

now of Boeing; **Dan Snow** ('82, MS '84), of USAF Space Warfare Center; **Jinho Kim** (PhD '91), of Inha University, Korea, and **Steve Traggesser** ('92), a doctoral candidate at Purdue. Prussing also learned that his former student, **Der-Ren Taur** (PhD '89) of the Chung Shan Institute of Science and Technology, Taiwan, presented a paper at the 1997 AIAA Guidance and Control Conference in New Orleans.

**Petros G. Voulgaris** was promoted from assistant to associate professor. His field of study is aerospace systems control.



*Michael B. Bragg ('76, MS '77, right), AAE professor, receives the Losey Atmospheric Sciences award at a luncheon on January 13, 1998, at the AIAA 36th Aerospace Sciences meeting in Reno, Nevada. Presenting the award is AIAA president, Edward C. "Pete" Aldridge, Jr.*

## AAE Department Hosts Workshops To Train Teachers in Data Collection

Since March 1995, the five GLOBE Teacher Training Workshops hosted by the AAE Department have provided training for 183 kindergarten through 12th grade teachers from the Midwest. Global Learning and Observations to Benefit the Environment (GLOBE) is a worldwide network of K-12 students, teachers, and scientists working together to study and understand the global environment. Leadership and support for GLOBE have come from NASA, the National Oceanic and Atmospheric Administration (NOAA), the National Science Foundation (NSF), the Environmental Protection Agency (EPA), the Department of Education, and the State Department as well as Vice-President Al Gore. The AAE Department's involvement came about through its participation in NASA's Space Grant Program; UIUC was one of the two original training sites selected for the Midwest region.

The three- to four-day workshops held on this campus provided intensive 12-hour days of classroom and hands-on instruction regarding observation protocols. When teachers return to their classrooms, they guide their students through daily, weekly, and seasonal environmental observations (for example, of air temperature, precipitation, water temperature and pH, and other important environmental parameters) at or near their schools and report their data to GLOBE via the Internet.

Scientists use the GLOBE data in their research and provide feedback to the students to enrich their science education. Teams of competitively selected scientists designed the measurement protocols and assisted in the training of GLOBE teachers. GLOBE is an excellent opportunity for teachers to integrate computers and the World Wide Web into classroom activities. Each day, images created from data contributed by students are posted on the Web, allowing students and visitors to the GLOBE Web site to visualize the environmental observations of the students. For a closer look, check out the GLOBE homepage: <http://www.globe.gov>.

—Diane Jeffers, coordinator for external relations

Force Base for 12½ years, where he worked on flight simulation, flight mechanics, and avionics. He lives in San Francisco and owns a plane.

**Robert Rapp**, '81, a design engineer with Boeing, moved to the structures division five years ago after a decade in the aerodynamics division. He presently is working on the design of the 767-400ER, which is a longer range version of the 767-300ER. After 10 years of performing tests to maximize an airplane's flying capability, Rapp says he now is involved with making the aerodynamics division's "dream airplane" come true in structures. To unwind, Rapp rides his bike "a couple of hundred miles per week" and has gotten involved with community theater. He keeps in touch with other AAE classmates, including **Bob Feconda** ('81), **Tony Oraziotti** ('81), **Paul Dees** ('81, MS '83), **Scott Chizzo** ('81), and **Tim Brecht** ('81, MS '88). "Here in Seattle, I am always running into Big 10 alums in general, and Illini in particular. To name a few Aero alums: **Jeff Baylor** (MS '97), **Gene Hill** ('57), **Lynn Imbery** ('91), **Mike Hoffman** ('86), and **Dan Jensen** ('88)." He was in Urbana for Homecoming in October.

**David Leo Ratzer**, '87, married Diane Marie Volk on August 2, 1997, in Minot, North Dakota. The couple are making their home in Lafayette, Indiana.

