A Gegenheimer Lecture
On Innovation That Soars

Dr. James DeLaurier, Professor of Aerospace Studies at the University of Toronto Institute for Aerospace Studies, gave the annual Harold W. Gegenheimer Lecture on Innovation to a packed house in the Van Leer Auditorium on the Georgia Tech campus on November 3, 2005. His talk, complete with slides and videos, was on the Development of a Full-Scale Flapping-Wing Aircraft. He described his quest since 1975 to build and test a full-scale engine-powered ornithopter. The first accomplishment was a hand-launched 1/4-sale remotely-piloted model in 1991; the original research on that project led to the full-scale design, built in 1996. Now they faced new challenges such as the ground takeoff of a flapping-wing aircraft. To date, the ornithopter has accelerated to over 50 mph and has achieved brief liftoffs. To listen to Dr. DeLaurier's lecture, go to www.me.gatech.edu and click on the 2005 Gegenheimer Lecture icon.

Dr. DeLaurier did his undergraduate studies at the University of Illinois, and received a Ph.D. in Aeronautics and Astronautics from Stanford University in 1970. He did postdoctoral research at the von Karman Institute in Belgium. This expertise provided employment at the G. T. Schjeldahl Corporation, which led to a DARPA contract to develop large, stable, tethered aerostats. This began his interest in lighter-than-air technology.

Dr. DeLaurier has been at the University of Toronto since 1974. In addition to fundamental research on the aerodynamic modeling and the flight-dynamic performance of aerostats and airships, he worked on a project to develop the Stationary High-Altitude Remotely-Piloted Platform airplane; a low-altitude demonstration was achieved in 1987.

Dr. DeLaurier had a growing interest in flapping-wing flight and, in partnership with a friend at Battelle Memorial Institute, theoretical and experimental research was performed on the flight performance of ornithopters. This work led to the successful flight of a proof-of-concept ornithopter, which was documented in the IMAX film, Momentum.

AN ENERGETIC WOODRUFF DISTINGUISHED LECTURE

Mr. Thomas A. Christopher, President and Chief Executive Officer of Framatome ANP, Inc. and CEO and Vice Chairman of AREVA Enterprises, Inc., presented the 2005 Woodruff Distinguished Lecture. His talk was titled, The Energy Highway... Where Does Your Road Lead? In what has become a very telling lecture, he spoke about electricity and the fact that we all take it for granted, but in an ever changing society, the electric highway has many exits and entrances. He answered these questions: How does the price of coal, natural gas, and oil affect our society? Will we have enough energy sources to maintain our way of life? What role does nuclear energy play? How do all these old and new technologies affect the future and the future of our children? According to Mr. Christopher, there is a strong future in the electric power industry. New power plants are being constructed around the world. These new power plants need people to help design and operate them in a world of increasing electric demand. To listen to his lecture, go to our home page and click on the 2005 Woodruff Lecture icon.

Mr. Christopher joined Framatome ANP in April 2000 and became CEO of AREVA, the U.S. headquarters of the parent company, in early 2003. Framatome provides specialized diagnostics, operation and maintenance services, specialized parts and equipment, instrumentation and control, and fuel and fuel-related control components to the power generation industry in North America and internationally. He has also worked at Siemens Westinghouse Power Corporation's Energy Services Divisions, Westinghouse Power Generation Business Unit's Energy Divisions, and Westinghouse Nuclear Energy Division.

He received a B.S. degree in mechanical engineering from the U.S. Naval Academy and an M.S. degree in Engineering Mechanics from Georgia Tech in 1968. In 1980, Christopher earned a Master of Business degree from the University of Pittsburgh.
Enrollments are skyrocketing. All over the country, both mechanical engineering and nuclear engineering enrollments have been increasing rapidly over the last couple of years, and Georgia Tech is no exception. In fall semester 2005 we had more than 1600 undergraduates and 700 graduate students enrolled in the Woodruff School, which included about 200 students in the nuclear and radiological engineering and the medical physics programs.

The job market is very good and students are recognizing the flexibility of a mechanical engineering degree. Also, our funded research program is growing. Space is an issue. Last fall, we opened two large thermal systems research labs in a building on 14th Street, but we continue to be hard pressed for lab space on campus. We are now scattered in nine buildings. We have excellent physical facilities, in general, but simply not enough of them. Our nuclear engineering program is badly in need of new space. They not only have outgrown the Neely Building, but that building is scheduled to be demolished to provide space for a new building on campus.

During the past academic year, we revised the undergraduate curriculum, increasing the number of electives available for students and somewhat reducing the number of required courses. We also joined the Institute’s new international plan for undergraduate students. In addition, mechanical engineering students participated in the new summer program in Shanghai, China. We estimate that nearly fifty percent of our undergraduates have some kind of international experience in their education before graduating.

We also expanded our programs to the Georgia Tech Savannah site, where faculty were added for mechanical engineering, electrical engineering, and materials science and engineering this past fall. Professors Farrokh Mistree and Janet Allen have taken positions in Savannah, with Professor Mistree serving as the Associate Chair for the Woodruff School Program in Savannah. In addition, Professor Yves Berthelot became Director of Georgia Tech Lorraine in Metz, France, effective January 1, 2006. We are presently recruiting faculty for Atlanta, Savannah, and Metz.

Our 2005 Gegenheimer Lecture on Innovation and the annual Woodruff Distinguished Lecture were both very successful events. Further information is given in this issue. We also were honored by G. B. Espy (GT ME 1957) accepting our 2005 Outstanding Alumnus Award. There are feature items in this issue highlighting G. B. Espy and Lisa Beeson, one of our successful young alums.

