The Annual Report of the
George W. Woodruff School of
Mechanical Engineering
2008-2009
A LETTER FROM THE CHAIR: WE WANT YOUR BIG IDEAS!

Dear Colleagues and Friends:

This is clearly an era of transition. Every one of us has been affected by the changing economy and its consequences for both day-to-day financial decisions and on longer term program and strategic issues. We face the challenge of the evolving nature of both the mechanical and nuclear engineering professions and its impact on engineering education. To provide leadership in this new era, Georgia Tech is fortunate to have attracted Bud Peterson away from the University of Colorado to be our 11th President. A distinguished scholar in the area of phase change heat transfer, we are extremely proud to have Bud as a member of our own Woodruff School faculty.

Much of my first year and a half as Chair was devoted to listening, learning, and implementing changes in our administrative structure. These changes put us in a better position to address future challenges. Our focus in 2009-2010 will be on developing a new strategic plan for the School. President Peterson has embarked upon a similar effort for the Institute and we expect to be the first unit to develop a strategic plan concurrent with the Institute plan.

We are privileged to have Professor David McDowell chair the Woodruff School’s Strategic Steering Committee, which includes Yves Berthelot, Amy Bondurant, Wayne Book, Bert Bras, Bill Cheesborough, Chaithanya Deo, Srinivas Garmella, Rudy Gleason, Sam Graham, Roger Jiao, Rhett Mayor, Wayne Whiteman, and Minami Yoda. This talented and well-balanced group aims to engage the larger Woodruff School community to create a vision based on shared values that foster an environment for creativity and innovation. The strategic planning process will address many questions such as:

- What challenges will our current ME/NRE graduates face in the next twenty-five years?
- How will the ME and NRE disciplines change in the next few years?
- How can we innovate both what we teach and how we teach?
- What does it mean to be a thought leader in engineering research and education?
- What is the Woodruff School’s role within Georgia Tech, the State of Georgia, the United States, and the world?
- How does the Woodruff School maintain and build upon its research pre-eminence as well as foster translational research that will contribute to the betterment of society?

Your input on these questions is important to this process. We want to know your BIG ideas! We want you to challenge us to reach that next level. Your insights provide a critical and constructive point of view that we sometimes overlook in our academic setting.

The draft strategic planning document will appear on our website in early 2010. Please review this document and share your comments, opinions, and thoughts with us. The final document with strategic objectives and metrics for progress toward our goals will be finished by July 2010. The Woodruff School community prides itself on thinking big and making the impossible possible. Please help us move forward.

Finally, I want to thank all of you for your generous and enthusiastic support during my first full year as Chair of the George W. Woodruff School of Mechanical Engineering. As you will learn by reading this annual report, in the midst of great economic stress our faculty, staff, and students continued their pursuit of excellence as evidenced by the numerous accomplishments of its faculty, staff, and students. Congratulations to all for their outstanding efforts!

William J. Wepfer
Eugene C. Gwaltney, Jr. School Chair
Atlanta, October 2009

The annual report of the George W. Woodruff School of Mechanical Engineering at Georgia Tech is published in the fall. For more detailed information about Woodruff School undergraduate programs in mechanical engineering and nuclear and radiological engineering and our graduate programs in mechanical engineering, nuclear and radiological engineering, medical physics, bioengineering, paper science and engineer, and robotics, please contact us by any of the following methods:

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CONTENTS
Georgia Tech’s New President ........................................ 1
Special Events and Lectures ........................................ 2
Programs .................................................................. 3
Careers .................................................................... 9
Scholarships ................................................................ 9
Fellowships ................................................................ 11
Degrees .................................................................... 12
Enrollment ................................................................. 17
Faculty .................................................................... 18
Students ................................................................... 24
Staff ......................................................................... 26
Finances ................................................................. 28
The Woodruff Endowment ........................................ 29
Other Endowments .................................................. 30
Facilities ............................................................... 30
Contributors .......................................................... 31
Alumni ................................................................. 32
Advisory Board ...................................................... 33

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G. P. "Bud" Peterson was selected by the Board of Regents of the University System of Georgia to become the eleventh president of Georgia Tech, effective April 1, 2009. The Woodruff School is also very proud that President Peterson has accepted an academic appointment as a Professor of Mechanical Engineering. Before coming to Georgia Tech, Dr. Peterson was the Chancellor of the University of Colorado at Boulder. Prior to that, he served for six years as Provost and Officer of the Institute at Rensselaer Polytechnic Institute in Troy, New York.

From 1993-1994, he was Program Director at the National Science Foundation for the Thermal Transport and Thermal Processing Programs. He held various positions at Texas A&M University, beginning in 1981 as an Assistant Professor of Engineering Technology, to Professor of Mechanical Engineering (1990), Halliburton Professor of Mechanical Engineering (1990), the College of Engineering’s Tennen Professor, Head of the Department of Mechanical Engineering (1993-1996), Executive Associate Dean of Engineering (1996-2000), and Associate Vice-Chancellor for Engineering for the Texas A&M University Systems (1996-2000).

Prior to Texas A&M, he was a Visiting Research Scientist at NASA-Johnson Space Center in Houston, Associate Professor at Kansas Technical Institute in Salina, Kansas, (1979-1981), a Mathematics Teacher in Shawnee Mission South High School in Overland Park, Kansas (1978-1979), and a Math, Physics, and Chemistry Teacher at Wabaunsee County High School in Alma, Kansas (1977-1978).

Dr. Peterson earned a bachelor's degree in mechanical engineering in 1975, a bachelor's degree in mathematics in 1977, and a master's degree in mechanical engineering in 1980, all from Kansas State University. He also earned a doctorate in mechanical engineering from Texas A&M University in 1985.

A distinguished scientist, President Peterson was selected in 2008 by President George W. Bush to serve on the National Science Board through 2014. The Board oversees the National Science Foundation and advises the President and Congress on national policy related to science and engineering research and education. Throughout his career, Peterson has played an active role in helping to establish the national education and research agendas, serving on numerous industry, government, and academic task forces and committees. He also served as a member of a number of congressional task forces, research councils, and advisory boards, including the Office of Naval Research, the National Aeronautics and Space Administration, the Department of Energy, the National Research Council, and the National Academy of Engineering. More recently, he served as a member of the Board of Directors and Vice President for Education for the American Institute of Aeronautics and Astronautics. He is currently serving on a number of national accreditation agencies including the American Association of Colleges and Universities, the Middle States Commission on Higher Education, and the New England Association of Schools and Colleges, with a focus on improving and assessing outcomes for higher education.

President Peterson’s Patents
In addition to the patents listed below, President Peterson has five Invention Disclosures, some pending patent applications, and a filed invention disclosure.

**Coupled, Flux Transformer Heat Pipes, U. S. Patent 5,647,429, with S. Oktay (IBM Corporation), July 15, 1997**

**Treatment Method Using a Micro Heat Pipe Catheter, U.S. Patent 5,591,162, with L. S. Fletcher, January 7, 1997**

**Micro Heat Pipe Panels and Method for Producing Same, U. S. Patent 5,227,586, with C. Camarda, June 18, 1996**


**A Micro Heat Pipe Catheter for Local Tumor Hyperthermia, U. S. Patent 5,190,539, with L. S. Fletcher, March 2, 1993**

**Vapor Deposited Micro Heat Pipe, U. S. Patent 5,179,043, with M. H. Weichold, January 12, 1995**

**Heat Transfer Cylinder Dryer, U. S. Patent 5,119,886, with L. S. Fletcher, June 9, 1992**

**Bellows Heat Pipe for the Thermal Control of Electronic Devices, U. S. Patent 4,961,740, with S. Oktay (IBM Corporation), August 28, 1990**

President Peterson is a fellow of both the American Society of Mechanical Engineers, and the American Institute of Aeronautics and Astronautics. He is the author or co-author of 14 books or book chapters, 165 referred journal articles, and more than 140 conference publications. He also holds eight patents. He has served as editor or associate editor for eight different journals, and is currently serving on the editorial advisory board of two others. He is a member of Pi Tau Sigma, Tau Beta Pi, Sigma Xi, and Phi Kappa Phi. Professional society awards include the Ralph James and the O. L. Andy Lewis Award from the ASME, the Dow Outstanding Young Faculty Award from the American Society for Engineering Education, the Pi Tau Sigma Gustus L. Larson Memorial Award from the ASME, the AIChE Thermophysics Award, the ASME Memorial Award, and the Frank J. Malina Award from the International Astronautical Society.

In the Woodruff School, he will be associated with the Heat Transfer research group. His research interests are phase change heat transfer, thermal control of electronic components and spacecraft systems, and conduction and thermal contact resistance. President Peterson and Professor Zhuomin Zhang direct the Microscale and Heat Transfer Laboratory in the Woodruff School.

President Peterson was born September 1, 1952 in San Francisco, and raised in Prairie Village, a suburb of Kansas City, Kansas. He and his wife, Val, have four adult children.
THE GEGENHEIMER LECTURE ON INNOVATION
Dr. Jim West, Research Professor at Johns Hopkins University in Baltimore, gave the Harold W. Gegenheimer Lecture on Innovation in December 2008. His lecture: Noise in Hospitals: Effects and Cures, was about the significant problem of noise, even in new construction. High noise levels in hospitals can potentially contribute to stress and burnout in hospital staff, reduced speed of patient wound healing, and there is concern that hospital noise can negatively affect speech communication and cause an increased number of medical errors. Conventional acoustical treatments are used in hospitals; these face great noise abatement challenges and hygienic standards. Dr. West’s work is a collaboration with industry to develop new materials to solve or mitigate the noise problems in hospitals.

Prior to coming to his current position, Dr. West was a Bell Laboratories Fellow at Lucent Technologies. He holds more than 50 U.S. and about 200 foreign patents on various microphones and techniques for making polymer electrets and transducers. He was inducted into the National Inventors Hall of Fame in 1999 for the invention of the electret microphone. He is a member of the National Academy of Engineering; a Fellow, past President, and past member of the Executive Council of the Acoustical Society of America; and a Fellow of the IEEE. Dr. West is the recipient of numerous awards, including the Gold Medal (2006) and the Silver Medal in Engineering Acoustics (1995) both from the Acoustical Society of America, and the Audio Engineering Society Richard C. Heyser Memorial Lecturer in 2002.

To listen to Dr. West’s lecture go to our home page at www.me.gatech.edu and click on the 2008 Gegenheimer Lecture.

THE CLASS OF 2009 RECOGNITION RECEPTION
All the hard work of our graduating students was celebrated at the Class of 2009 Recognition Reception held on Friday, May 1st at the Ferst Center for the Arts. The program honored those students who received a bachelor’s, master’s, or doctoral degree from the Woodruff School in the spring and summer terms. There were brief talks by the Woodruff School’s Distinguished Alumnus and the Zeigler Outstanding Educator to inspire the graduates as they leave Georgia Tech to make an impact on and better our society. There was also an opportunity to meet the School Chair and some of the people in the Woodruff School who helped the students along the way to graduation. Brandon Kearse (BSME 2009) was the undergraduate student speaker and Matthew Rogge (Ph.D. ME 2009) was the graduate student speaker. Dr. David Rosen and Dr. Dave Sanborn, associate chairs for graduate and undergraduates studies, respectively, highlighted the achievements of the graduates.

Family and friends of the graduates were invited to the celebration and reception. They joined us from many states, including California, Florida, Georgia, New York, New Jersey, North Carolina, South Carolina, and Tennessee, and countries such as Columbia, Dominican Republic, and France.

THE JACK M. ZEIGLER OUTSTANDING EDUCATOR
The Jack M. Zeigler Outstanding Educator Award was created in 1999 to honor members of the School’s academic faculty who epitomize outstanding educators. The winner is announced at a Woodruff School spring event, and receives discretionary funds to use for professional development, such as travel, computers, and support of students. The winner is invited to deliver the Zeigler Outstanding Educator Lecture at an assembly of the Woodruff School.

The Jack M. Zeigler Outstanding Educator Award for 2009 was given to David N. Ku for his contributions to education at Georgia Tech at the personal and programmatic levels. Dr. Ku was an early and key player in the development and implementation of the biomedical engineering program at Georgia Tech, and he was a leader in the development of the entrepreneurship program, which sparked a real interest among students and faculty. Dr. Ku has also been strongly involved in the development of the undergraduate Technology and Management minor, which teams management and engineering students, sensitizing and educating both groups for their future careers. Finally, he has mentored a multitude of undergraduate researchers over his career at Georgia Tech.

