regional poster competition

Stephen Moran, AE Senior, has won first place in the undergraduate category of the poster competition at the Great Midwest Regional Space Grant Conference. The conference was held in September at Purdue University.

Moran's poster, titled "Biomimetic Nano-Surface Creation for Drag Reduction in Fluid Power Systems," was based on his research with Prof. Eric Loth and AE graduate student Adam Steele as part

of the Illinois Space Grant's Summer 2007 Undergraduate Research Opportunities Program (UROP).

As an award recipient, Moran gave a presentation on his work to the conference participants. Three other UI students from UROP, John Kolinski, Anthony Lovero, and Brendan O'Rourke, also took part in the poster competition. Robert Whittlesey from the Illinois Institute of Technology was the fifth competitor representing the Illinois Space Grant.

Comeback guests Archambault and Koerner return to campus bearing gifts

by Susan Mumm, AE Media Specialist

An Illinois flag that had been carried aboard a space shuttle flight and a montage of Mission Control photos, including a 2007 Atlantis patch, were presented as gifts to the Aerospace Engineering Department by Illini Comeback guests **Col. Lee "Bru" Archambault** and **Cathy Larson Koerner**.

Archambault, BS 82, MS 84, pilot of the space shuttle Atlantis to the International Space Station this past June, and Koerner, BS 87, MS 89, shuttle program manager of the Missions Operations Directorate, were invited back to campus as special guests for the University of Illinois Homecoming, October 26-28. The two alumni interacted with students, staff and faculty through formal programs, and social activities as part of Illini Comeback, a program of the Student Alumni Association and the UI Alumni Association.

Meeting with Aerospace Engineering students, Archambault presented a talk on his recent space shuttle flight and joined Koerner in a question-answer session about their respective careers. Koerner also showed a promotional video she hoped would get the students excited about NASA's upcoming Constellation program that is designed to replace the shuttle program with manned flights to the moon and Mars.

A distinguished graduate of the Air Force Officer Training School, Archambault was commissioned as a second lieutenant in 1985 and earned his pilot wings a year later. He flew 22 combat missions in 1990 and 1991 during the first Gulf War and graduated first in his class from the Air Force Test Pilot School in 1995.

A decorated military pilot, Archambault has earned the Distinguished Flying Cross and Meritori-



Bru Archambault presents Craig Dutton with an Illinois flag flown in space.



Cathy Koerner



Lee 'Bru' Archambault



Archambault and Koerner provide answers in a Q&A session with AE students.

ous Service Medal, among other awards, and has logged more than 4,250 flight hours in more than 30 different aircraft. Selected as a pilot by NASA in 1998, he has served as the lead astronaut support person for two shuttle flights in 2002 and 2005 and in October 2004 was assigned as CAPCOM, the lead capsule communicator. He has logged a total of 14 days and 5.8 million miles in space. Aerospace Engineering recognized Archambault with the Outstanding Recent Alumnus Award in 1993. He is also an inductee of the Proviso West (Illinois) High School Hall of Fame.

Koerner oversees support to NASA's space shuttle program at Johnson Space Center in Houston. She holds the distinction of being one of just 69 flight directors that the space agency has produced in its 48-year history. Of that select number, only nine have been women.

Having joined the Johnson Space Center in 1991 following a stint at NASA's Jet Propulsion Laboratory in Pasadena, Calif., Koerner worked 43 missions as a certified flight controller and later managed 16 flight controllers as the lead of the Space Shuttle Propulsion Systems Group. Since 2000, she has been a flight director, trained in leading both space shuttle and International Space Station missions.

She has received numerous NASA honors, including its Outstanding Leadership Medal and the Space Flight Awareness Team Award. Koerner received AE's Outstanding Recent Alumna Award in 1999. While a UI student, Koerner was a member of the Student Alumni Ambassadors and escorted Illini Comeback guest and fellow AE alumnus, astronaut **Steve Nagel** BS 69.



Cathy Koerner presents Craig Dutton with a montage of Mission Control.

AE alum attend first home football game

Mark Czynski, BS 71, MS 75 *Energy Engineering*, of Mundelein, Illinois, **Mark Jr.**, (a current student at the University of Illinois at Urbana-Champaign), and **Phil Rockenbach** (BS '71, MS '73) of St. Charles, Illinois, came to the campus for the first home football game. They visited with **Prof. John Prussing** and gave him a copy of a 1966 draft of a book by Prof. Bob McCloy titled, *The Fundamentals of Supersonic Propulsion*.

Leo named Associate Dean for Research and Graduate Studies in Virginia Tech College of Engineering

Don Leo, BS 90, has become associate dean for research and graduate studies of the College of Engineering at Virginia Tech.