**Kentaro David Sugiyama**, '88, is a senior engineer for The Boeing Company in St. Louis, Missouri, working in an area called Design Manufacturing and Producibility Simulation (DMAPS), whose mission is to design, build, and produce aircraft based on decisions of affordability. "To this end, (DMAPS) is developing, enhancing, and integrating modeling and simulation tools and processes," says Sugiyama. "... DMAPS is headed by **John Coyle** ('70). I also work with two other UIUC AAE alums: **Shawn Hagmeier** ('87) is my

*continued on next page*

lead engineer and **Steve D'Urso** (MS '89) is one of my three supervisors." Sugiyama's group is involved in developing applications that deal with geometry and configuration tools. When he is not working, Sugiyama writes songs and sings. He also plays acoustic guitar and hosts a monthly songwriter's showcase called "Acoustic Night."

**Tonia (Foster) Timlin**, '89, and her husband, Michael ('88 LAS, MS '90, Atmos. Sci.), became parents to Mark James on January 19, 1997. The Timlins also have a four-year-old son, Darren.

## 1990s

**Nashonne R. Candler**, '95, visited the campus in September with other representatives of the Ford Motor Company from Dearborn, Michigan, where she works. Candler is a product test engineer in the Laboratory Simulation Department for Subsystem/Component Reliability. She is currently working towards a master's degree.

**Gloria De La Mora**, '95, started working at MPC Products Corporation in Niles, Illinois, in October 1997. About 85 percent of MPC's products are for aircraft, with some space applications and smart missile components. De La Mora and her boss comprise the Analytical Engineering Group, a new group whose function is to perform advanced analysis (from classical statics and kinematics to vibration analysis and finite element analysis) across all five of the company's major product lines. She graduated in 1997 with a master's degree in mechanical engineering from Vanderbilt University, Nashville. De La Mora mentions that **Steve Rickenbrode**, '95, has been working at MPC since his graduation.

**Justin Eggstaff**, '95, recently graduated from the Basic School at Marine Corps Combat Development Command, Quantico, Virginia. The 26-week course prepares newly commissioned



## AAE Board Member Presents Printed Materials to Engineering Library

**Allen Green**, '56, a member of the AAE Advisory Board and a Chicago native, has given his collection of printed materials concerning acoustic emission to the UIUC Grainger Engineering Library Information Center. The collection of more than 4,500 articles, reports, and papers, dating from 1961, will be open to researchers for use at the library. Eventually a database of the holdings will be accessible through the World Wide Web.

Green, an expert on acoustic emission, is the president of the Acoustic Technology Group in Sacramento, which designs, markets, and sells worldwide acoustic-emission and acousto-ultrasonic instruments and systems. He has been a member of the AAE Advisory Board for nine years and received the department's Distinguished Alumnus Award in 1981. He is a fellow of the American Society for Nondestructive Testing and a cofounder and charter member of the Acoustic Emission Working Group, an organization of researchers from a variety of scientific disciplines who share a common interest in acoustic emission technology. Green has been a pioneer in pressure vessel testing and source location and was a developer of the stress-wave emission technique, which monitors rocket motor cases.

Donations of comprehensive collections of papers can play a role in increasing the library's educational and research resources. These donations affect both students and the college's national ranking. For more information about such contributions, call Paul Bracke at the Grainger Engineering Library Information Center, 217-244-4426, or email [bracke@uiuc.edu](mailto:bracke@uiuc.edu).

## AAE's Web Page Revamped

The AAE homepage has been revamped, and the department now has a new Web address: <http://www.aae.uiuc.edu>. Alumni can access a separate alumni homepage, read updated faculty Web pages, receive enhanced information on the AAE graduate program, and learn about recent department awards. The alumni homepage contains copies of *Way to the Future*, the AAE alumni newsletter; an updated calendar of events; and information on the AAE advisory board.