Dr. Ku began his career at Georgia Tech in 1986 as an Assistant Professor. He was promoted to Associate Professor in 1990 and to Professor in 1995. He was named a Regents’ Professor in 1998 and to the Lawrence P. Huang Endowed Chair for Engineering Entrepreneurship in 2000. He holds a B.A. from Harvard University.

Announcement: The Woodruff Distinguished Lecture was established in 1990 to honor an engineer who has made a significant contribution to society and to provide a forum for that person to interact with the Georgia Tech community. So, we are pleased to announce that Dr. Daniel Mote, President of the University of Maryland at College Park, will deliver the 2010 Woodruff Distinguished Lecture on April 13th. To listen to or read the transcripts of some past lectures, go to http://www.me.gatech.edu/news/gwwlectures.shtml.
GEORGE W. WOODRUFF SCHOOL OF MECHANICAL ENGINEERING

GEOTWORM\textsuperscript{\textregistered} motorsports (Formula SAE) and GT Off-Road (SAE Baja) displayed their new cars, although unfinished at the time of the joint event. The teams were able to do a practice run of their marketing presentations before participating in team competitions.

The Woodruff School Distinguished Alumnus Award was inaugurated in 1989 to recognize an outstanding alumnus of the Woodruff School. The names of the winners are on permanent display in the lobby of the MRDC Building at Georgia Tech. The 2009 winner is Mr. Bill Thacker (ME 1967). He is the Chairman and CEO of TEPPCO Partners, L.P, a four billion dollar publicly traded pipeline, petroleum storage and crude oil marketing company located in Houston. He started his 40-plus year career in the energy sector in 1967 with Unocal Corporation as a refinery engineer in Beaumont, Texas. He served the energy industry in numerous positions including Chairman of the Executive Committee of the Association of Oil Pipelines and as a Director of the American Petroleum Institute. After retiring from full-time responsibilities in 2002, he continued his industry involvement by becoming a corporate director for two energy companies in Houston and a merchant electrical power producer in Atlanta. He is also President of Montgomery County, Texas Habitat for Humanity.

A sixth generation Georgian from Cherokee County, he spent his youth in the Atlanta area before graduating from Georgia Tech in 1967 with a bachelor’s degree in mechanical engineering. He went on to earn his MBA from Lamar University and is a graduate of the Executive Development Program at The Kellogg Graduate School of Business at Northwestern University.

A supporter of Georgia Tech since graduation, Bill Thacker has been a member of the Roll Call for 42 consecutive years. He served ten years on the Woodruff School Advisory Board and is a member of the College of Engineering Academy of Distinguished Engineering Alumni and the Georgia Tech Founders’ Council. He was on the Houston area steering committee for The Campaign for Georgia Tech and he and his wife Susan have funded Presidential Scholarships for minority students in the College of Engineering.

At the beginning of the fall term, we held a Woodruff School Welcome Social for our undergraduate and graduate students, faculty, and staff. Mayfield ice cream was served by faculty members to about 1500 attendees.

Family Weekend Open House in the Woodruff School is a chance for the families of our undergraduate students to learn about what their students are being taught, meet the undergraduate advisors, tour our facilities, see what the student competition teams are working on, and talk with some student leaders.


The ASME Spring Picnic Toward the end of the spring term, the student chapter of the American Society of Mechanical Engineers (ASME), one of the largest organizations on campus, held its annual spring picnic. Lunch and tee-shirts were provided by the chapter.


Dr. Ku is interested in cardiovascular pathophysiology, unsteady three-dimensional fluid mechanics, medical implants, and commercialization of university research. His basic research focuses on acute coronary syndrome from plaque rupture due to collapse and platelets sticking under high shear stress. His projects span device design and development of bench tests to predict clinical performance. Dr. Ku teaches entrepreneurship and product development to bring technological solutions to the bedside.

Dr. Ku is a Fellow of the American Institute for Medical and Biological Engineering, a licensed physician in Georgia, and the holder of five U.S. patents. He won the Gustus L. Larson Memorial Award and the Y. C. Fung Young Investigator Award (Bioengineering Division), both from the ASME, received a National Science Foundation Presidential Young Investigator Award, and was a Woodruff School Faculty Fellow.

ACCREDITATION

Georgia Tech has institutional accreditation from the Commission on Colleges of the Southern Association of Colleges and Schools (SACS) to award bachelor’s, master’s, and doctoral degrees. The undergraduate programs for the bachelor of science in mechanical engineering (BSME), (BSME-RME) and the bachelor of science in nuclear and radiological engineering (BSNRE) are accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, Maryland, telephone: (410) 347-7770. For more information about our undergraduate programs, go to www.me.gatech.edu; see, in particular, the sections on accreditation and undergraduate programs. The Georgia Tech Cooperative Program is accredited by the Accreditation Council for Cooperative Education.

RANKINGS AND SURVEYS: HOW DO WE COMPARE?

According to the 2009 annual rankings by U. S. News & World Report of the best graduate schools in the United States, Georgia Tech made another strong showing. The graduate program in mechanical engineering rose to number six (up from number 7 the previous year), nuclear engineering rose to number 8 (it was 9th last year), and the College of Engineering was ranked number four for the fifth consecutive year. Woodruff School Chair Bill Wepler said, “This national recognition is especially gratifying as it comes at the end of a very difficult and challenging year which has seen record enrollments, large class sizes, and decreased budgets. The dedication of our faculty, staff, and students to the success of our School is both awesome and inspiring.”

Other Rankings

- The Woodruff School’s undergraduate program in mechanical engineering is tied for 4th and the College of Engineering is tied for 5th for its undergraduate programs according to U.S. News & World Report.
- Georgia Tech is tied for 7th among Top Public Schools and is 35th among National Universities in U.S. News & World Report.
- Georgia Tech is ranked number 8 in the U.S. News & World Report Top Engineering and IT Universities in the World. (Six of the top ten universities are in the United States.)
- According to The Princeton Review listing of Green Colleges, Georgia Tech is on The Green Honor Roll.
- Georgia Tech ranks 4th on the list of public schools in terms of the payback that a degree from a college gives when tuition and future salaries are included, according to Smart Money Magazine.
- The Chronicle of Higher Education Survey on Top Schools To Work For: Among the top-five schools in the 2009 list of four-year colleges to work for, Georgia Tech was 5th in Good Relations between Faculty and Administration (large schools), 2nd in Good Teaching Environment (large schools), and 5th in General Honor Roll (large schools).

UNDERGRADUATE PROGRAM REVIEW

[This review was prepared by Dr. David Sanborn, Associate Chair for Undergraduate Studies.]

The undergraduate program in mechanical engineering continues to experience enrollment growth at both the Atlanta and Savannah campuses. The enrollment this August was 1629 (up 2%) in Atlanta and 63 (up 26%) in Savannah. Mechanical engineering programs across the country are seeing large enrollments as students realize that the program is very important in solving the nation’s current and future challenges. The undergraduate program in mechanical engineering at Georgia Tech is, by far, the largest in the country. To meet the demands that this places on our program, additional faculty members have been hired and we have increased class sizes. Laboratory and design studio classes have been kept small, but more sections have been added.

The mechanical engineering degree program (BSME) in Atlanta received an extension of its ABET accreditation. The degree of Bachelor of Science in Mechanical Engineering Regional Engineering Program (BSME – RME) in Savannah received its initial ABET accreditation. The RME program was accredited retroactively to include degrees awarded after October 1, 2006. Both degrees are accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – telephone (410) 347-7700.

An increasing number of students at both campuses are choosing to do a research project as a way to satisfy one of their required mechanical engineering electives. This has resulted in the School now receiving 14 percent of all the President’s Undergraduate Research Awards (PURA) given at the Institute. Well over one-hundred projects are now undertaken each year.

Improvements are being made to the capstone design experience. In addition to more faculty involvement, a prototyping lab (the Invention Studio) has been created and includes both basic tools and an abrasive water jet machine. Additional companies have been recruited to provide both funding of the projects and applicable design projects for the student teams. Dr. Craig Forest has taken the lead in upgrading both the facilities and the course content. After a successful start last year, we have continued to have the Capstone Design Expo for the design projects at the end of fall and spring terms. The Savannah students also participate in the event held in Atlanta. Representatives from companies participating in projects at either campus are invited to come and be one of the project judges. More than 70 different design projects were presented last year.
UNDERGRADUATE RESEARCH

Georgia Tech encourages undergraduate students to participate in quality and substantive research. Several options are available in the Woodruff School for a Special Problems course or an Undergraduate Research course. ME/NRE 4699 is the undergraduate research course for juniors and seniors and qualifies as an elective for mechanical engineering and nuclear and radiological engineering majors. ME/NRE 4698 is for research internships for juniors and seniors, where students are paid for working on a project either part-time or full-time. Each course requires a written final report and that the student work with a faculty member. ME/NRE 4901 and 4903 are non-research special problems classes. Each year the number of students participating in some undergraduate research continues to grow. In the past academic year (summer 2008 through spring 2009) 130 projects were done in the Woodruff School (118 ME, 12 NRE).

The PURA Awards

Woodruff School students have been very successful in getting President’s Undergraduate Research Awards (PURA). PURA funds requests by a student/faculty team to support undergraduate student involvement in faculty research. The awards are for student salaries and travel expenses for the student to attend professional meetings to give a presentation. The following students and their faculty mentor won a PURA for summer 2008: Chun Chu (Kyriaki Kalaitzidou) and Anderson Smith (Bill Singhose). In Fall 2008, the awards went to: Susie Cha (Christine Valle), Chun Chu (Kyriaki Kalaitzidou), Aayush Daftari (Bill Singhose), Will Hardin (Richard Neu), Adrit Lath (Bill Singhose), Michael Lennard (Chris Paredis), and Robert Parrish (Raghuram Pucha).

In Spring 2009, the winners were: Roan Alexander (Tim Lieuwen), Jose Antezana (Tim Lieuwen), Justin Branley (NRE student) (Chaitanya Deo), Haley Carney (Tequila Harris), Michael Hurst (ME major/ECE project), Jeremy Hurwitz (David Ku), Nivedh Manohar (NRE student) (Sang-Hyun Cho), Kadija McAnuff (BME student) (Andres Garcia), Bajin Mehnet (ChB student) (Robert Guldberg), Melissa Minneci (Ken Gall), Shweta Natarajan, (Tim Lieuwen), Yasaman Nemat bakhsh (Raghuram Pucha), Munir Pathak (ISyE student) (Todd Sulchek), John Semmens (Raghuram Pucha), Shane Stimpson (NRE student) (Chaitanya Deo), Amy Varallo (NRE student) (Ken Gall), Joel Weber (Nazarin Bassiri-Gharb), and Michael Wildes (BME major) (David Ku).

THE INVENTURE PRIZE COMPETITION

New this year was The InVenture Prize. Dr. Ray Vito, Vice Provost for Graduate and Undergraduate Studies and Professor of Mechanical Engineering, Drs. Craig Forest (ME), Merrick Furst (COC), and Ravi Balamkonda (BME) met to discuss creativity and innovation among students. As a result, the InVenture Prize was born. The objective of the competition is to create incentives, resources, and a structure of undergraduate student innovation and entrepreneurship in a fun, high-profile event. The goal of the event is to encourage an interest in invention, innovation, and entrepreneurial lifestyle amongst GT students and create an infrastructure, culture, and focus that galvanizes, captures, and highlights student inventiveness.

The competition began with 62 students submitting proposals for 28 products. After several rounds of judging, eight inventions advanced to the final round of the competition in March. After faculty judges, Terry Blum (COM), Merrick Furst (COC), David Ku (ME) and Joy Laskar (ECE) whittled the field down to four inventions, the students then had five minutes each to discuss their products and business plans with a group of distinguished Georgia entrepreneurs: Steve Dickerson, professor emeritus in ME and founder and chief technical officer of CAMotion, Inc., Chris Klaus (CS 1996), the founder and CEO of Kaneva Inc., and Parker H. Pete Petit (BME 1962, MSES/M 1964), entrepreneur. In addition to the team prize of $10,000 and the individual prize of $5,000, students received a paid internship to work on their ideas and free business services.