Our faculty continue to be recognized with a number of national honors (see faculty honors in this issue). In addition, we note that Professor Emeritus Steve Dickerson was made an honorary alum of Georgia Tech in 2005. Finally, I regret to inform you that former school director, Scotty Kezios, passed away last fall. Scotty was school director from 1965 to 1982, and retired in 1990.

In summary, the Woodruff School continues to do very well. Our students, faculty, and staff are outstanding, and we are having a good time working to make the School even better.

I SPY THE WOODRUFF SCHOOL

For the past several years, the Woodruff School has produced a tee-shirt for our annual cookout. This yearly event attracts about 500 people, including current and new graduate students, and Woodruff School faculty and staff. During the year, visitors and special guests might also get a shirt. So, we thought it might be fun to know in what exotic or far-away locations the tee-shirts have been spotted. The pictures show the details of all the shirts. Please let us know the places where you have worn the shirt or spotted others wearing one. We will gladly accept any pictures you want to submit. We might have a prize or some recognition for the winners, if we can determine something that is not a tee-shirt.
AN OUTSTANDING ALUMNUS

Dr. Goodman Espy, III, M.D. was named the Woodruff School Outstanding Alumnus for 2005. Dr. Espy was recognized at the Annual Spring Banquet, where he gave an inspiring speech to the assembled audience of Woodruff School students, faculty, and staff. He said, “What a great institution you were chosen to be a student at. I love Georgia Tech and I’m indebted to Georgia Tech in many ways: My diploma from Tech is what I treasure above all else.”

Dr. Espy received his bachelor’s degree in mechanical engineering from Georgia Tech in 1957. After graduation, he taught mathematics as a graduate assistant and worked at the Georgia Tech Research Station on a number of medical projects before entering Tulane Medical School in 1958. In 1962 he received his M.D. degree, which was followed by four years of OB-GYN residency training at Tulane. Dr. Espy then entered the U.S. Army.

In 1967, he founded OB-GYN Associates in Marietta, Georgia. He has delivered more than 12,000 babies in his career, and is credited with having delivered more babies than any other physician in Georgia. During the Kosovo War, in 1999, Dr. Espy went to refugee camps in Albania, and has since been very active in obtaining medical equipment for Albanians. Under his leadership, his medical practice has funded more than thirty scholarships during the last twenty-five years for students in need of an education in Europe and the United States.

Dr. Espy served on the Georgia Tech Advisory Board from 1978 to 1986, and from 1988 until 1998, he was a member of the Woodruff School’s Advisory Board. Since 1995, he has served on the External Advisory Board for the Institute of Bioengineering and Biosciences at Georgia Tech. In 2001, Dr. Espy was the recipient of the Beta Theta Pi National Leadership and Service Award. In 2002, he was given a Community Service Award by Channel II, and in 2003 he received the Dr. Jack A. Raines Humanitarian Award from the Medical Association of Georgia.

THE WOODRUFF SCHOOL IN SAVANNAH

In 2001, Georgia Tech established the Georgia Tech Regional Engineering Program (GTREP) to afford students in Southeast Georgia the opportunity to earn a Georgia Tech engineering degree outside of Atlanta, using local faculty, facilities, and distance-learning connections to bring Georgia Tech directly to the region. The result is the Georgia Tech Savannah Campus with academic programs in Civil and Environmental Engineering; Electrical and Computer Engineering; and Mechanical Engineering. GTREP is a partnership between Georgia Tech and Armstrong Atlantic State University, Savannah State, and Georgia Southern University in Statesboro.

Starting this fall, the Woodruff School is creating the Woodruff School of Mechanical Engineering at Georgia Tech Savannah by developing programs that are complementary to those established in Atlanta. Beginning in July 2005, Drs. Farrokh Mistree (a Woodruff School Professor) and Janet Allen, a husband and wife team, will work to create a viable mechanical engineering program. Dr. Mistree is the Associate Chair of the Woodruff School in Savannah and the Deputy Director of Georgia Tech Savannah. Dr. Allen is Associate Professor of Mechanical Engineering, Savannah Campus.

Dr. Mistree stated that his top priorities for the coming year are “to ensure that the education received by the students enrolled in the Woodruff School’s program in Savannah are in keeping with the high standards of our School and to bring on board four faculty who will establish leadership in the interdisciplinary area of Information Engineering of Complex Engineered Systems.”

Currently, there are 21 faculty members and 150 students enrolled in the undergraduate and graduate programs at GT Savannah. Projections call for 800 students in five years and 2500 students on campus in ten years. To ensure adequate breadth of courses, about thirty percent of the undergraduate courses each semester are taught by Atlanta-based Georgia Tech faculty using distance-learning technologies. Students from the partner schools transfer to GT Savannah in their junior year; the admission and degree requirements are the same as for students in Atlanta.

For more information about Georgia Tech Savannah, view www.gtsav.gatech.edu/welcome/grad.html.
BUZZING TO SHANGHAI

Summer 2005 was the inaugural session of the Shanghai Summer Program at Jiao Tong University. This is a Georgia Tech faculty led, study-abroad program that is jointly sponsored by the Office of International Education, the Ivan Allen College, and the College of Engineering. Nine lecture courses plus several independent study courses for undergraduate research in engineering, humanities, and the social sciences were taught. In addition, students were able to choose from five Chinese cultural courses (martial arts, cooking, painting, calligraphy, culture and tourism) offered by the local host as noncredit courses. There were 44 students and five Georgia Tech faculty members in the program. Mechanical engineering had the largest number of participants: 13 were undergraduates and one was a graduate student. Woodruff School Professor Ye-Hwa Chen accompanied the group. Students took a load of three Georgia Tech courses, which were offered as letter-grade. With the exception of two Chinese language classes, all courses were in English. There were organized local tours and social events for the students.