Leo began his new position in July, after having worked as a program manager in the Defense Sciences Office of the Defense Advanced Research Projects Agency (DARPA) in Washington, D.C. At DARPA, Leo had managed and initiated materials research programs to improve the science and technology base of the Defense Department. His research portfolio is valued at approximately \$40 million and includes research programs in the development of autonomous material systems, chemical and biological detectors, new technologies for self-decontaminating surfaces, and novel biologically-inspired sensors.

Leo joined DARPA in August 2005 on an inter-agency loan agreement with Virginia Tech. Prior to this appointment, Leo was a member of the university's mechanical engineering faculty and the Center for Intelligent Material Systems and Structures. He joined the Virginia Tech faculty as an assistant professor in 1998, becoming a full professor within six years.

"We are extremely pleased that Don Leo has accepted our offer," said Richard Benson, Dean of Virginia Tech's College of Engineering. "He has shown great initiative at DARPA since 2005, starting more than \$10 million in new research initiatives on the development of new smart materials technology and new methods for controlling protein structure and function. Simultaneously, he has remained active in research and service at Virginia Tech, continuing to advise six Ph.D. students and one post-doctoral associate."

Among previous honors, Leo garnered a Faculty Early Career Development Program Award in 2001 from the National Science Foundation. The Air Force Office of Scientific Research awarded him a Summer Faculty Fellowship in 1997 and 1998. Most recently, Leo was named the AE's 2004 Outstanding Recent Alumnus.

Leo earned his master's and PhD degrees in mechanical and aerospace engineering in 1992 and 1995, respectively, at the University of Buffalo. His first academic position was on the mechanical, industrial, and manufacturing engineering faculty at the University of Toledo. He also spent two years as a project engineer for CSA Engineering Inc. in Palo Alto, California.

Congratulations to all our recent graduates!

We're confident that, as they embark upon the next steps in their lives, our new alumni will enjoy success. A good example of one who is on his way is May graduate, Gregory R. Schuh.

Greg graduated with highest honors from Aerospace Engineering. While attending Illinois, Greg held a number of leadership positions including Engineering Council President, Engineering Career Services Ambassador Director, and Aerospace Engineering Undergraduate Advisory Board Chair. Since May, Greg has married his high school sweetheart and has bought a townhouse in the northwest suburbs of Chicago. He has accepted a position with McKinsey & Company, a global leader in the consulting industry, and now works from the Chicago office, serving clients around the world. Additionally, Greg hopes to assist with recruiting efforts at Illinois, and continues to mentor fellow aerospace engineers.

AE wishes the best to Greg and to all our newest alumni, including these men and women:

- **Dustin P. Beitz**, working as a U.S. Air Force pilot.
- **John M. Beschorner**, attending graduate school in aerospace engineering at Illinois.
- **Laura A. Budzinski**, working on propulsion and power systems for Navair in Patuxent River, Maryland.
- **David W. Burt**, attending graduate school in aerospace engineering at Illinois.
- **John P. Clarke**, working for Boeing in Long Beach, California. His work involves stress analysis on composite structures at the C17 Program.
- **Coralic Vedran**, attending graduate school in mechanical engineering at the California Institute of Technology.
- **Matthew J. Deppen**, working for Lee Company in Chicago.
- **Michael B. Donohue**, attending graduate school in aerospace engineering at Illinois.
- **Bogdan T. Dudek**, working as a systems engineer for Northrop Grumman Defense Systems in Rolling Meadows, Illinois, while earning an MBA.
- **Kevin E. Halpin**, working as an aerodynamics performance engineer in the USAF C-5M SuperGalaxy Reliability Enhanced and Re-Engineering Program for Lockheed Martin Aeronautics Company in Marietta, Georgia.
- **Casey E. Hoercher**, working as a technical staff member for Northrop Grumman Defense Systems in Redondo Beach, California. The work involves supporting satellite programs from conception to launch, with a focus on the launch and integration of the satellites into launch vehicles.
- **Megan J. Hofner**, attending graduate school in aerospace engineering at Illinois.
- **Heather Huffmann**, working for the federal government.
- **Matthew S. Luttig**, attending graduate school at DePaul University.
- **Elyse C. Montejano**, working as an interpreter and considering various graduate degree programs in the Chicago area.
- **Wayne W. Neumaier**, attending graduate school in aerospace engineering at Illinois.
- **Michael G. Olszewski**, working as an aerospace engineer for Navair in Lexington Park, Maryland. His work includes aircraft systems management, propulsion and power.
- **Jay J. Patel**, attending graduate school in aerospace engineering at Illinois.
- **Janice S. Quek**, attending graduate school in financial mathematics at the University of Chicago.
- **Wei Ren Quah**, attending graduate school in aerospace engineering at Illinois.
- **Richard M. Riley**, attending graduate school in aerospace engineering at Illinois.
- **Joel F. Schroeder**, attending graduate school in aerospace engineering at Illinois.
- **Virag D. Shah**, attending graduate school in aerospace engineering at Illinois.
- **Ronald M. Tam**, working as an aerospace engineer for Navair in Patuxent River, Maryland.
- **Rymant Urban**, working as an engineering consultant for Daxcon Engineering in Peoria, Illinois. The work involves AutoCAD design for various projects.
- **Carlisle E. Wallace**, working as an associate engineer in production support for Cessna Aircraft Company in Wichita, Kansas.
- **Robert A. Werner**, attending law school at Suffolk University in Boston, Massachusetts.
- **Brad M. Wheaton**, attending graduate school in aerospace engineering at Purdue University in West Lafayette, Indiana.
- **Rebecca A. Wilkins**, working as an associate EVA operations engineer for GHG Corporation in Houston, Texas. Her work involves performing extravehicular operation risk assessments on all assigned flight/training through the design cycle to ensure that EVA tasks can be safely performed for mission success.
- **Matthew R. Williams**, working as an aerospace engineer for Navair in Patuxent River, Maryland. Work will involve redesigning engines for the U.S. Navy.
- **Hock Him Patrick Woo**, attending graduate school in accountancy at Illinois.
- **Jiang (John) J. Yu**, attending graduate school in aerospace engineering at Illinois.