This new facility was made possible with the generous support of individual sponsors (Schlumberger, Ford Motor Company, Air Products and Chemicals, Inc., Rolls-Royce Limited, Deere & Company, Caterpillar Inc., Radiant Systems, Whirlpool Corporation, and Steam Dancer), a partnership between ME 2110 (Creative Decisions and Design) and ME 4182 (Capstone Design), and support from the School Chair to many faculty in the Woodruff School. If you are interested in helping to support The Invention Studio and foster creativity and invention in the Woodruff School, please contact Dr. Craig Forest at cforest@gatech.edu.
PROFESSIONAL PRACTICE PROGRAMS

The Division of Professional Practice (DoPP) at Georgia Tech offers four unique programs: the Undergraduate Cooperative Program, the Georgia Tech Internship Program (GTIP), the Graduate Cooperative Program, and Work-Abroad Programs. More than 3,000 Georgia Tech students currently participate in the four programs, all of which are voluntary. Co-op students and interns are employed by more than 1,000 businesses and organizations, worldwide. According to Tom Akins, Executive Director of the Division of Professional Practice, “Students tend to choose mechanical engineering because of its flexibility and the ability to work in almost any industry with that degree. Many of them are looking at the automotive field, but are very open to experience other areas. Demand from employers still remains good, in spite of the economy, partly due to the overall appeal that mechanical engineering students from Georgia Tech have.”

The Undergraduate Cooperative Program
Since 1912, Georgia Tech has offered a five-year undergraduate cooperative program to those students who wish to combine career-related experience with classroom studies. The program is the fourth oldest of its kind in the world, and the largest optional co-op program in the country. Students alternate between industrial assignments and classroom studies until they complete four or five semesters of work. Students who participate in the program have the opportunity to develop career interests, become more confident in their career choices, and develop human relations skills through their work experience. Mechanical engineering students are the largest group in the co-op program. In the past academic year, 82 students received a bachelor’s degree with a Cooperative Plan designation.

The enrollment in the program was 430 co-ops (422 ME, 8 NRE) in summer 2008; 597 co-ops (572 ME, 25 NRE) in fall 2008; and 603 co-ops (579 ME, 24 NRE) in spring 2009. In that period, the students earned an average starting salary of $14 per hour. The largest employers of mechanical engineering students were: McKenney’s, Newcomb & Boyd, Southern Company, GE Power Systems, HESM & Associates, Slingshot Product Development, Gulfstream, Deere & Co., General Motors, and GE Aviation. The largest employers of NRE students were Southern Company, Institute of Nuclear Power Operations (INFO), GE Power, US Nuclear Regulatory Commission, and Enerecon.

The Graduate Cooperative Program
The Georgia Tech Graduate Cooperative Program was established in December 1983 and is the largest such program in the United States for science and engineering. Graduate student co-ops can and attend classes at the same time; they do not get a co-op designation on their degree. Fourteen mechanical engineering graduate students participated in the program in the past academic year, working for Continental AG, Intel, IBM, Kimberly Clark, Georgia Tech, and AFB. Although ME’s are the largest group in the graduate co-op program, they are usually around 9th or 10th in the graduate co-op program. Tom Akins attributes this to the fact that so many Woodruff School graduate students are fully funded and do not seek out additional funding.

The Georgia Tech Internship Program (GTIP)
The Georgia Tech Internship Program, previously referred to as the Undergraduate Professional Internship Program, is geared toward students who do not participate in the Cooperative Program, but want some career-related experience before graduation, typically juniors and seniors. In the past academic year, 92 students (85 ME, 7 NRE) participated in the program (64 in summer 2008, 19 in fall 2008, and 9 in spring 2009). Students generally work for one semester with an option for more work later on. Employers of these students were: Brasfield & Gorrie, CH2M Hill, Bell Helicopter, Harley Davidson, Siemens, Pratt & Whitney, Norfolk Southern, Georgia Tech, Deere & Co., Toyota, GE, and GM, just a few of the sixty different employers this year.

The Work-Abroad Program
As part of the International Plan which began at Georgia Tech in 2005, the Work-Abroad Program was established to provide students opportunities to practice their respective professions outside the United States, and be immersed into a different culture. The program is designed to complement a student’s formal education with paid practical international work experience directly related to the student’s major. Juniors, seniors, and graduate students are all eligible for this program, which includes co-op, internship, and graduate and undergraduate work experiences. The international work assignments are designed to include practical training, cross-cultural exposure and learning, and acquisition of the skills that will set apart the participating students from their peers. In the past year, more than 100 students worked abroad on five continents. Countries of employment include: Germany, France, India, and China. From fall 2008 through summer 2009, twelve ME students participated in the program. ME is the 3rd largest participant in this program, behind ISyE and BME.

THE BS/MS PROGRAM
Outstanding sophomores and early juniors in the Woodruff School are invited to apply to the BS/MS Degree Program. Students can earn two degrees, usually in a five-year period: An undergraduate degree in mechanical engineering or nuclear and radiological engineering and the master’s degree in mechanical engineering, nuclear and radiological engineering, medical physics, bioengineering, or paper science and engineering. Graduate course work begins in the senior year. Most master’s students do a course work only program (nonthesis option).

According to Dr. Christine Valle, who advises mechanical engineering BS/MS students once they have matriculated into the graduate program, “The BS/MS Program is an intensive, rigorous plan of study that allows meritorious students to receive both BS and MS degrees within less time than it would take to apply to these programs separately. Many employers seek such students and consider this combination to be invaluable.”

There are 146 students in the BS/MS Program: 119 ME, 18 NRE, 7 MP, and 2 BioE. In the past academic year, fourteen students received their bachelor’s degrees and matriculated into the graduate program: Alice Cheung (NRE), Kevin Connolly (NRE), David Creasy (ME), Scott Ducey (ME), Benjamin Good (NRE), Benjamin Lee (ME), Robin Lavrentz (ME), Victoria Murawski (ME), Jaeho Oh (ME), Jordan Rader (NRE), Sara Rahnema (NRE), Callie Reis (ME), Fernando Reiter (ME), and Matthew Von Arx (ME). One indicator of the success of the program is that some students have decided to pursue the Ph.D. They are: Alice Cheung, Kevin Connolly, Benjamin Good, and Justin Pounders, all in nuclear engineering, and Phuc Dao, Shao Hui Foong, Jacob Kunz, and Jin Song, all in mechanical engineering. In the past academic year, one student received an MSME degree: Ryan Stewart.
The Graduate Program

In the past year, the Woodruff School Graduate Program has continued the momentum built over recent years. The School graduated 43 Ph.D. students and a record 213 master’s students. With the combined M.S. and Ph.D. enrollment for Fall 2009 of 773, our graduate program continues to be the largest in the country. At the same time, the quality of our program keeps increasing, moving up to 6th place in the U.S. News & World Report rankings.

Our graduate programs continue to be in high demand with a record number - 950 - of applicants this past academic year. Of these applicants, 224 matriculated in Fall 2009. Much of the increase in applications came from overseas. Of these incoming students, 75 received a GRA/GTA offer, indicating that they have outstanding academic records. The areas of energy, sustainability, and biotechnology, as well as other multidisciplinary areas, were of strong interest to the many applicants.

During the past year, the Graduate Committee tested a new policy that allows undesignated GRA/GTA offers to international students, which increases our ability to attract top international applicants. Faculty proposed new courses in the mechatronics area and in architectural acoustics. Joint Ph.D. programs are under development with the top Italian universities of Politecnico di Torino and Politecnico di Milano.

Upon graduation, our students continue to enjoy excellent employment prospects, in spite of the economic downturn. The energy, defense, and electronics sectors have had strong hiring needs, and our students are pursued aggressively by companies in these areas. Even companies in more traditional manufacturing areas have been hiring. Additionally, we continue to place significant numbers of graduates in academia and government laboratories. Students and employers continue to value the top quality education available in the Woodruff School.

Introducing the New Associate Chair for Graduate Studies

Professor Paul Neitzel recently assumed the position of Associate Chair for Graduate Studies in the Woodruff School. He has thirty years of experience in university teaching and research and has been on the Woodruff School faculty since 1990. Prior to coming to Georgia Tech he was a faculty member at Arizona State University. His research interests are in the field of fluid mechanics, in general, focusing attention in recent years on flows with interfacial effects and flows within bioreactors used for tissue engineering.

Dr. Neitzel received his Ph.D. from The Johns Hopkins University in 1979. He is a Fellow of the American Society of Mechanical Engineers and the American Physical Society, and an Associate Fellow of the American Institute of Aeronautics and Astronautics.

In his role as Associate Chair, one of Dr. Neitzel’s emphases will be to expand recruiting efforts, both domestically and abroad. “We would like to convince some of the students we typically lose to institutions like MIT, Berkeley and Stanford to come to Georgia Tech for their Ph.D.s and face-to-face interactions can assist in this endeavor.” Dr. Neitzel has significant connections in Europe, having spent time as a visiting professor in Germany, France and England, so he will be looking to recruit from those places, too. Some of the partnerships that result may also provide opportunities for U.S. students to do a portion of their research abroad, providing a more global perspective to their graduate education.

NRE/MP Programs Summary

The Nuclear and Radiological Engineering and Medical Physics (NRE/MP) programs continued to create and offer new courses and completed the offering of the first year of the expanded MSMP curriculum. New graduate courses offered for the first time were Radiological Anatomy, Medical Health Physics, Radiation Dosimetry, Monte Carlo in Medical Physics, Radiation Shielding, Fast Reactor Physics, and Radioanalytical Chemistry.

The growth of the academic and research laboratories has continued during the past year. A new neutron generator and associated electronics were added to the Radiation Physics Laboratory for implementation of additional experiments in this course. The first experiment that was introduced in spring 2009 was the measurement of the alpha eigenvalue for a natural uranium and graphite subcritical assembly. We are thankful to Southern Nuclear Operating Company for providing funds to make this enhancement possible.

A new faculty member, Dr. Lei Zhu joined the NRE/MP programs as assistant professor in August 2009. Dr. Zhu obtained his Ph.D. in electrical engineering from Stanford University and spent three years as a postdoctoral fellow in the radiology department. At Georgia Tech, he has begun creating an Advanced X-Ray Imaging and Therapy Optimization Laboratory with a multi-functionality platform designed for development of advanced imaging technologies to provide improved treatment guidance in modern radiation therapy. The system has the full functionality of an x-ray cone-beam CT commonly used in the current image-guided and adaptive radiation therapy. It can also perform PET imaging, which plays an important role in biology-guided radiation therapy.

Frank K. Webb Program in Professional Communication

The Frank K. Webb Program in Professional Communication was established in 1990 to teach students verbal and written communication skills. The Woodruff School has made the teaching of these skills an integral part of the undergraduate engineering curriculum. Program Coordinator Dr. Jeffrey Donnell (Ph.D. in English from Emory University) provides formal instruction to students in four required laboratory and design courses: Creative Decisions and Design (ME 2110); Experimental Methodology Lab (ME 3057); Mechanical Systems Lab (ME 4053); and Capstone Design (ME 4182). In support, he trains and oversees teaching assistants as they edit and grade written and oral reports. Donnell instructs the students on how to prepare reports and presentations, reviews project reports, and provides written feedback to the students on their projects, reports, and presentations. He also provides guides to writing skills, sample reports, and lectures on communications skills specific to engineers.

Graduate students receive help with graduate school and fellowship applications. In addition, they receive instruction in communications early in their graduate careers when they are preparing their first manuscript, be it a proposal, a journal article, or a conference presentation. Each fall and spring semester, Dr. Donnell and the Associate Chair for Graduate Studies present a How to Prepare a Fellowship Application Workshop for first-year graduate students and seniors who want to go to graduate school.

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Sadly, Mr. Webb passed away at the end of 2008. The Woodruff School is very grateful to Mr. Webb for his endowment and continued support of this program. For more information about Mr. Webb, see p. 32 of this report.
GEORGIA TECH LORRAINE

[This report was provided by Dr. Yves Berthelot, Vice Provost and President of Georgia Tech Lorraine and Professor.]