Shanghai Jiaotong University was founded in 1896, and is a leading engineering university in China. The Xihui campus is centrally located in the city. The 2006 program will be limited to 80 participants and will run from May 20th to July 22nd. For more information on this annual program, view www.shanghaisummer.gatech.edu.

INTRODUCING WRECK RACING

Wreck Racing has been at Georgia Tech for three years. In their first competition in 2003 the club raced a 1985 Volkswagen GTI which they purchased for $600. In 2005, the club faced new challenges to build a 1984 BMW 325e. At the competition, they placed 40th out of 70 participants. George Carstens, president of the club, says, “This might not seem like a great accomplishment, but considering that we successfully built from scratch our own engine management system, we were all very pleased with the results.”

The event is sponsored by Grassroots Motorsports Magazine, and was originally organized to illustrate that sports and racing cars are within the reach of everyone, even those on a low budget. Teams have to buy, build, and prepare a car for the automotive triathlon: autocross (speed and handling), drag racing (speed in a straight line), and concours (cosmetics) judging, while facing a strict budget cap. The budget is based on the year; for 2006, the budget will be $2006. Drive trains, suspensions, brakes, exteriors, interiors, electrical and fuel systems may be modified. Wheels and tires can be replaced. Only roadworthy passenger cars can be used.

For this year’s Grassroots Motorsports Challenge in October 2006 at the Florida Gainesville Raceway, the team will use the same BMW and work to give it a lot more power. They hope to place in the top fifteen in the competition. We’ll keep you posted. In the interim, view their website at www.wreckracing.com.

Sterling Skinner is the new faculty advisor to the club. If you are interested in supporting this group, contact Caroline Wood, director of development, at (404) 894-0762.

NEW WOODRUFF SCHOOL PUBLICATIONS ARE AVAILABLE

The Woodruff School has some new publications that might interest you. These include: Research in the George W Woodruff School of Mechanical Engineering; Woodruff School Annual Report; Nuclear and Radiological Engineering and Medical Physics Programs Annual Report; and the Graduate Study Brochure. To view all our publications, go to www.me.gatech.edu or send us a request for a copy.

In another form of publication, the Woodruff School maintains three external web sites: www.me.gatech.edu, www.nre.gatech.edu, and www.mp.gatech.edu. These sites are undergoing a complete makeover, including text overhaul and redesign. Though we are making many changes to our sites we will maintain inclusive, user friendly formats. Many new pages are being added. For example, see our new Advisement site at www.me.gatech.edu/me/academics/undergraduate/advise/.

Finally, we are adding a security measure to published e-mail addresses in an attempt to lessen the number of spam messages we receive. The new home pages should be up and running soon; other pages will follow. Please contact Ward Winer or Rona Ginsberg if you have any input to this long-term project.

PI TAU SIGMA’S NEW MEMBERS

The Georgia Tech Nu Chapter of Pi Tau Sigma, the national mechanical engineering honor society, initiated 38 students on November 17, 2005 at the Georgia Tech Hotel. This is the largest group of initiates that we have had for several years. Dr. Wayne Whiteman, Senior Academic Professional in the Woodruff School, was initiated as an honorary member. Before joining the Woodruff School in 2003, Dr. Whiteman had a distinguished career as a Professor and Mechanical Engineering Program Director at West Point.
THE GIFT FELLOWS PROGRAM
During summer 2005 the Woodruff School sponsored three GIFT Fellows in partnership with the Center for Education Integrating Science, Mathematics and Computing (CEISMC), Georgia Tech’s K-12 education outreach center. The Georgia Intern-Fellowships for Teachers (GIFT) is a collaborative effort designed to enhance the mathematics and science experiences of Georgia teachers and their students. The program, which began in 1991, offers business, industry, and research fellowships to provide teachers with first-hand exposure to the skills and knowledge necessary for the preparation of the future workforce: the students currently in Georgia’s classrooms. The teachers are involved in cutting edge scientific research, data analysis, curriculum development, and real-world inquiry and problem solving.

Last summer, Woodruff School faculty members, Min Zhou and Samuel Graham, served as GIFT mentors. Min Zhou has been participating in the GIFT program since 2001, as part of his NSF Career Award Outreach Program. To date, he has sponsored five math and science teachers from public and private schools in the Atlanta metropolitan area; two traveled to China and three worked on campus studying material property measurement, microstructural analysis of materials, and computer analysis of material behavior. Last summer, he sponsored two teachers: Don White worked on campus and Will Stoll went to China where he did research similar to that done in the U.S., helped with cultural exchanges, and worked on an English-language version of the web site of the Department of Physics at Beihang University.

Professor Zhou continues to have occasional interactions with the teachers, who all developed modules on digital data collection or mechanics-related topics to use in their classes. In addition, he gave each teacher a grant of $1,000 to purchase materials for their classrooms. Dr. Zhou’s effort has been partly in collaboration with Dr. Naresh Thadhani of the School of Materials Science and Engineering.

As part of Sam Graham’s NSF Career Award Outreach Program he worked with the director of the math and science magnet program at Westlake High School. To learn first hand what mechanical engineers do, teacher Doug Edwards and three of his students spent ten weeks on campus in Professor Graham’s lab studying the effects of temperature on the efficiency of solid-state lighting sources. The main purpose of this experience was the development of a six-week module on mechanical engineering to be taught in the pre-engineering magnet program in fall 2006. Mentor and teacher continue to meet.