The Web site also contains an "Other Web Sites of Interest" page that provides convenient links to useful UIUC, community, and aerospace sites. If you have any suggestions for areas you would like to see featured on the AAE homepage, email Diane Jeffers at [dejeffer@uiuc.edu](mailto:dejeffer@uiuc.edu) or Dave Carroll at [carroll@uiuc.edu](mailto:carroll@uiuc.edu).

## Greetings from the President of the AAE Advisory Board

We are on the threshold of a new century, and challenges abound. There have been major shifts in the industry with the merger of primary aerospace companies. Looking about, we see a significant surge in the building of new, commercial airliners. Production is near an all-time high. The technical challenge is to reduce vehicle cost while continuing to enhance the safety of the flying public. The defense sector is developing the Joint Strike Fighter for the three services. Challenging new activities in the space sector are under way, ranging from reusable launch vehicles to the development of the international space station. With an expanding telecommunications market, satellite design and development are strong.

A shift is also evident in the U.S. workforce. One must take note of the changing face of graduating engineers. With increased awareness of the satisfying careers available in the aerospace industry, more and more underrepresented minorities and women have been entering the aerospace field.

Women are making significant contributions in all areas of the aerospace business, including leading design groups, developing the latest high-technology materials, testing the latest vehicle designs, or maintaining the manufacturing quality of products.

Is it advantageous to be a woman studying aeronautical or astronautical engineering at UIUC? You bet it is! Demand is strong for talented, first-time engineers. As president of the AAE advisory board, I would like to welcome all of you who have chosen aerospace engineering as your career. There is plenty of challenging work, and the industry needs your talent. You can go as far as your talent and internal drive will take you. I am often asked, "What is the best job for career advancement?" My answer is, accept a position that best matches the areas of study you enjoy most. There are no forbidden areas for women in our industry. That fact, coupled with the excellent preparation received by the graduating engineer from UIUC, spells the opportunity for success.



Steven J. D'Urso

officers such as 2nd Lt. Eggstaff for assignment to the Fleet Marine Force.

**Jeremy Fienhold**, '97, married Nicole Lyn Brown, of Chenoa, Illinois, on June 14, 1997. Fienhold is employed by AG-I in Philadelphia, Pennsylvania.

**Pete Goddard**, '95, was on campus in September to visit Professor Larry Bergman. Goddard is the associate director, Foreign Exchange Derivatives, for SBC Warburg, a division of the Swiss Bank Corp. He is based in London, England.

**Mark D. Guman**, MS '92, completed his doctorate in aerospace engineering at the University of Texas-Austin in May 1997. His PhD research was in the area of determining global variations in mean sea-levels using satellite altimetry and precision orbit estimation. He is currently employed at the Jet Propulsion Laboratory in Pasadena, California, in the Outer Planets Navigation Group.

**David Hill**, '92, received his doctorate in May from the University of California, Berkeley. He is currently a postdoctoral research associate at Purdue University. Hill and his fiancée, **Kendra Sharp** ('93), who is a PhD student in TAM, plan to be married on August 16, 1998, in Keystone, Colorado.

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## AAE Advisory Board 1997-98

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## Alumni Association Revises Web Site

Alumni seeking information on programs and services available to them may visit the University of Illinois Alumni Association's recently revised Web site. The broader UIAA homepage provides links to the association's offices in Urbana-Champaign, Chicago, and Springfield. The site was developed in collaboration with a Champaign firm, Precision Graphics. The Web site address is <http://www.uiiaa.org>.

**Jeffrey Lester**, '94, married Stacy J. Busen of Earlville, Illinois, on June 29, 1997. He is serving as a lieutenant in the U.S. Air Force, Edwards Air Force Base, California.

**Mark W. Matthys**, MS '94, was recently designated a Naval Flight Officer while serving with Training Squadron 86, Naval Air Station, Pensacola, Florida. Lt. Matthys was presented with the "Wings of Gold" after 18 months of flight training.