Georgia Tech expanded its global footprint into Europe in 1990 and since 1997, the Woodruff School has a strong presence at Georgia Tech Lorraine (GTL). GTL's mission is to enable innovative collaborations with academic, industrial, and funding agencies in France, the European Union, and the United States. The past academic year was a significant year for growth at GTL, highlighted by:

- Mr. John Schuman joined the GTL staff on the Atlanta campus as Marketing Manager.
- GTL achieved record enrollment in the summer program, increasing applications by 168 percent from the previous academic year. Two hundred students (41 from the Woodruff School) participated in the GTL summer 2009 program, an increase of 59 percent from the previous year. In addition to their classroom education, students participated in various off-campus events, such as visiting the European Parliament and some historical sites of World War II.
- In Fall 2009, GTL has 214 students (88 ME) enrolled, representing 18 countries. Of these students, 137 (17 BS, 62 MS, 18 Ph.D.s) are enrolled in Metz, 41 European students will be finishing their MS in Atlanta, and 36 students are interning in Europe and the U.S.
- The past academic year was, once again, marked by rapid growth in research. The GT-CNRS UMI laboratory, a joint laboratory between GT and the largest research organization in Europe, the French Centre National de la Recherche Scientifique, expanded its relationship by opening the Atlanta arm of the international laboratory, UMI 2958. In ME, the main research area of the UMI is advanced materials.
- Research contracts have been obtained from the Agence Nationale de la Recherche, the European Union, and four contracts with private companies (Leach-Esterline, Thalès, France Telecom, and Schlumberger). In addition, significant equipment grants from the National Government and the Region of Lorraine have been used to equip the laboratories. Currently, 23 Ph.D. students (12 ME) and nine postdocs (4 ME) are doing research at GTL.

- Thanks to the growing strength of its industrial partnerships several recent graduates joined the High Potential programs of large European companies. In particular, Audric Saillard (Ph.D. ME candidate) at EADS and John Van der Weide (MSME 2006) at AREVA. The High Potential programs represent extremely selective hiring processes (typical selection rate is 1-3%), and have a large list of candidates selected, clearly indicating that its industrial partners recognize GTL as an elite institution for developing global technological leaders.

STUDY-ABROAD PROGRAMS AT GEORGIA TECH

Georgia Tech strongly believes in the importance of an international experience for both undergraduate and graduate students. Student interest in these programs has been growing steadily for several years. During the past academic year, almost 1200 Georgia Tech students participated; 667 were from schools in the College of Engineering. Also, 143 (134 ME, 9 NRE) Woodruff School students participated in various study-abroad programs. The most popular programs for Woodruff School undergraduate students were: Georgia Tech Lorraine (France) Undergraduate Program, the Oxford (England) Summer Program, and the Shanghai Summer Program.

Other students participated in:

- American University in Cairo (Egypt) Exchange Program
- Barcelona Summer Program
- Chinese LBAT
- East Asia Summer Program
- Georgia Tech Lorraine Graduate Program
- German LBAT
- Hong Kong University of Science and Technology Exchange Program
- Korea Advanced Institute of Science Technology Study/Work Abroad Program
- National University of Singapore Exchange Program
- Non-GT Program
- Pacific Spring Study Abroad Program (Australia)
- Technical University of Munich (Germany) International Study and Internship Program
- University of Leeds (England) Semester Academic Year Program
- University of New South Wales (Australia) Summer Exchange Program
- University of Technology in Compiegne (France) Study/Work Abroad Program
- Victoria University Wellington (New Zealand) Exchange Program
- Yonsei (South Korea) Summer Exchange Program

According to Amy Henry, Executive Director of International Education, “While many of Georgia Tech’s counterparts across the country saw study-abroad numbers decline in 2008-2009, Georgia Tech’s overall study abroad numbers increased. Georgia Tech moved closer to its goal of sending fifty percent of students abroad prior to graduation, with the undergraduate percentage now at 40 percent up from 38 percent last year.”

LEARNING FROM A DISTANCE PROGRAM

The Woodruff School offers two graduate degrees as part of its distance-learning program: the master’s degree in mechanical engineering and the master’s degree in medical physics. The admission and course requirements, and the degree received are the same as for on-campus students. In fall 2009, 185 students are enrolled (172 ME, 12 MP), and 33 students matriculated into the program (31 ME, 2 MP). Of the 156 nonthesis master’s degrees awarded, sixty-two were awarded in the past academic year: 30 in summer 2008, 11 in fall 2008, and 21 in spring 2009. This is a record number of degrees awarded through the distance program.

Graduate-level courses are available online, or by video-on-demand downloads, videoconferencing, and DV/CD’s. Students receive class handouts and materials electronically or by mail. In the past academic year, the Woodruff School offered 41 courses for the distance program. Of these, ten were courses in NRE/MP. There are a few courses where the enrollment is almost equally divided between on-campus and distance. In summer 2008, Dr. Sheldon Jeter taught ME 8813QJE, Principles of Energy Systems Modeling, which had 43 enrolled, all distance-learning students.
CAREERS

The number of employers visiting Georgia Tech to recruit Woodruff School students remained high, although down from the previous year. Fewer BSME students found employment at the time of graduation. In spring 2009, the percentage finding employment had dropped to 61 percent, down from 79 percent the year before. According to Ralph Mobley, Director of Career Services, “This is pretty much in line with engineering in general. For the entire college, the percentage finding employment dropped to 59.8 percent down from 71.5 percent. So, as it stands, ME did slightly better than the College of Engineering as a whole.”

SCHOLARSHIPS

Many awards recognize academic achievement, leadership, and outstanding service to the Woodruff School, the College of Engineering, and the Institute. Many undergraduate students in the Woodruff School receive some type of scholarship and many of our graduate students have fellowship funds.

HOPE SCHOLARSHIPS

Almost all of our incoming, in-state students receive HOPE scholarships, the tuition program financed through the Georgia State Lottery. After completing the first year at Georgia Tech, approximately fifty percent of the freshman class retains their scholarships. Students need to maintain a 3.0 grade point average each term to keep the HOPE scholarship.

PRESIDENT’S SCHOLARSHIP PROGRAM

The President’s Scholarship Program identifies students who have excelled in academia and leadership in high school. Financial awards are for four academic years, and students are expected to maintain honors-level academic performance and be involved in campus or community activities. These Tech scholars have an overall grade point average (GPA) of 3.68; enrolled Woodruff School President’s Scholars have a 3.71 GPA. A total of 1,347 President’s Scholars have graduated since the program began in 1981.

There are currently 261 President’s Scholars enrolled at Georgia Tech in fall 2009, the same number as last fall. There are 67 new scholars who started this fall, the same number as last year, and four of these are ME/NRE students. Current President’s Scholars in ME are: Joshua Adair, Rachel Andrews, Blake Bernard, Laura Carpenter (new), Matt Hoffman, Katie Hornbostel, Andrew Hsu (new), Tyler Jackson, Parul Kapur, Kyra Key, Alec Manfre, Daniel Murphy, Rob Parrish, Alexander Rudat, Thevuthasan Senthuran (new), Meatro Shoun, Brian Smith, Liz Tans, Michael Valente, Dustin Watts, and Emily Woods. Students with an NRE major are: Colin Bowers, Alex DeFreese (new), and Amy Varallo.

When asked if any of this year’s budget issues impacted the program, Randy McDow, Director of the President’s Scholarship (PS) Program said “Because the PS Program is privately funded by alumni and other donors, the PS Program has not been substantially impacted by the budgetary situation, unlike many of our peer universities.”

A SALVING OF THE PLACES THAT HIRE WOODRUFF SCHOOL UNDERGRADUATE STUDENTS

All types of employers, representing every industry hire Woodruff School students. A sample of some of the larger employers:

Babcock & Wilcox
Bell Helicopter
BP
Caterpillar
Deere & Co.
Duke Energy
Eastman Chemical Co.
Ernst & Young
ExxonMobil
Fluor Corporation
Ford Motor Company
General Mills
GE Power Systems
GE Aviation
General Motors
Gulfstream Aerospace
Hewlett-Packard
Honda Manufacturing
Honeywell
International Paper

Kimberly Clark
Kubota Tractor
Lockheed Martin
McKenney’s Inc. Mechanical Contractors/Engineers
Michelin North America
Milliken & Company
NASA
National Instruments
Newcomb & Boyd
Northrop Grumman
Procter & Gamble
Rockwell Automation
Savannah River Nuclear Solutions
Schlumberger
Siemens
Southern Company
Trane
United Technologies

SALARY DATA FOR THE COLLEGE OF ENGINEERING (COE) AND THE WOODRUFF SCHOOL IN SPRING 2009

<table>
<thead>
<tr>
<th>Degree</th>
<th>Median Salary</th>
<th>Median Bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE BS</td>
<td>$60,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>BSME</td>
<td>58,666</td>
<td>4,000</td>
</tr>
<tr>
<td>COE MS</td>
<td>71,000</td>
<td>5,000</td>
</tr>
<tr>
<td>MSME</td>
<td>70,500</td>
<td>5,000</td>
</tr>
<tr>
<td>MSMP</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>MSNE</td>
<td>52,086*</td>
<td>4,000</td>
</tr>
<tr>
<td>COE Ph.D.</td>
<td>95,400</td>
<td>10,000</td>
</tr>
<tr>
<td>Ph.D. ME</td>
<td>108,000*</td>
<td>10,000</td>
</tr>
<tr>
<td>Ph.D. NE</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

*The number of students reporting is very low.
WOMEN IN ENGINEERING EXCELLENCE AWARDS

Each year the Excellence Awards Banquet is held to celebrate the academic excellence and leadership achievements of female engineering students in the College of Engineering. This event brings together students, alumni, corporate partners and Institute leaders to recognize the accomplishments of female engineering students who have achieved “high honors” status by earning a cumulative grade point average of 3.35 and above. As a testimony to the excellence of COE’s female undergraduate students, last year, more than 609 female engineering students, representing nearly forty percent of COE’s female engineering students, qualified for this event. In addition to the Women in Engineering Excellence Awards, the event also recognizes students and faculty leaders through Student Mentoring Awards, Faculty Mentoring Awards, and Teaching Excellence Awards, which are given annually. The corporate sponsors are committed to increasing the number of women in the technical, engineering, and scientific fields. In 2009, 109 scholarships, totaling $122,000 were given. Seventy-two Woodruff School students qualified to attend the banquet, and twenty-six of those (24 ME, 2 NRE) received scholarships totaling $30,000. The names of the winners and the corporate sponsors of their scholarships are:

- **Alcoa Scholarship**: Hibisca Liaw
- **Boeing Scholarship**: Lindsay Brandino, Elizabeth Cadogan, and Kristine Carnavo
- **Eaton Scholarship**: Elisabeth Byrd
- **Ford Scholarship**: Sarah Chapman and Melissa Minneci
- **John Deere Scholarship**: Clarissa Chavarria, Amy Cheben, and Jennifer Gordon
- **Kimberly Clark Scholarship**: Lauren Gross and Casandra Hadad
- **Pay It Forward Scholarship**: Aida Sefic
- **Rockwell Scholarship**: Rachel Andrews, Caitlin Chapin, Victoria Lewis, Meghan McCandless, and Melissa Orr
- **Schlumberger Scholarship**: Yasaman Nemat Bakksh, Gwendolyne Rodgers, and Amanda Swanson
- **Shell Scholarship**: Phares Carroll and Katherine Hornbostel
- **United Technologies Scholarship**: Peri Levy-Faigen, Emily Woods (NRE), and Lisa Worthington (NRE)

ARCS SCHOLARS

The Achievement Rewards for College Scientists (ARCS) Foundation helps meet our country’s need for scientists and engineers by providing scholarships to academically outstanding students to help them complete their higher education. The Atlanta Chapter gives scholarships to students from Emory University, Georgia Tech, Morehouse College, and the University of Georgia. At Georgia Tech, recipients come from the Woodruff School, the College of Computing, and the Stewart School of Industrial and Systems Engineering.