CEISMC coordinates the GIFT program and assists in matching Georgia Tech faculty with teachers, and helps in translating the teachers’ work at Georgia Tech into classroom usable teaching modules. Both Min Zhou and Sam Graham find participation in the program very satisfying. For more details on the GIFT program, view: www.ceismc.gatech.edu/gift. If you are interested in sponsoring a teacher in summer 2006, contact Donna Barrett, CEISMC Program Director, at (404) 894-7530 or donna.barrett@ceismc.gatech.edu.

THERMAL SYSTEMS RESEARCH OPEN HOUSE
An open house in advanced thermal systems research was held during the summer. It featured the Data Center Laboratory of the Consortium for Energy Efficient Thermal Management (CEETHERM), which is directed by Professor Yogendra Joshi, and the Sustainable Thermal Systems Laboratory, directed by Associate Professor Srinivas Garimella. This was also an opportunity to honor the contributors to the John M. McKenney and Warren D. Shiver Distinguished Chair in Building Mechanical Systems held by Dr. Joshi.

WE RETURN TO THE ASME
After a one-year absence, the Woodruff School returned to the R&D Expo that is part of the ASME’s International Congress and Exposition. In 2005, the meeting was held in Orlando, Florida. This was the ninth year we have sponsored a booth at the Expo. We speak with potential graduate students, meet with alumni, and discuss engineering education with conference attendees from industry and academia. Many people stopped by to pick up a resume CD of our graduate students looking for jobs in academia or industry, a graduate application packet, or brochures about the Woodruff School.

The Expo was a smaller event than in previous years, but we had a fairly constant stream of visitors to the booth. Numerous Woodruff School faculty members presented papers and chaired sessions at the conference; many took time out of their schedules to join us at the booth. It was a successful outing for the Woodruff School.
**FACULTY HONORS AND NEWS**

- **Said Abdel-Khalik** was elected Chair of the Fusion Energy Division of the American Nuclear Society for 2003-2006.
- **Janet Allen** was named a Fellow of the American Society of Mechanical Engineers.
- **Yves Berthelot** was appointed Director of GTL and Jean-Lou Chameau was chosen as President of GTL, effective January 1, 2006. Both will continue in their roles as Professor and Provost, respectively.
- **Jon Colton** received a NASA Space Act Award for the creative development of a technical innovation titled, “A Quick Release Adaptive Connection System for Space Transportation Systems.”
- **Levent Degertekin** received the Sigma Xi (Georgia Tech Chapter) Young Faculty Award at the Annual Faculty/Staff Honors Luncheon. In 2005, he received U.S. Patent 6,853,041 with B. T. Khuri-Yakub and A.S. Ergun for Micromachined Coupled Capacitor Devices; and U.S. Patent 6,854,338 with B. T. Khuri-Yakub for Fluidic Device with Integrated cMUTs.
- **Andrei Fedorov** received the 2006 Branimir F. von Turkovich Outstanding Young Manufacturing Engineer Award from the Society of Manufacturing Engineers.
- **Srinivas Garimella** was named a Fellow of the ASME.
- **Jerry Ginsberg** received the 2005 Trent-Crede Medal from the Acoustical Society of America for outstanding contributions to the science of mechanical vibration and shock. This medal has been awarded only twelve times since its inception in 1969. He also received a Georgia Tech 25-Year Service Award at the Annual Faculty/Staff Luncheon.
- **Sam Graham** received a Faculty Early Career Development Award from the National Science Foundation in 2005 for his project titled, “Thermal Engineering of Nitride Semiconductors.” He was also selected a Modern-Day Technology Leader by the Black Engineer of the Year Awards Program.
- **Nolan Hertel** became a Fellow of the Health Physics Society.
- **Peter Hesketh** received U.S. Patent 6,893,892 for Porous Gas Sensors and Method of Propagation Thereof.
- **William King** received the 2006 Outstanding Young Manufacturing Engineer Award from the Society of Manufacturing Engineers.
- **Jack Lackey** retired in summer 2005 and was named Professor Emeritus in September.
- **Kok-Meng Lee** was named a Fellow of the ASME.
- **Marc Levenston** received a Docteur Honoris Causa Degree from Universite Henri Poincare. He also received the Negma/Lerads International Prize for Research in Mechanobiology of Cartilage and Chondrocyte from the European Society on Cell and Tissue Engineering and Therapy, and was appointed to the Skeletal Biology Structure and Regeneration Study Section, Center for Scientific Review at the Department of Health and Human Services.
- **Steven Liang** received the Blackall Machine Tool and Gage Award from the ASME. This award was established in 1954 for a literature contribution concerned with or related to the design or application of machine tools, gages, or dimensional instruments.
- **Tim Patterson** was selected the 2005 Faculty Member of the Year by the Georgia Tech Student Government Association.
- **William Singhose** received U.S. Patent 6,920,378 for Command Generation Combining Input Shaping and Smooth Baseline Functions.
- **Charles Ume** received the 2005 IEEE Components, Packaging and Manufacturing Technology Society Outstanding Sustained Technical Contribution Award.
- **Bill Wepfer** received a Georgia Tech 25-Year Service Award at the Annual Faculty/Staff Luncheon.
- **Minami Yoda** was elected to the Executive Committee of the Fusion Energy Division of the American Nuclear Society and was selected to serve a two-year term on the Defense Science Study Group of the Institute for Defense Analyses. She also was elected a Member-at-Large of the Executive Committee for the Division of Fluid Dynamics of the American Physical Society.
- **Zhuomin Zhang** was named a Fellow of the ASME.
- **JiXun Zhou** was elected a Fellow of the Acoustical Society of America.
- **Min Zhou** was named a Fellow of the ASME.
- **Cheng Zhu** was the recipient of the Hemorheology and Microcirculation Award of the International Society for Clinical Hemorheology.
- **Ben Zinn** received the 2006 George Westinghouse Gold Medal from the ASME for outstanding contributions to low-emissions combustor development and improved understanding of unsteady combustion phenomena in power generating combustion devices for collaborative approach to fundamental research that has lead to practical solutions.