Muellner is AIAA president-elect

George K. Muellner, BS 67, is the new president-elect of the 35,000-member American Institute of Aeronautics and Astronautics. He will automatically succeed President Paul Nielsen next year.

Muellner is 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.

Prior to going to the private sector, Muellner served 31 years in the U.S. Air Force, retiring as a lieutenant general from the position of principal deputy for the Office of the Assistant Secretary of the Air Force for Acquisition in Washington, D.C. Also for the Air Force, Muellner worked as director and program executive officer for the Joint Advanced Strike Technology program, deputy chief of staff for requirements for the Headquarters Air Combat

Command at Langley Air Force Base in Virginia, and mission area director for tactical, command, control and communications, and weapons programs for the Office of the Assistant Secretary of the Air Force for Acquisition.

A highly decorated veteran, Muellner spent most of his career as a fighter pilot and fighter weapons instructor, test pilot and commander. He flew combat missions in Vietnam and commanded the Joint STARS deployment during Operation Desert Storm.

In addition to his Illinois degree, Muellner holds a master's degree in aeronautical systems management from the University of Southern California, a master's degree in electrical engineering from California State University and a master's degree in business administration from Auburn University.



Alumni join Prussing, Coverstone at Michigan conference

Prof. John Prussing and his wife, and **Prof. Vicki Coverstone** and her family attended the AAS/AIAA Astrodynamics Specialist Conference on Mackinac Island, Michigan in August. Also attending were AE graduate students **Andy Pukniel** and **Brian Jamison**. Pukniel was there as part of his summer internship at the Naval Research Lab and Brian presented a paper co-authored with Coverstone.

Alumni in attendance were **Ron Clifton**, BS '85, MS '87, **Todd Cerven**, BS 97, MS 99, PhD 03, and **Scott Zimmer**, BS 01, from the Aerospace Corporation in Virginia; **Aaron Trask**, BS 98, MS 00, PhD 02, from Potomac Associates; **Bob Cesarone**, BA 75 Mathematics, MS 77, from the Jet Propulsion Lab; and **Matthew Hausman**, BS 01, from Boeing in Los Angeles. **Evgeniy Sklyansky** was a co-author on a paper.

Earl H. Dowell, AE alumnus wins AIAA Crichlow Trust Prize—2007

Dr. Earl H. Dowell (BS 1959) has received the **AIAA 2007 Crichlow Trust Prize**.

This prize was established in 1994 and presented for excellence in aerospace materials, structural design, structural analysis, or structural dynamics. Dowell's award citation states: "For pioneering contributions to aeroelasticity, structural dynamics and unsteady aerodynamics which had an enormous influence on aerospace technology and for contributions to education and public service in aerospace engineering."

Dowell is the William Holland Hall Professor of Mechanical Engineering and Materials Science and Dean Emeritus at Duke University. His principal teaching interest and research activity is in the field of aeroelasticity. Dr. Dowell has also done research in acoustics, nonlinear dynamics, structural dynamics, and unsteady aerodynamics.

His major research accomplishments include the first definitive research monograph on the aeroelasticity of plates and shells, the first derivation and solution of the nonlinear equations of motion for a helicopter rotor blade (the Hodges-Dowell equations), and work with Professor Kenneth Hall and several graduate students and post-doctoral fellows on reducing the dimensions of mathematical models for very complex high-dimensional fluid/structural systems.