Ryan Austin (Dave McDowell, advisor), Aaron Enes (Wayne Book, advisor), and Jonathan Clausen (Cyrus Aidun, advisor) are the new ARCS Scholars in the Woodruff School for the 2009-2010 academic year. Janine Johnson (Jianmin Qu, advisor) is a returning ARCS Scholar. ARCS provides a $6,000 supplement to the student’s current graduate research assistantship stipend. Scholarships are awarded to senior doctoral students in recognition of high scholastic achievement, including a GPA of 3.5 or higher, good progress toward their degree, and are U.S. citizens.

The Woodruff School has 29 alumni scholars. New alumni are Shelby Highsmith (Ph.D. ME 2009) and Scott Kasparzak (PhD. ME 2009). Stephanie Thompson (PhD. candidate) will complete her doctoral studies in late 2009. The first alumni scholar was Deborah Kilpatrick who finished in 1996.

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIPS

In early 2009 NSF announced the winners of the awards.

- **Terry Caston** (Tequila Harris, advisor), Patrick Chang (David Rosen, advisor), Matthew Eicholtz (BS/MS student), Ben Lee (Chris Paredis, advisor), Mihir Pathak (Mostafa Ghiaasiaan, advisor), Chris Phaneuf (Craig Forest, advisor), and David Sotto (Gang Bao, advisor) each received an Honorable Mention in the National Science Foundation Graduate Research Fellowship competition.

Three BMED students who are advised by Woodruff School faculty members won awards or an honorable mention: Chidimma Esimai (Andres Garcia, advisor), Laura Hansen (Rudy Gleason, advisor) and an honorable mention to Jason Weaver (David Ku, advisor).

This year NSF awarded 1237 fellowships, up from 914 in 2008, but only 42 went to Mechanical Engineering, down from last year and only four awards were made in Nuclear Engineering, up from one in 2008. For comparison, BioE had 84 awards, EE had 34 awards, and there were 49 awards in Ecology. A total of 301 awards were made in the area of Life Sciences and a total of 314 were awarded in Engineering. According to Dr. David Rosen, “It looks like it is getting much harder for ME students to win these awards.”
FELLOWSHIPS

Woodruff School graduate students are supported through Graduate Research Assistantships from their faculty advisor or Graduate Teaching Assistantships for teaching duties, mainly in undergraduate laboratories. In addition, many students receive fellowship funds from the Woodruff School, the Institute, and from off-campus organizations, societies, and industry. Below is a list of the major fellowships received in the past academic year (summer 2008 though spring 2009).

Achievement Rewards for College Scientists (ARCS)
Shelby Higshsmith
Mela Johnson
Scott Kasprzak
Charlotte Kotas
Stephanie Thompson

American Heart Association
Kenway Chen
Wei Chen

Argentina Fellowship
Gustavo Castelluccio

College of Engineering
Kyle Bandhauer

Department of Defense
Roderick Jackson
Daniel Reasor
Christine Taylor

DOD/NDSEG/ASEE
Roderick Jackson

Department of Energy
Justin Pounders
Ashok Rajendran

FACES Fellowship
Mathieu Davis
Nduka Emenchukwu
Ekge Eni
Joshua Garvin
Mark Simpson
Christine Taylor

Fulbright Fellowship
Naveed Ahmed
Michael Budnitzki
Casey Holliday
Andreas Rauch
Gabriel Ramirez
Muhammad Salman

Georgia Tech Fellowship
Bobby Watkins
Christone Taylor

Georgia Tech President’s Fellowship
Akibi Archer
Thomas Beecham
Jeffrey Bingham

INPO Fellowship
Franklin Hope

Institute Fellowship
Amit Jariwala (COM)
Akibi Archer
Nduka Emenchukwu
Roderick Jackson
Mela Johnson
Daniel Reasor

Malaysia Fellowship
Cheng Shu Ngoo

NANT Fellowship
Sharon Chandler

NASA Harriet Jenkins
Nkuda Emenchukwu

NASA UNCF
Bryn Johns

NSDEG
Ryan Austin
Christine Taylor

National Institutes of Health
Mela Johnson

National Science Foundation
Megan Blackburn
Adelle Doyle
Kenneth Dupont
James Ford
Casey Holliday
Heather Humphreys
Dooro Kim
Jeffrey Lloyd
Barbara Nsiah
Gregory Ostrowicki
Stephanie Thompson
Rachel Whitmire
Jaime Zahorian

Office of Naval Research Fellowship
Lin Wan

Sandia Fellowship
Jeffrey Callicot
Todd Bandhauer

STEP Fellowship
Akibi Archer
Brian Post

United Negro College Fund
Akibi Archer

Woodruff Fellowship
Akibi Archer
Kyle Azevedo
Todd Bandhauer
Thomas Beecham
Thomas Bingham
James Black
Joel Boerckel
John Bustamante
Kenneth Dupont
Nicholas Earnhart
Aaron Enes
Thomas Forbes
Daniel Gempesaw
Stephanie Thompson
Rachel Whitmire
Jaime Zahorian

World Student Fund
Markus Koegel
Daniel Reasor
Andreas Rauch
Berrit Runge
The Woodruff School awarded a total of 635 degrees in the past academic year: 43 doctoral degrees, 213 master’s degrees (a record number), and 379 bachelor’s degrees. The charts below show some breakdowns of degrees in the Woodruff School and for Georgia Tech. Since 1890 when the first two degrees were awarded in mechanical engineering, the Institute has granted (through spring 2009) 96,331 bachelor’s degrees, 37,481 master’s degrees, and 7,282 doctoral degrees.

### Degrees Awarded in the Woodruff School

<table>
<thead>
<tr>
<th>Degree</th>
<th>Number Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSME</td>
<td>347</td>
</tr>
<tr>
<td>BSNRE</td>
<td>32</td>
</tr>
<tr>
<td>Total Bachelor’s</td>
<td>379</td>
</tr>
<tr>
<td>MS</td>
<td>5</td>
</tr>
<tr>
<td>MSME</td>
<td>180</td>
</tr>
<tr>
<td>MSMP</td>
<td>15</td>
</tr>
<tr>
<td>MSNE</td>
<td>7</td>
</tr>
<tr>
<td>MSNE</td>
<td>1</td>
</tr>
<tr>
<td>MSPSE</td>
<td>2</td>
</tr>
<tr>
<td>MSBioE</td>
<td>3</td>
</tr>
<tr>
<td>Total Master’s</td>
<td>213</td>
</tr>
<tr>
<td>Ph.D. ME</td>
<td>40</td>
</tr>
<tr>
<td>Ph.D. NE</td>
<td>1</td>
</tr>
<tr>
<td>Ph.D. MSBioE</td>
<td>1</td>
</tr>
<tr>
<td>Ph.D. PSE</td>
<td>1</td>
</tr>
<tr>
<td>Total Ph.D.’s</td>
<td>43</td>
</tr>
<tr>
<td>Total Undergraduate Degrees</td>
<td>379</td>
</tr>
<tr>
<td>Total Graduate Degrees</td>
<td>256</td>
</tr>
<tr>
<td>Total Degrees</td>
<td>635</td>
</tr>
</tbody>
</table>

### Degrees Awarded in the College of Engineering by School

<table>
<thead>
<tr>
<th>School</th>
<th>Bachelor’s</th>
<th>Master’s</th>
<th>Ph.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineering</td>
<td>112</td>
<td>121</td>
<td>44</td>
<td>277</td>
</tr>
<tr>
<td>Biomedical Engineering</td>
<td>134</td>
<td>10</td>
<td>40</td>
<td>184</td>
</tr>
<tr>
<td>Chemical &amp; Biomolecular Engineering</td>
<td>98</td>
<td>19</td>
<td>37</td>
<td>154</td>
</tr>
<tr>
<td>Civil &amp; Environmental Engineering</td>
<td>227</td>
<td>100</td>
<td>18</td>
<td>345</td>
</tr>
<tr>
<td>Electrical &amp; Computer Engineering</td>
<td>268</td>
<td>342</td>
<td>95</td>
<td>705</td>
</tr>
<tr>
<td>Industrial &amp; Systems Engineering</td>
<td>281</td>
<td>217</td>
<td>23</td>
<td>521</td>
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### Degrees Awarded at Georgia Tech by College

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### Degrees Awarded in the Woodruff School by Gender and Ethnicity

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## DOCTORAL DEGREES AWARDED


### Summer 2008

- **David Damm**, Ph.D. ME. Batch Reactors for Scalable Hydrogen Production. Andrei Fedorov, advisor
- **Matthew Determan**, Ph.D. ME. Thermally Activated Miniaturized Cooling System. Srinivas Garimella, advisor
- **Abraham Greenstein**, Ph.D. ME. Analysis of Thermal Conductivity Models with an Extension to Complex Crystalline Materials. Samuel Graham, advisor
- **Surajit Kumar**, Ph.D. ME. Fluidic and Dielectrophoretic Manipulation of Tin Oxide Nanobelts. Peter Hesketh, advisor
- **Sheila Rezak**, Ph.D. PSE. Analysis of Flexible Fiber Suspensions Using the Lattice Boltzmann Method. Cyrus Aidun, advisor
- **Krishna Tunga**, Ph.D. ME. Study of SnAgCu Alloy Reliability Through Material Microstructure Evolution and Laser Moire Interferometry. Suresh Sitaraman, advisor
- **Joshua Vaughan**, Ph.D. ME. Dynamics and Control of Mobile Cranes. William Singhose, advisor
- **Dong Yang**, Ph.D. ME. Factors Affecting Stress Assisted Corrosion Cracking of Carbon Steel Under Industrial Boiler Conditions. Richard Neu, advisor

### Fall 2008

- **Manas Bajaj**, Ph.D. ME. Knowledge Composition Methodology for Effective Analysis Problem Formulation in Simulation-Based Design. Chris Paredis, advisor
- **Xavier Brun**, Ph.D. ME. Analysis of Handling Stresses and Breakage of Thin Crystalline Silicon Wafers. Shreyes Melkote, advisor
- ** Kwaku Eason**, Ph.D. ME. Numerical Investigation of Micro/Macro Coupling in Magneto-Impedance Sensors for Weak Field Measurements. Kok-Meng Lee, advisor
- **Donavon Gerty**, Ph.D. ME. Fluidic-Driven Cooling of Electronic Hardware Part I: Channel Integrated Vibrating Reed. Ari Glezer, advisor
- **Rasim Guldiken**, Ph.D. ME. Dual-Electrode Capacitive Micromachined Ultrasonic Transducers for Medical Ultrasound Applications. Levent Degertekin, advisor
- **Houri Johari**, Ph.D. ME. Micromachined Capacitive Silicon Bulk Acoustic Wave Gyroscopes. Levent Degertekin, advisor
- **Karan Kacker**, Ph.D. ME. Design and Fabrication of Free-Standing Structures as Off-Chip Interconnects for Microsystems Packaging. Suresh Sitaraman, advisor
- **Fang Kong**, Ph.D. ME. Integer in a 5b1 and Fibronectin Interaction Under Force. Cheng Zhu, advisor

### Spring 2009

- **Erick Alley**, Ph.D. ME. Influence of Microstructure in Rolling Contact Fatigue of Bearing Steels with Inclusions. Richard Neu, advisor
- **Adam Cardi**, Ph.D. ME. On the Development of a Dynamic Cutting Force Model with Application to Regenerative Chatter. Steven Liang, advisor
- **Wei Chen**, Ph.D. ME. Molecular Dynamics Simulations of Binding, Unfolding, and Global Conformational Changes of Signaling and Adhesion. Cheng Zhu, advisor
- **Wei Chen**, Ph.D. BIOE. The Force Regulation on Binding Kinetics and Conformations of Integrin and Selections. Cheng Zhu, advisor
- **Shelby Highsmith**, Ph.D. ME. Crack Path Determination for Non-Proportional Mixed-Mode Fatigue. Steven Johnson, advisor
- **Chih-Chieh Hu**, Ph.D. ME. Mechanistic Modeling of Evaporating Thin Liquid Film Instability on a BWR Fuel Rod with Parallel and Cross Vapor, Said Abdel-Khalik, advisor
- **Omkar Karhade**, Ph.D. ME. Scanning Micro Interferometer with Tunable Diffraction Grating for Low Noise Parallel Operation. Levent Degertekin, advisor
- **Scott Kasprzak**, Ph.D. ME. Small-Scale Polymer Structures Enabled by Thiolene Copolymer Systems. Ken Gall, advisor
- **Stacey Schutte**, Ph.D. ME. Effects of Incorporating Décor into a Tissue Engineered Blood Vessel Substitute. Robert Nemer, advisor
- **Narasimhan Swaminathan**, Ph.D. ME. Stress-Defect Transport Interactions in Ionic Solids. Jianmin Qu, advisor