**PROMOTIONS**

Levent Degertekin, Andrei Fedorov, and Bill Singhose were promoted to the rank of Associate Professor and received tenure. Chris Lynch and Min Zhou were promoted to Professor. Zhuomin Zhang was granted tenure.
NEW WOODRUFF FACULTY FELLOWS ANNOUNCED

Dr. Ward O. Winer, Eugene C. Gwaltney, Jr. Chair of the Woodruff School, announced the appointment of three associate professors as new Woodruff Faculty Fellows: Andres Garcia, Shreyes Melkote, and Minami Yoda. The new appointments go from January 1, 2006 to December 31, 2010.

Andres Garcia received his Ph.D. from the University of Pennsylvania in 1996 and began his career at Georgia Tech as an assistant professor in fall 1998. His research includes cellular and tissue engineering, cell adhesion, and biomaterials. Shreyes Melkote received his Ph.D. in 1993 from Michigan Technological University and began his career as an assistant professor in 1995. His research includes experimental fluid mechanics, suspension flows, nano- and microfluids, and optical diagnostics.

The Woodruff Faculty Fellows program began in June 1991 to retain and recruit outstanding mid-career faculty. The aim of the program is to give the Fellows an incentive to continue to advance their careers and to remain at Georgia Tech, thereby advancing the quality of our program in the future. Fellows receive $12,000 a year in discretionary support for each of the five years of the appointment. The total number of faculty fellows is limited to no more than one-third of the current associate professors on the faculty.

Current Woodruff Faculty Fellows are Bert Bras and David Rosen (2002-2007), and Srinivas Garimella, Robert Guldberg, and Min Zhou (2004-2008). In addition to the Woodruff Faculty Fellows program the Woodruff School has the Anderer Family Fellow Endowment with the same objectives. Ken Cunefare is the Anderer Faculty Fellow (2002-2007). For more details about faculty fellows in the Woodruff School view their detailed faculty pages at www.me.gatech.edu (click on Faculty/Staff) or see their pages in the Woodruff School’s Research Brochure.

In naming the new faculty fellows, Dr. Winer pointed out that there are a number of recognitions that new faculty might receive, such as a Career Award, and there are special recognitions for senior faculty, such as the appointment to an endowed or distinguished chair in the School, but there are few honors that provide mid-career faculty members with the visibility and recognition they deserve.

If you are interested in helping us recognize additional mid-career associate professors in the Woodruff School and helping us retain our outstanding faculty, please contact Dr. Winer at (404) 894-3200 or ward.winer@me.gatech.edu or Caroline Wood, Director of Development, at (404) 894-0762 or caroline.wood@me.gatech.edu to discuss your interest.

WHITE HOUSE HONORS

Professor William King received a 2004 Presidential Early Career Award for Scientists and Engineers (PECASE) in June 2005. The award, which was established in 1996, honors the most promising beginning researchers in the nation within their fields. Fifty-eight researchers were honored in a ceremony at the White House presided over by John Marburger III, Science Advisor to the President, and Director of the White House Office of Science and Technology Policy. Before the ceremony, the award winners spent some time with President Bush in the Rose Garden and the Oval Office.

Eight federal departments and agencies annually nominate scientists and engineers at the start of their careers whose work shows exceptional promise for leadership at the frontiers of scientific knowledge during the twenty-first century. Participating agencies award these beginning scientists and engineers up to five years of funding to further their research in support of government missions. King was nominated by Sandia National Laboratories, a Department of Energy National Nuclear Security Administration Defense Programs laboratory, for his work on heat transfer and thermomechanical processing of micrometer and nanometer length scales and for his innovations in nanomanufacturing. The award recognizes the importance of his research for homeland defense and nuclear security, as well as for the impact his work has had on the commercialization of nanotechnology.

WE REMEMBER DR. SCOTTY KEZIOS

Regents’ Professor Emeritus Stothe (Scotty) Peter Kezios died a number of months ago at Piedmont Hospital. He was 84. Dr. Kezios was born in Chicago in 1921. He graduated from Lane Technical High School and Illinois Institute of Technology (IIT), both in Chicago. He served as an Officer in the U.S. Navy during World War II on Iwo Jima and post war in Japan. He received his master’s and Ph.D. degrees in mechanical engineering from IIT after the war.

Dr. Kezios served as Professor and Director in the School of Mechanical Engineering from 1967 to 1982. He retired in 1990 after 23 years at Georgia Tech as the Georgia Power Professor in Mechanical Engineering. In 1991, he received the Distinguished Service Award from the Heat Transfer Division of the ASME for unusual, outstanding, and sustained service. From 1977-1978 he served as the 96th President of the American Society of Mechanical Engineers, the largest professional society in the world for mechanical engineers. In 2000, Dr. Kezios presented the commemorative plaque to Georgia Tech President G. Wayne Clough when the Woodruff School was named a Mechanical Engineering Heritage Site by the ASME.

Dr. Winer, the current School Chair, was hired by Dr. Kezios in 1969 and remembers Scotty well. “Scotty Kezios had a major impact on the School while he was Director and will be remembered by all those associated with the School during his tenure.”
NEWS FROM OUR ALUMNI

- **Tom Adams** (MSME 1991, Ph.D. ME 1998) was awarded tenure and promoted to Associate Professor at Rose-Hulman Institute of Technology in Terre Haute, Indiana. He also received the Dean’s Outstanding Teaching Award at commencement, and the Best Paper Award at the 2005 American Society for Engineering Education annual conference.