**Charles "Trey" McDowell**, '94, works as an associate engineer in the Titan mission analysis group for Lockheed Martin Astronautics in Denver, Colorado. McDowell is involved with the AIAA chapter in the area and outside of work, spends time on snow sports and railroad photography. He is also a church organist.

**Melvin Sze-Ming Ni**, '96, is a research assistant at the Aerospace Robotics Laboratory in the Department of Aeronautics and Astronautics, Stanford University, California. He will be taking his preliminary exams for his doctorate this spring. Ni writes that he hopes to develop technology for sensing and task planning by rovers, wheeled vehicles such as those used in missions to Mars.

**Darrick Scott Schneider**, '94, MS '97, married Mindy Annette Ehlers in September 1997. Schneider is employed at TRW in Redondo Beach, California.

**Song Chun-Keet**, '97, returned to Singapore after his graduation and is currently a pilot-trainee in the Singapore Air Force, undergoing jet training in Western Australia. Says Song, "Thankfully, I do retain enough of Professor (Michael) Selig's applied aerodynamics and Professor Ki Lee's flight mechanics to satisfy the intellectual thirst of flight instructors and classmates alike."

**Jee Suh**, '97, is working as an associate engineer for Boeing in Huntington Beach, California, on the Delta III rocket.

**Chad Sund**, MS '96, has completed his U.S. Marine

## AAE To Participate in Activities For New Rocket Simulation Center

The University of Illinois at Urbana-Champaign is one of five universities nationwide chosen to participate in a \$250 million program to create an unprecedented level of computer modeling and simulation capabilities, and the AAE Department will play a part in research activities to come.

UIUC will be home to the newly created Center for Simulation of Advanced Rockets, which will receive about \$40 million in the next 10 years and will support the work of approximately 90 faculty members, students, and research associates when fully staffed. The center will conduct research into the whole-system simulation of solid propellant rockets under both normal and abnormal operating conditions.

**Philippe Geubelle**, AAE, is on the Science Steering Committee. According to Geubelle, "The center activities (so far) involve approximately 30 faculty members, organized in various "topical" groups. **Harry Hilton** and I are in the Structures Group, while **John Buckmaster** is part of the Combustion and Energetic Materials Group."

Other UIUC departments involved include Astronomy, Chemistry, Civil Engineering, Computer Science, Materials Science and Engineering, Mechanical and Industrial Engineering, Nuclear Engineering, Physics, Theoretical and Applied Mechanics, and the National Center for Supercomputing Applications (NCSA).

The five "Centers of Excellence" that have been selected will produce computer-based science and technology to support the Accelerated Strategic Computing Initiative of the Department of Energy (DOE). The initiative aims to certify the safety and reliability of the U.S. stockpile of nuclear

weapons without underground testing. In 1995, President Clinton announced the intention of the United States to pursue a comprehensive test ban treaty that would use science to maintain the safety, reliability, and performance of the U.S. nuclear stockpile.

"The center fits perfectly within the long tradition of computational science and engineering at Illinois," said the center's director, Michael Heath, who is also a senior research scientist at NCSA. "We welcome this opportunity, which promises a broad range of benefits, including basic scientific research, aerospace applications, and the computational capabilities necessary for DOE's stockpile stewardship program."

Chancellor Michael Aiken said he expects the center's work to be a model of federal-university partnerships in science. "This center will help ensure the safety and efficiency of the nation's solid propellant rockets while providing an opportunity for Illinois graduate students to participate in exciting scientific work," he said.

In addition to UIUC, the other institutions chosen to participate in the program are the California Institute of Technology, Stanford University, University of Chicago, and University of Utah. The schools were selected through an open, competitive process that began in December 1996.

High-performance, computer-based modeling and simulation is becoming an essential "third research methodology" in many scientific and engineering areas. Many researchers combine this with theoretical and experimental studies to gain a fundamental understanding of scientific problems and engineering systems.