- **Charlotte Kotas**, Ph.D. ME. Acoustically Induced Fluid Flows in a Model Fish Ear. Peter Rogers and Minami Yoda, advisors
- **Anne-Marie Lerner**, Ph.D. ME. Tunability and Sensitivity Investigation of MRE’s in Longitudinal Vibration Absorbers. Kenneth Cunefare, advisor
- **Haifeng Li**, Ph.D. ME. An Evanescent-Wave Based Particle Image Velocimetry Technique. Minami Yoda, advisor
- **Logan McLeod**, Ph.D. ME. Hydrogen Permeation Through Microfabricated Pd-Ag Membranes. Sam Shelton, advisor
- **Qihong Nie**, Ph.D. ME. Experimentally Validated Multi-Scale Thermal Models of Electronic Cabinets. Yegendra Joshi, advisor
- **Vishwanath Subramanian**, Ph.D. ME. Computational Analysis of Binary-Fluid Heat and Mass Transfer in Falling Films and Droplets. Srinivas Garimella, advisor
- **Jiatao Zheng**, Ph.D. ME. Interfacial Fracture of Micro Thin Film Interconnects Under Monotonic and Cyclic Loading. Suresh Sitaraman, advisor

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### GEORGE W. WOODRUFF SCHOOL OF MECHANICAL ENGINEERING

MASTER’S DEGREES WITH THESIS

From summer 2008 through spring 2009, the Woodruff School awarded 213 master’s degrees: 68 in summer 2008, 74 in fall 2008, and 71 in spring 2009. Of these, 57 students prepared a thesis and 156 students did a course work only (nonthesis) degree. Of the nonthesis degrees, 94 were completed on the Atlanta campus and 62 were done through the distance-learning program.

Summer 2008

Cyril Babinet, MSME. Next Generation of Current Sensors for Aeronautics: Preliminary Designs. Jianmin Qu, advisor
Jon Danielson, MSME. Mobile Boom Cranes and Advanced Input Shaping Control. William Singhose, advisor
Jeremy Dawkins, MSME. Influence of Crystallographic Orientation in Normal and Sliding Contacts. Richard Neu, advisor
Alexander Serrato, MSPSE. Investigation of Wet Paper Cohesive Properties. Tim Patterson, advisor
Brian Guerriero, MSME. Haptic Control and Operator-Guided Gait Coordination of a Pneumatic Hexapedal Rescue Robot. Wayne Book, advisor
Caroline Guidry, MSME. Modified Comparative Life Cycle Assessment of End-of-Life Options for Post-Consumer Products in Urban Regions. Bert Bras, advisor
Michael Hirsch, MSME. Frettng Behavior of AISI 301 Stainless Steel Sheet in Full Hard Condition. Richard Neu, advisor
Jonathan Jobe, MSME. Multi-Aspect Component Models: Enabling the Reuse of Engineering Analysis Models in SysML. Chris Paredis, advisor
Thomas Johnson, MSME. Integrating Models and Simulation of Continuous Dynamic System Behavior into SysML. Chris Paredis, advisor
Anubhav Kumar, MSME. Use of Air Side Economizer for Data Center Thermal Management. Wayne Whiteman, advisor
Ryan Manger, MSSE. Assessing the Dose Received by the Victims of a Radiological Dispersal Device with Geiger-Mueller Detectors. Nolan Hertel, advisor
Lucas McCaslin, MSME. Methodology for Predicting Microelectronic Substrate Warpage Incorporating Copper Trace Pattern Characteristics. Suresh Sitaraman, advisor
Zachary Moore, MSME. Life Modeling of Notched CM247LC DS Nickel-Base Superalloy. Richard Neu, advisor
Laura Rainbeck, MSME. Environmental Analysis of Biologically Inspired Self-Cleaning Surfaces. Bert Bras, advisor
Christopher Sommer, MSNE. Fuel Cycle Design and Analysis of a Subcritical Advanced Burner Reactor. Weston Stacey, advisor
Tyler Sumner, MSSE. A Safety and Dynamics Analysis of the Subcritical Advanced Burner Reactor: SABR. Mostafa Ghaasiasan, advisor
Nathan Young, MSME. A Co-evolutionary Multi-agent Approach for Designing the Architecture of Reconfigurable Manufacturing Machines. Mervyn Fathianathan, advisor

Fall 2008

Travis Blackburn, MSME. Electro-Kinetically Enhanced Nanometric Material Removal. Steven Danyluk, advisor
Christopher Blandin, MSME. Production of Dielectric Materials. Jonathan Colton, advisor
Michael Budnitzki, MSME. Influence of the Environment and Alumina Coatings on the Fatigue Degradation of Polycrystalline Silicon Films. Olivier Pierron, advisor
Eric Busillo, MSME. Characterization of Plastic Hypodermic Needles. Jonathan Colton, advisor
Robert Cross, MSME. Processing of Vertically Aligned Carbon Nanotubes for Heat Transfer Applications. Samuel Graham, advisor
Zachary Dominguez, MSSE. Development of a Novel Organ Culture System Allowing Control of Local Mechanical Variables and Its Implementation in. Raymond Vito, advisor
Elisabeth Gayton, MSME. Experimental and Numerical Investigation of the Thermal Performance of the Gas-Coded Divert or Plate Concept. Said Abdel-Khalik and Minami Yoda, advisors
Hoda Hamedani, MSME. Investigation of Deposition Parameters in Ultrasonic Spray Pyrolysis for Fabrication of Solid Oxide Fuel Cell. Jianmin Qu, advisor
Guillaume Rannou, MSPSE. Lattice Boltzmann Method and Immiscible Two-Phase Flow. Cyrus Aidun, advisor
Andreas Rauch, MSME. Stability Analysis of Mobile Boom Cranes. William Singhose, advisor
George Shoukry, MSME. State-Space Realization for Nonlinear Systems. Nader Sadegh, advisor
Ankit Somani, MSME. Advanced Thermal Management Strategies for Energy-Efficient Data Centers. Yogendra Joshi, advisor

Spring 2009

Shaheen Dewji, MSNE. Assessing Internal Contamination After a Radiological Dispersion Device Event Using a 2x2 in Inch Sodium-Iodide. Nolan Hertel, advisor
Adelaide Duroux, MSME. Estimation of Guided Waves from Cross-Correlations of Diffuse Wave Fields for Passive Structural Health Monitoring. Karim Sabra, advisor
Mark Elton, MSME. An Efficient Haptic Interface for a Variable Displacement Pump Controlled Excavator. Wayne Book, advisor
Sarah Engelbrecht, MSME. Design of Meso-Scale Cellular Structure for Rapid Manufacturing. David Rosen, advisor
Gregory Graf, MSME. Development of Specialized Base Primitives for Meso-Scale Conforming Truss Structures. David Rosen, advisor
Hanif Hunter, MSME. Formation and Breakdown of Microscale Liquid Jets. Ari Glezer, advisor
Robert Kelm, MSSE. In-Water Neutron and Gamma Dose Determination of a New Cf-252 Brachytherapy Source. Chris Wang, advisor
Aleksandr Kerzhner, MSME. Using Domain Specific Languages to Capture Design Knowledge for Model-Based Systems Engineering. Chris Paredis, advisor
Robert Kupkovits, MSME. Thermomechanical Fatigue Behavior of the Directionally-Solidified Nickel Base Superalloy CM247LC. Richard Neu, advisor
Evon Landrum, MSME. Anistropic Parameters of Mesh Fillers Relevant to Miniature Cryocoolers. Mostafa Ghaasiasan, advisor
Paul Langston, MSME. Implementation and Evaluation of a 2D Laser Doppler Vibrometer System Non-Contact Monitoring. Karim Sabra, advisor
Fang Liu, MSM. Monte Carlo Modeling of an X-Ray Fluorescence Detection System by MCNP Code. Tom Hu, advisor

Christopher Blandin, MSME. Production of Dielectric Materials. Jonathan Colton, advisor
Michael Budnitzki, MSME. Influence of the Environment and Alumina Coatings on the Fatigue Degradation of Polycrystalline Silicon Films. Olivier Pierron, advisor
Eric Busillo, MSME. Characterization of Plastic Hypodermic Needles. Jonathan Colton, advisor
Robert Cross, MSME. Processing of Vertically Aligned Carbon Nanotubes for Heat Transfer Applications. Samuel Graham, advisor
Zachary Dominguez, MSSE. Development of a Novel Organ Culture System Allowing Control of Local Mechanical Variables and Its Implementation in. Raymond Vito, advisor
Elisabeth Gayton, MSME. Experimental and Numerical Investigation of the Thermal Performance of the Gas-Coded Divert or Plate Concept. Said Abdel-Khalik and Minami Yoda, advisors
Hoda Hamedani, MSME. Investigation of Deposition Parameters in Ultrasonic Spray Pyrolysis for Fabrication of Solid Oxide Fuel Cell. Jianmin Qu, advisor
Guillaume Rannou, MSPSE. Lattice Boltzmann Method and Immiscible Two-Phase Flow. Cyrus Aidun, advisor
Andreas Rauch, MSME. Stability Analysis of Mobile Boom Cranes. William Singhose, advisor
George Shoukry, MSME. State-Space Realization for Nonlinear Systems. Nader Sadegh, advisor
Ankit Somani, MSME. Advanced Thermal Management Strategies for Energy-Efficient Data Centers. Yogendra Joshi, advisor
Christopher Miller, MSME. Set-Up and Evaluation of Laser-Driven Millimeter System. William Wepfer, advisor

Roxanne Moore, MSME. Variable Fidelity Modeling as Applied to Trajectory Optimization for a Hydraulic Backhoe. Chris Paredes, advisor

Jeffrey Olson, MSME. Design and Modeling of a Portable Hemodialysis System. David Rosen, advisor

Joshua Rast, MSME. Characterizing the Fatigue Damage in Non-Traditional Laminates of Carbon Fiber Composites Using Radiography. Steven Johnson, advisor

Pierre Theillet, MSME. Influence of Frequency and Environment on the Fatigue Behavior of Monocrystalline Silicon Thin Films. Olivier Pierron, advisor

Rachel Valade, MSME. Development and Verification of a Simplified Building Energy Model. Sheldon Jeter, advisor

Benjamin Waghorn, MSMP. Monitoring Dynamic Calcium Homeostasis Alterations by T1-Weighted and T1-Mapping Manganese-Enhanced MRI. Tom Hu, advisor


Daxue Wang, MSME. Dynamic Analysis of Constrained Object Motion for Mechanical Transfer of Live Objects. Kok-Meng Lee, advisor

Ryder Winck, MSME. Fabric Control for Feeding into an Automated Sewing Machine. Wayne Book and Steve Dickerson, advisors

Yidong Yang, MSMP. Using Magnetic Resonance Imaging to Track Inflammatory Cells in a Murine Myocardial Infarction Model. Tom Hu, advisor

Zhao Xiayun, MSME. Process Planning for Thick-Film Mask Projection Stereolithography. David Rosen, advisor

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### MASTER’S DEGREES (NONTHESES)

#### Summer 2008

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<td>Eric Bonini</td>
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<td>Krystyna Chin</td>
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<td>Ryan Close</td>
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<td>Jason Cook</td>
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<td>Katherine Rudell</td>
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<td>Muhammad Salman</td>
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<td>Ryan Smith</td>
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<td>John Berger</td>
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<td>Yann Bougaux</td>
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<td>David Brandenburg</td>
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<td>Douglas Jury</td>
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<td>Marc Killpack</td>
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<td>Michael Kim</td>
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#### Spring 2009