- **Dwight Alford** (BME 1962, MSME 1964), president of Alford Leasing Company in Raleigh, North Carolina, was inducted into the College of Engineering Academy of Distinguished Engineering Alumni. He is a member of the Georgia Tech President’s Council and chair of the College of Engineering Advisory Board.

- **Jeffrey G. Arbitral** (BME 1975, MSNE 1976) recently joined G2 Engineering and Management, Inc. located in Oak Ridge, Tennessee, where he is Vice President of Engineering. The company specializes in project management in engineering programs. Prior to this position, he was with SAIC for 28 years.

- **Alfredo Arias** (BME 1969, MSEE 1974) was inducted into the College of Engineering Academy of Distinguished Engineering Alumni. He is the retired Executive Vice President of Cervecería Nacional in El Dorado, Panama.

- **Michael (Micky) Bly** (BME 1990) was appointed director, Hybrid Integration, responsible for leading the engineering integration activities for hybrids at GM. He will be joining the Vehicle Integration and Performance Team. Micky was previously executive technical assistant in GM Powertrain. He is a member of the Woodruff School’s advisory board.

- **Leo Cancio** (BSNE 1962, MSNE 1963) was the first minority graduate student who completed a master’s degree in nuclear engineering at Georgia Tech. He began his career with Dupont in 1962 and went into semi-retirement in 2003. He is currently advisor to the new CEO of Clopay and will remain in this position at least until the end of 2007.

- **Wei Chen** (Ph.D ME 1995) received the Intelligent Optimal Design Prize, established to honor young researchers/engineers of outstanding merit from SMiRT. She is an Associate Professor of Mechanical Engineering at Northwestern University.

- **Thomas A. Christopher** (MS ESM 1968) was inducted into the College of Engineering Academy of Distinguished Engineering Alumni.

- **Tim Cleary** (BNE 1981) is the Director of Site Operations at the Brunswick Nuclear Plant. He licensed at the Neely Research Reactor and the H. B. Robinson Nuclear Plant. He licensed at the Neely Research Reactor and the H. B. Robinson Nuclear Plant.

- **Terrance Cravin** (BSME 2001) works as a Reliability Engineer for The Dow Chemical Company in Freeport, Texas. He was hired at Dow in 2000 into the Maintenance Technical Services Department, providing troubleshooting and technical support of turbomachinery, stress analysis of potential retrofit designs for rotating and non-rotating equipment, and failure analysis of failed components. He continues to interact with Georgia Tech through on-campus recruiting as a member of Dow’s college recruiting team.

- **Lawrence T. Dauer** (MSHP 1996) received the Elda E. Anderson Award from the Health Physics Society. This award recognizes excellence in research or development, discovery or invention, devotion to health physics, and/or significant contributions to the profession.

- **Leo J. Drum, Jr.** (BME 1935) was inducted into the College of Engineering Hall of Fame. He is the retired founder of Capital Refrigeration Company in Montgomery, Alabama. After graduation he joined the Tennessee Valley Authority and later worked for the York Air Conditioning Company. He entered active duty with the U.S. Army Engineers in early 1941 as a second lieutenant. After being promoted to the rank of major and serving overseas, he was awarded a Bronze Star for meritorious service in 1945. He returned to reserve status in 1946 with the rank of lieutenant colonel and in the same year founded Capital Refrigeration Company. He remained in the reserves for approximately twenty-two years, retiring at the rank of lieutenant colonel.

This picture was taken at the recent COE awards dinner. Leo’s role in WWII was announced to great applause during his introduction to the Hall of Fame. After dinner, Major General Ronald L. Johnson (MSOR 1985), who has earned numerous decorations, presented Leo with one of his own medals in appreciation for his service to the country. Major General Johnson is the Director of the U.S. Army Installation Management Agency in Chicago and is an inductee to the Academy of Distinguished Engineering Alumni.

- **E. Al Eppinger** (BME 1960) was inducted into the College of Engineering Hall of Fame. He is the retired senior vice president of Buckeye Technologies and retired plant manager of Procter and Gamble. He lives in Tallahassee, Florida.

- **Jeffrey T. Gasser** (BME 1983) was inducted into the College of Engineering Academy of Distinguished Engineering Alumni. He is the Executive Vice President and Chief Nuclear Officer of Southern Nuclear Operating Company in Birmingham, Alabama.

- **Norm Garrett** (BME 1981) holds U.S. Patent 6,495,948 for his spark plug invention. He is currently an instructor in the Woodruff School for ME 4803, IC Engines.

- **Heather Gepford** (Ph.D. NE 2002) had her work on the Laser Illuminated Etch Systems (LITES) honored by Los Alamos National Laboratory at the 2005 R&D 100 Recognition Ceremony.

- **Manuel Junco, Jr.** (BME 1975) was inducted into the College of Engineering Academy of Distinguished Engineering Alumni. He is Senior Vice President, Downstream Operations, Energy and Chemicals Division of Fluor Corporation in Corona del Mar, California.

- **Deborah Kilpatrick** (BME 1989, MSME 1994, Ph.D. ME 1997) was appointed to the College of Engineering Advisory Board. She is Director of Research and Technology of the New Ventures Group of Guidant Corporation, and a member of the Woodruff School Advisory Board.