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<tr>
<td>Sylvain Laugier</td>
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<td>Brian McKay</td>
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<td>Sai Padala</td>
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<tr>
<td>Lauren Ray</td>
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<tr>
<td>Jesse Ross</td>
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<tr>
<td>William Ross</td>
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<tr>
<td>Vivek Sahu</td>
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<tr>
<td>Aaron Scott</td>
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<tr>
<td>James Seaton</td>
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<tr>
<td>Arnaud Seninge</td>
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<tr>
<td>Sungmin Suh</td>
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<tr>
<td>Sujay Tawde</td>
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<tr>
<td>Pin Tsai</td>
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<tr>
<td>Christopher Weir</td>
<td>MSME</td>
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<tr>
<td>Lisa Wichmann</td>
<td>MSME</td>
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<tr>
<td>Shawn Wick</td>
<td>MSME</td>
</tr>
<tr>
<td>Andy Wolf</td>
<td>MSMP</td>
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<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
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<tbody>
<tr>
<td>Emily Colvin</td>
<td>MSME</td>
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<tr>
<td>Kristina Cruden</td>
<td>MSME</td>
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<tr>
<td>Jennifer Daly</td>
<td>MSME</td>
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<tr>
<td>Holly Davis</td>
<td>MSME</td>
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<tr>
<td>Audrey Descuns</td>
<td>MSME</td>
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<tr>
<td>William Doulan</td>
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<tr>
<td>Rashid Enahora</td>
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<tr>
<td>Nduka Enenchukwu</td>
<td>MSBIOE</td>
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<td>Justin Fernandez</td>
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<tr>
<td>Eric Harte Fitz</td>
<td>MSME</td>
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<td>Matthew Groves</td>
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<td>Jiakie Guo</td>
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<tr>
<td>Xiang Guo</td>
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<td>Adenan Hussain</td>
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<td>Aaron Janicz</td>
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<tr>
<td>Kyle Jernigan</td>
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<tr>
<td>Mark Kajdos</td>
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<td>David Korim</td>
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<tr>
<td>Yong Kwon</td>
<td>MSMP</td>
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<tr>
<td>Daniel Lajiness</td>
<td>MSME</td>
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<tr>
<td>Boon Lee</td>
<td>MSME</td>
</tr>
<tr>
<td>Benjamin Mancuso</td>
<td>MSME</td>
</tr>
<tr>
<td>Shamgar McDowell</td>
<td>MSME</td>
</tr>
<tr>
<td>Yannick Methot</td>
<td>MSME</td>
</tr>
<tr>
<td>Travis Nunnally</td>
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</tr>
<tr>
<td>Mark Passino</td>
<td>MSME</td>
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<tr>
<td>Paul Plummer</td>
<td>MSME</td>
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<tr>
<td>Cynthia Polizzi</td>
<td>MSME</td>
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<tr>
<td>Gabriel Ramirez</td>
<td>MSME</td>
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<tr>
<td>Horacio Repetto</td>
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<tr>
<td>Muhammad Sadiq</td>
<td>MSME</td>
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<tr>
<td>Kevin Scarborough</td>
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<tr>
<td>Veesna Sok</td>
<td>MSME</td>
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<tr>
<td>Zachary Sosebee</td>
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<tr>
<td>Ryan Stewart</td>
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<tr>
<td>Norman Trammell</td>
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<tr>
<td>Jean-Rene Tremblay</td>
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<tr>
<td>Travis Vatter</td>
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<tr>
<td>David Voss</td>
<td>MSME</td>
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<tr>
<td>Adam Witko</td>
<td>MSME</td>
</tr>
<tr>
<td>Yue Wu</td>
<td>MSMP</td>
</tr>
</tbody>
</table>
UNDERGRADUATE DEGREES AWARDED

The Woodruff School awarded 379 (347 ME, 32 NRE) degrees in the past academic year, summer 2008 through spring 2009. Of these, twelve degrees were awarded at Georgia Tech Savannah (RME) and 82 students graduated with the Cooperative Plan designation on their degree.

**Summer 2008**
- Jien Ahn
- Michael Appleby
- Amy Bolling
- Colin Bolluyk
- Courtney Cannon
- George Carstens
- Boaz Chai
- Alice Cheung (NRE)
- Minhong Choi
- James Clark
- George Collins
- David Curry
- Ryan Demars
- Edward Fleiss
- Joshua Glass
- Ross Gortney
- Thomas Harrison
- Nathan Heigle
- Michael Holmes
- Grant Hou
- Laura Ivester
- Joshua Kinney
- John Kowalchuk
- Robert Landers
- Michael Lindsay
- James Lovenbury
- Brian Luce
- Joshua Marcy
- Timothy McCravy
- Colin McMahon
- Brett Mitchell (RME)
- Shelley Nation
- Erica O’Neal
- Jeffrey Ostrow
- Travis Palladino
- Michael Pendley
- Stefanie Presley
- Sara Rahmane (NRE)
- Timothy Ryan
- Brian Senko
- Michael Silberstein
- Alison Skala
- Michael Skiffrans
- Anderson Smith
- Megan Smith
- Stephen Stegall
- Tyson Taylor (RME)
- Endalkachew Tegegne
- Mehtab Wasi
- Chiheem Wasi
- Endalkachew Tegegne
- Megan Smith
- Michael Skrifvars
- Andrew Hoffman
- Michael Holland
- Stephen Horn
- Meredith Hoppes
- Nazim Hudda
- Kwan Hui
- Chat Huynh
- Daniel Idiate
- Rolando Iglesias
- Cherian Jacob
- Chris Jacob
- Jared Jaffar
- Evan Johnson
- Bryan Jones
- Philip Kang
- Michael Kaye
- Kelly Keenan
- Muneeb Khadeer
- Atikuzzaman Khan
- Jeremy King
- Joshua Knapp
- Travis Knighton
- Jonathan Langston
- Adrit Lath
- Robin Laverentz
- William Lavery
- Matthew LeClair
- Benjamin Lee
- Benson Lee
- Mark Lemons
- Andrew Leung
- Lu Ku
- Brandon Little
- David Long
- Christopher Malcolm
- James Masloides
- William Mays (NRE)
- Allison McInteer
- Paul Min
- William Moore
- Ashley Moroz
- Jason Morris
- Kenneth Mote
- Brad Moulton
- Victoria Murawski
- Jason Nakai
- Jonathan Near
- David Nesbitt (NRE)
- Stephanie Newton
- Phillip Nichols
- Damien Noga
- Brian O’Connor
- Jaeho Oh
- Amanda O’Rourke
- Brian Ozmint
- Dong Pak
- Mihir Pathak
- Lee Peacock
- Thomas Pennington
- Benjamin Perkins
- Robert Platt
- Graham Price
- Simon Radomski
- Adam Ramers
- Callie Reis
- Fernando Reiter
- David Ross
- Arthur Rozier
- Matthew Ruiz
- Christopher Saurer
- Jeremy Seager
- Raj Shah
- Cainesha Sills
- Benjamin Smith
- Sheldan Smith
- Michael Sopko
- Phillip Sou
- Matthew Sovitski
- Michael Sullivan
- Hemang Suthar
- Patrick Sweiglin
- Bhrugeshkumar Talati
- Mark Thippgen (NRE)
- Matthew Tidwell
- Vu Tran
- Hubert Tsai
- Matthew Turk
- Matthew Von Ara
- Paul Webber
- Andrew Wren
- Yuan Yao
- Darin Yawn
- David Yoo

**Spring 2009**
- Juan Aguilar
- Nathaniel Allgood (NRE)
- Simon Awadalla
- Rik Banerjee
- Kendra Babour (NRE)
- Evan Barker
- Diane Basirico
- Jonathan Berggren
- Steven Braddy (RME)
- Brian Bray
- Matthew Burnam
- Michael Burnett
- George Byram
- Elisabeth Byrd
- Elizabeth Cadogan
- T Everett Chambless
- Alexander Chao (NRE)
- Chun Chu
- Christine Clayton
- Stephen Condon (NRE)
- Benjamin Cooneybear
- Joseph Conklin
- Bryson Cook
- Katrina Corley
- Gregorio Corte
- April Covington (RME)
- Jesse Coyle (NRE)
- Jonathan Crosh
- David Cross
- Aayush Daftari
- Brendan Daley
- Cody David
- Matthew De Iulio
- Kavi Dotson
- Christopher Druhot (RME)
- Huan Du
- Alden Eavenson
- Matthew Elchoz
- Eric Eldred
- David Evans
- David Evans
- Emily Flora (NRE)
- Angel Flores
- John Forrest
- Michael Fox
- Emily Freibert (NRE)
- Matthew Frichtl
- Carlos Galeano
- Michael Gaston
- William Gattung
- Jefferson Gee
- Ryan Gerick
- Sarah Gibbonby (NRE)
- Andrew Gibson (RME)
- Eduardo Gil
- Irshad Goedard
- James Goldsmith
- Jessica Goldstain
- Nathaniel Greder
- Mathew Grisham
- Christopher Haie
- Brian Hales (NRE)
- Ryan Hall (NRE)
- Bryan Harris
- Stephen Harris (RME)
- David Hartmangrub (NRE)
- Ryan Henderson
- Zachary Herndon
- Andrew Hess
- Benjamin Hiller
- Gregory Hipp
- Mark Iobst (NRE)
- Christopher Iogha
- Nathan Jackson (NRE)
- Lina Jensen
- Brian Johnson
- Kyle Johnson (NRE)
- Jonathan Jonason
- Thomas Joyce
- Raymond Jurek
- Masato Kan
- Bokung Kang
- Jason Kapelina
- Brandon Kearse
- Brittany Keller
- Ji-Sang Kim
- Nathan Kincaid
- Benjamin Kirk
- Michael Krawietz
- Mark Kulik
- Immanuel Lee
- Joseph Leonard
- John Loesel
- Adam Lord
- Alexander Lynn (NRE)
- Jordan Mack
- Leonard Manning
- Jeremy Mason
- Daniel Mathis
- George Matthews
- Nancy McCauley
- Kieran McMahon (NRE)
- Brandon Mcbary
- Larry McWilliams
- Jose Medina
- Andrew Merk
- Crystian Merritt (NRE)
- Kelly Michaud
- Louis Mieszkowski
- Cameron Miller
- Brian Naboros
- Brian Naughton
- Milad Mavani
- Milad Navaei
- Duong Nguyen
- Hoon Oh
- Mural Patel
- Viral Patel
- Charles Paul
- Jason Payne (NRE)
- Aris Perez
- Pedro Perez
- Riley Perszyk
- James Peters (NRE)
- Kevin Phillips (RME)
- John Pittman
- Eric Pointel
- Steven Powers
- Carly Queen
- Alvaro del Villar
- Noah Randolph
- Vivek Reddy
- James Richeson
- William Rigby
- Alexander Rivas
- Andrew Roberts
- Mark Robertson
- Matthew Ryan
- Alex Sanders
- Byron Sawyer (RME)
- Aida Sefic
- Shubham Sharma
- Christopher Shaw
- Kayla Shepherd (RME)
- Larry Shorey
- Kevin Skenes
- Elizabeth Sprague
- Shaun St John
- Phillip Stanford
- Jesse Stark
- Clarisse Steans
- Brandon Stewart
- Trevor Stittberg
- Caroline Stratton (NRE)
- Laura Stump
- Nathanael Sumner
- Joseph Tamer
- Sean Tanko
- John Thomas
- Thomas Thompson (RME)
- Lauren Unbehaun
- Joseph Vandegrift
- Aaron Vanhorn (RME)
- Benjamin Vannah
- Michael Varon
- Jordan Vaughan (NRE)
- Lisandro Vazquez (NRE)
- Brent Vokes
- Scott Wallace
- James Waring
- Brian Watson
- Joel Weber
- Yu Wei
- Perry Williams
- Joshua Wilson
- Eric Winstelle
- Michael Wondrasek
- Justin Yoo
- Molly Zajchowski
- Kyle Zimmerman
ENROLLMENT IN THE WOODRUFF SCHOOL

The Woodruff School gets excellent students, as shown by the class profiles of the new undergraduate and graduate students for fall 2009. Our total enrollment as of September 1, 2009, was 2,665 students. We are the largest School on campus with regard to undergraduate enrollment, which totals 1,882 (including co-ops at work). Of these, 1,692 are in mechanical engineering and 190 are in the nuclear and radiological engineering program. Sixty-three of the mechanical engineering students are at Georgia Tech Savannah. Of Georgia Tech’s new freshman class, there are 233 international students, primarily from Korea, China, and India.