- **Bruno S. Khan** (MSME 2001) has been working at Schlumberger in Houston, Texas since he graduated from Georgia Tech. He has worked in Sustaining, New Product Development, and Rapid Response on the customization of existing tools for clients.
Michael Knight (BSAE 1996) and his wife Clarissa Knight (BSME 1996) announce the birth of their second child, Jake. Jake joins older sister, Suzanna. The family lives on Wilmington Island, Georgia.

Bryan T. LaBrecque (BME 1981) was named President and Chief Operating Officer of Atlantic Southeast Airlines, a subsidiary of SkyWest, Inc. He has been in the aviation business for 25 years. Prior to his appointment as president, he served as acting president and senior vice president, operations at Delta ASA. His past experience includes more than 17 years at Delta Air Lines.

Calvin Mackie (BME 1990, MSME 1992, Ph.D. ME 1996), who specializes in fluid dynamics, was appointed to the twenty-three member board of directors overseeing Governor Blanco’s Louisiana Recovery Authority, the guiding agency to lead the state’s rebuilding efforts following Hurricane Katrina. Mackie was out of town when Hurricane Katrina hit last August, but he had a contingency plan in place to keep his home secured and family safe. He is a lifelong resident of New Orleans.

Johné Parker (BME 1992, MSME 1995, Ph.D. ME 1997), Associate Professor of Mechanical Engineering at the University of Kentucky, was named an ASEE/ASME Congressional Fellow for 2005-2006. Congressional Fellows serve in the office of a Senator or Representative or with a congressional committee or subcommittee providing engineering and technical advice to policy makers in Congress. She is working in the office of Senator Byron Dorgan. “In considering where my skills and interests might be most useful, I chose manufacturing and engineering education, two areas of high priority for ASME and nationally,” Parker said.

Mike Pop (MSNE 1973) was honored as the 2005 Engineer of the Year for AREVA Nuclear Services Business Unit. Mike is a Principal Engineer at AREVA, where he provided a unique combination of powerful theoretical strength and practical achievement that led to a breakthrough in understanding fuel deposition behavior, particularly for root cause analysis of fuel failures.

John W. Poston, Sr. (Ph.D. NE 1971) received the Rodley D. Evans Commemorative Medal from the Health Physics Society. The recipient of this award demonstrates the extraordinary qualities exemplified by Professor Evans for excellence in scientific achievement, interdisciplinary capabilities, the applicability of science to real-world needs of radiation safety, and an insight into simple solutions of difficult problems. Dr. Poston was once a faculty member at Georgia Tech, and received a College of Engineering Hall of Fame award. Currently, he is Professor of Nuclear Engineering at Texas A&M University.

Michael T. Ryan (Ph.D. NE 1982) was honored as a Fellow of the Health Physics Society. In addition, he was elected chairman of the Nuclear Regulatory Commission’s Advisory Committee on Nuclear Waste. Dr. Ryan is an independent consultant in radiological science and health physics, and an adjunct faculty member in the College of Health Professions at the Medical University of South Carolina and at the College of Charleston.

Michael Simpson (BSME 1989, MSME 1992) was recently named the Vice President of Regulatory and Clinical Affairs at Exactech in Gainesville, Florida. Before that, he was at Woodruff School Professor David Ku’s company, SaluMedica, as director of quality and regulatory affairs. His area of expertise is bioengineering.

Mickey Wade (MSME 1987, Ph.D. NE 1991) has joined the Energy Group at General Atomics, where he is now Deputy Director of Experimental Science at DIII-D, the major U.S. fusion experimental facility. He has been actively involved in research at DIII-D since receiving his Ph.D., first as a recipient of the U.S. DOE Magnetic Fusion Energy Postdoctoral Fellowship, and then as an employee of Oak Ridge National Laboratory.

Sean F. Wu (MSME 1984, Ph.D. ME 1987) was appointed to the rank of Distinguished Professor at Wayne State University.

Eric Zimmerman (Ph.D. ME 1995) is Chief of the Research Division at the Topographic Engineering Center of the U.S. Army Corps of Engineers at Yuma Proving Ground in Arizona. They successfully tested the Buckeye, a new technology to aid in the detection of improvised explosive devices (IEDs). The Buckeye was deployed to Iraq and has proved to be extremely helpful in the detection of IEDs.

**DICKERSON NAMED HONORARY ALUMNUS**

Dr. Steve Dickerson was named a 2005 honorary alumnus for his longtime service to Georgia Tech by the Alumni Association. Dickerson is a Georgia Tech professor emeritus who is currently serving the Alumni Association as a trustee.

He launched his career at Tech in 1965 as an assistant professor in the School of Mechanical Engineering. Although he retired in 1996, his research continues in the field of high-performance, computer-controlled motion devices for manufacturing and serviced sector automation.

Dickerson was named a 2004 Fellow of the Society of Manufacturing Engineers and is the recipient of the Inventors Club of America New Technology Award and the Atlanta Business and Technology Alliance Most Innovative Technology Award. He holds patents for such innovations as a precision apparatus with nonrigid, imprecise structure and the method for operating it, and an image data reading and processing tool.

He earned his bachelor’s degree at the Illinois Institute of Technology, his master’s at the University of California at Berkeley, and his doctorate at MIT.

At Tech, he is a member of the Phoenix Club and the Presidents’ Council. He established the F. R. Dickerson University Club Fund and regularly contributes to the Machine Vision Fund within the Woodruff School of Mechanical Engineering.
**ALUMNA PROFILE:**

**LISA BEESON (BME 1990)**

Lisa Beeson came to Georgia Tech because of its focus on science and technology, its reputation, and Atlanta’s warm climate. She graduated with a bachelor's degree in mechanical engineering in 1990 with highest honors. After spending nine years in engineering and management jobs at Westinghouse Electric Corporation and three years as the senior vice president of a mid-sized manufacturing company, she pursued her lifelong entrepreneurial ambitions and founded Quietly Making Noise LLC in 2002 to derive practical solutions to acoustical and noise control problems.

Lisa started the firm in her living room and soon hired her first employee, who was assigned a place at the dining room table. The business grew and she rented office space. The company grew to seven full-time and ten part-time employees, at its peak, providing mechanical, structural, and acoustical engineering services. At the end of 2003, Lisa sold the mechanical and structural side of the business to focus on the rapidly growing acoustical area.

Acoustics is Lisa’s specialty. She became interested in the area while at Georgia Tech, most likely because of her parents. Her dad is nearly deaf and an entrepreneur and her mom is a musician; the challenges they faced as a family sparked her interest in sound and acoustics. At Quietly Making Noise, Lisa performs a wide range of acoustical consulting services for her industrial, commercial, and residential clients. She invented “Shut-Eye™” acoustical shutters and blinds (patent pending).

Lisa received the Astronaut Scholarship while at Tech, a program founded by the original Mercury astronauts and the widow of Gus Grissom. The award had a tremendous impact on Lisa, who says she could not have started the company without the support of this group. She uses her influence to ensure the success of Georgia Tech students who receive this prestigious award. She is actively involved with the Astronaut Scholarship Foundation, serving on its board of Directors and as the chairman of its Scholarship Selection Committee. The founder and president of its alumni group, the Astronaut Scholars Honor Society, she organizes an annual convention where current and past scholarship winners meet astronauts from the Mercury, Gemini, Apollo, Skylab, and Space Shuttle programs.

Lisa volunteers with Give Kids the World and is a member of several professional organizations, including the Institute of Noise Control Engineers, National Council of Acoustical Consultants, Acoustical Society of America, American Society of Mechanical Engineers, and Home Builders Association. She was inducted into the Georgia Tech College of Engineering Council of Outstanding Young Engineering Alumni in 2005.

Lisa was born in Indiana. In her very limited free time, she enjoys visiting the beaches near her home in Orlando, Florida, playing wallyball and volleyball, and providing music DJ services at parties for her friends.

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**A SPECIAL BIRTHDAY WISH**

Randy Whitfield (BME 1932) got a surprise ride around campus to the football stadium in the Ramblin’ Wreck, just two months before his 97th birthday in February. Along with his daughter Croom Coward and grandson Randy McDow, who is the Director of the President’s Scholarship Program at Georgia Tech, they visited the monument by the Tech Tower, which was the class of 1932’s gift to Georgia Tech when they graduated.

The car was made in 1930 while Randy Whitfield was an undergraduate at Tech (1927-1932). Randy said the family had a wonderful time that day, which they will always remember as special.

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**ZEIGLER OUTSTANDING EDUCATOR PLAQUE IS UNVEILED**

The Woodruff School unveiled The Jack M. Zeigler (BME 1948) Woodruff School Outstanding Educator Award plaque in the atrium of the MRDC Building. The award was created in 1999 to honor members of the Woodruff School’s academic faculty who epitomize outstanding educators. Past winners are: Drs. William Black, Said Abdel-Khalik, Farrokh Mistree, Robert Fulton, James Hartley, and David McDowell.

The wording on the plaque reads: Mr. Zeigler received his bachelor’s degree in mechanical engineering in 1948 after interrupting his education with three and one-half years of service in the U.S. Army. He is the retired president and owner of Fabrication Engineering Service Company, Inc., a made-to-order fabrication business for process engineering equipment. He was a registered professional engineer in five states, and a lifetime member of the American Society of Mechanical Engineers and the American Welding Society. In 1994 Mr. Zeigler was the recipient of the Distinguished Alumnus Award from the Woodruff School, and in 1999 he was inducted into the College of Engineering Alumni Hall of Fame.
This list includes donors who have designated gifts to the Woodruff School of Mechanical Engineering between July 1, 2004 and June 30, 2005.

**Alumni, Honorary Alumni, Students, Parents, and Friends**

Philip S. Armstrong, Jr., IE 1965
G. Bingham Bache, ME 1961
Jeanne H. Balsam, ICS 1977
Keith L. Bernhardt, EE 1997
Milind A. Borkar, EE 2002
Debra J. Brook, Friend
Henry C. Butler, ME 1945
Geoffrey Carter, Student
Jayme Caspall, ME 1988
Chaz Cone, Jr., IM 1963
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William Roby, Student
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Dean C. Sutter, Friend
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Qcept Technologies, Inc.
The PACE Program: General Motors, EDS, Sun Microsystems, UGS
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William J. Wepfer, Ph.D.
Wayne Whiteman, Ph.D., ME 1997
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3/2006
The Undergraduate International Degree Program

The Woodruff School is joining thirteen other programs at the Institute in the new Undergraduate International Plan. This is a new degree designation, similar to the Cooperative Plan. Mechanical engineering students can spend their third year abroad, gaining valuable international experience. This is especially important in today's global economy, where more companies are looking for graduates with international experience in their major area. Mechanical engineering students can spend a year at Georgia Tech Lorraine in Metz, France, at the Technical University in Munich, or at other approved locations.

In order to receive the BSME-International Plan degree, students will have to meet several requirements. The first is to show proficiency in a language through at least the second year of study. The second requirement is specific coursework: international relations, global economy, and society/culture. The third requirement is for two semesters abroad. This can be done either in residence at a university, or one semester in residence plus one as an engineering intern, or both semesters as an intern. Finally, the student's capstone design experience must meet certain international requirements. Ideally, this would be a joint project including students from Georgia Tech and the selected school abroad. For more information on this program, view www.oie.gatech.edu.