According to Rick Clark, Director of Undergraduate Admission, “Overall, we saw more applications this year than we had ever received before at Tech, 11,510 for the 2,650 seats. That’s 2000 more than just two years ago. We were surprised to see a big increase in applications from out of state – up 14 percent from last year. We also enrolled more women this year than ever before, 900 total.”

### 2009 FRESHMAN CLASS PROFILE

<table>
<thead>
<tr>
<th>GEORGIA TECH</th>
<th>Applicants</th>
<th>11,510</th>
</tr>
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<tr>
<td></td>
<td>Accepted</td>
<td>6,100</td>
</tr>
<tr>
<td></td>
<td>Enrolled</td>
<td>2,650</td>
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<tr>
<td>HS GPA (Mid 50%)</td>
<td>3.67-4.04</td>
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</tr>
<tr>
<td>SAT (Mid 50%)</td>
<td>1920-2160 (out of 2400)</td>
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</tr>
<tr>
<td>Demographics</td>
<td>Out of State</td>
<td>42%</td>
</tr>
<tr>
<td></td>
<td>Minority Students</td>
<td>31%</td>
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<tr>
<td>Number of Freshmen</td>
<td>Summer</td>
<td>253</td>
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<tr>
<td></td>
<td>Fall</td>
<td>2,409</td>
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<tr>
<td></td>
<td>Summer Transfers</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Fall Transfers</td>
<td>503</td>
</tr>
</tbody>
</table>

### WOODRUFF SCHOOL

#### Number of Incoming Freshmen (Fall)

- Mechanical Engineering: 246
- Nuclear Engineering: 57
- Transfers: 61 (54 ME, 7 NE)
- RME: 23
- **Total**: 387

#### Demographics

- Georgia Residents: 200 (51.7%)
- Out-of-State Residents: 187
- Atlanta Campus: 364
- Savannah: 23
- Females: 30 ME / 13 NRE
- Males: 216 ME / 44 NRE

### 2009 NEW GRADUATE CLASS PROFILE

<table>
<thead>
<tr>
<th>Applicants</th>
<th>985</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admitted (42% of applicants)</td>
<td>410</td>
</tr>
<tr>
<td>Matriculated (55% of those accepted)</td>
<td>224</td>
</tr>
<tr>
<td>Average Undergraduate Grade Point Average (GPA)</td>
<td>3.52</td>
</tr>
</tbody>
</table>

#### Average Score on the Graduate Record Exam

- Verbal (out of 800): 528
- Quantitative (out of 800): 765
- Writing (out of 6.0): 4.0

#### Class Demographics

- Males: 199
- Females: 25
- Minorities (U.S. Citizens): 21
- Internationals: 79

#### Geographical Breakdown by Undergraduate School Attended

- East/Northeast: 44 (20%)
- South/Southeast: 64 (28%)
- Midwest: 24 (11%)
- West/Southwest: 13 (6%)
- International: 79 (35%)

### WOODRUFF SCHOOL ENROLLMENT BY MAJOR AND GENDER IN FALL 2009

#### UNDERGRADUATE STUDENTS

- Mechanical Engineering (Atlanta): Freshmen 303, Sophomores 343, Juniors 441, Seniors 542, Females (12.5%) 190, Males 1,439, **Total ME (Atlanta)**: 1,629
- Regional ME (Savannah): Sophomores 1, Juniors 24, Seniors 38, Females (16%) 10, Males 53, **Total RME**: 63
- **Total ME**: 1,692
  - Females (12%): 200
  - Males: 1,492
- NRE (Atlanta): Freshmen 61, Sophomores 43, Juniors 37, Seniors 49, Females (19%) 36, Males 154, **Total NRE**: 190
- **TOTAL Undergraduates** (ME + NRE): 1,882
  - 236 Females / 1,646 Males
- **TOTAL School Enrollment**: 2,655
  - 345 Females (13%) / 2,310 Males

#### GRADUATE STUDENTS

- Mechanical Engineering
  - Master’s: 438
  - Ph.D.: 218
  - Females (12%): 81
  - Males: 575
  - **Total**: 656
- NRE
  - Master’s: 14
  - Ph.D.: 29
  - Females (14%): 6
  - Males: 37
  - **Total**: 43
- Medical Physics
  - Master’s: 27
  - Females (37%): 10
  - Males: 17
  - **Total**: 27
- Bioengineering
  - Master’s: 6
  - Ph.D.: 30
  - Females (33%): 12
  - Males: 24
  - **Total**: 36
- Paper Science
  - Master’s: 1
  - Ph.D.: 3
  - Males: 4
  - **Total**: 4
- Robotics
  - Master’s: 7
  - Ph.D.: 3
  - Males: 7
  - **Total**: 36
- **TOTAL Master’s**: 486
  - 68 Females / 418 Males
- **TOTAL Ph.D.**: 287
  - 41 Females / 246 Males
- **TOTAL Graduate Enrollment**: 773
  - 109 Females (14%) / 664 Males

### ENROLLMENT AT GEORGIA TECH BY COLLEGE IN 2008 AND 2009

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<th>College</th>
<th>Undergraduates</th>
<th>Graduates</th>
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<td>2008</td>
<td>2009</td>
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<tr>
<td>Architecture</td>
<td>690</td>
<td>651</td>
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<tr>
<td>Computing</td>
<td>874</td>
<td>905</td>
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<tr>
<td>Engineering</td>
<td>7503</td>
<td>7902</td>
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<tr>
<td>Ivan Allen</td>
<td>961</td>
<td>951</td>
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<tr>
<td>Management</td>
<td>1347</td>
<td>1356</td>
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<tr>
<td>Sciences</td>
<td>1151</td>
<td>1177</td>
</tr>
<tr>
<td>Registrar</td>
<td>439</td>
<td>573</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>12,966</td>
<td>13,515</td>
</tr>
</tbody>
</table>

2009 FRESHMAN CLASS PROFILE

- **Applicants**: 11,510
- **Accepted**: 6,100
- **Enrolled**: 2,650
- **HS GPA (Mid 50%)**: 3.67-4.04
- **SAT (Mid 50%)**: 1920-2160 (out of 2400)
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  - Out of State: 42%
  - Minority Students: 31%
- **Number of Freshmen**
  - Summer: 253
  - Fall: 2,409
  - Summer Transfers: 68
  - Fall Transfers: 503

2009 NEW GRADUATE CLASS PROFILE

- **Applicants**: 985
- **Admitted (42% of applicants)**: 410
- **Matriculated (55% of those accepted)**: 224
- **Average Undergraduate Grade Point Average (GPA)**: 3.52
- **Average Score on the Graduate Record Exam**
  - Verbal (out of 800): 528
  - Quantitative (out of 800): 765
  - Writing (out of 6.0): 4.0
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  - Males: 199
  - Females: 25
  - Minorities (U.S. Citizens): 21
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- **Geographical Breakdown by Undergraduate School Attended**
  - East/Northeast: 44 (20%)
  - South/Southeast: 64 (28%)
  - Midwest: 24 (11%)
  - West/Southwest: 13 (6%)
  - International: 79 (35%)
FACULTY

As of October 1, 2009, there are 82 academic (tenure-track) faculty members with primary appointments in the Woodruff School, and 13 courtesy joint appointments from other Schools on campus. By title, there are 18 endowed or distinguished faculty, 37 full professors, 14 associate professors, and 26 assistant professors. This distribution includes only faculty members currently on campus. By gender, there are six female academic faculty members (1 professor, 5 assistant professors). (Another female professor will begin in January 2010.) There are also 23 research faculty members (3 females, 20 males), six academic professionals (2 females, 4 males), and 18 emeritus faculty (1 female, 17 males).

With regard to longevity on the faculty, one faculty member began in the 1960's, seven faculty members began in the 1970's, 18 faculty members began in the 1980's, 26 came to Georgia Tech in the 1990's, and 43 started at Georgia Tech in this decade (two more will begin in spring 2010 and another in spring 2011). All Woodruff School academic faculty members have a Ph.D.

Acoustics and Dynamics
Yves H. Berthelot, Professor and President of Georgia Tech Lorraine Ph.D., University of Texas at Austin, 1985
• Fellow of ASA
Kenneth A. Cunefare, Professor Ph.D., Pennsylvania State University, 1990
• Fellow of ASA
Nico F. Declercq, Assistant Professor Ph.D., Ghent University, Belgium, 2005
Aldo A. Ferri, Associate Professor Ph.D., Princeton University, 1985
• Fellow of ASME
Mardi Hastings, Professor (Will come to Georgia Tech in January 2010) Ph.D., Georgia Institute of Technology, 1987
• Fellow of ASA
Michael J. Leamy, Assistant Professor Ph.D., University of Michigan, 1998
Peter H. Rogers, Rae and Frank H. Neely Chair in Mechanical Engineering and Professor Ph.D., Brown University, 1970
• Fellow of ASA
Massimo Ruzzene, Associate Professor of Aerospace Engineering (Joint Appointment) Ph.D., Politecnico di Torino, Turino, Italy
Erica E. Ryherd, Assistant Professor Ph.D., University of Nebraska, 2006
Karim Sabra, Assistant Professor Ph.D., University of Michigan, 2003
• Fellow of ASA

Automation and Mechatronics
Wayne J. Book, HUSCO/Ramirez Distinguished Chair in Fluid Power and Motion Control and Professor Ph.D., Massachusetts Institute of Technology, 1974
• Fellow of ASME and IEEE
Ye-Hwa Chen, Professor Ph.D., University of California, Berkeley, 1985
Kok-Meng Lee, Professor Ph.D., Massachusetts Institute of Technology, 1985
• Fellow of ASME and IEEE
Harvey Lipkin, Associate Professor Ph.D., University of Florida, 1985
John G. Papastavridis, Associate Professor Ph.D., Purdue University, 1976
Nader Sadegh, Associate Professor Ph.D., University of California, Berkeley, 1987
William E. Singhose, Associate Professor Ph.D., Massachusetts Institute of Technology, 1977
Jun Ueda, Assistant Professor Ph.D., Kyoto University, Japan, 2002

Bioengineering
Gang Bao, Robert A. Milton Chair in Biomedical Engineering (Joint Appointment) Ph.D., Lehigh University, 1987
• Fellow of ASME
Brandon Dixon, Assistant Professor Ph.D., Texas A&M University, 2006
Andres J. Garcia, Professor Ph.D., University of Pennsylvania, 1996
• Fellow of AIMBE
Rudolph L. Gleason, Assistant Professor Ph.D., Texas A&M University, 2004
Robert E. Guldberg, Professor Ph.D., University of Michigan, 1995
• Fellow of AIMBE
David N. Ku, Lawrence P. Huang Endowed Chair in Engineering and Entrepreneurship and Regents' Professor Ph.D., Georgia Institute of Technology, 1983
M.D., Emory University, 1984
• Fellow of AIMBE
Robert M. Nerem, Parker H. Petit Distinguished Chair for Engineering in Medicine and Institute Professor Ph.D., Ohio State University, 1964
• Fellow of AAAS, AIMBE, APS, and ASME
• Member of NAE and IOM
Raymond P. Vito, Vice Provost for Undergraduate and Graduate Studies and Professor Ph.D., Cornell University, 1971
• Fellow of AIMBE and ASME
Ajit P. Yoganathan, The Wallace H. Coulter Distinguished Faculty Chair in Engineering and Regents' Professor (Joint Appointment) Ph.D., California Institute of Technology, 1978
• Fellow of AIMBE
Evan Zamir, Assistant Professor D.Sc., Washington University, 2003
Cheng Zhu, Regents' Professor of Biomedical Engineering (Joint Appointment) Ph.D., Columbia University, 1988
• Fellow of AIMBE and ASME

Computer-Aided Engineering and Design
Bert Bras, Professor Ph.D., University of Houston, 1992
Seung-Kyum Choi, Assistant Professor Ph.D., Wright State University, 2006
Roger Jiao, Associate Professor Ph.D., Hong Kong University of Science and Technology, 1998
Chris Paredis, Associate Professor Ph.D., Carnegie Mellon University, 1996
David W. Rosen, Associate Chair for Administration and Professor Ph.D., University of Massachusetts, 1992
• Fellow of ASME
Dirk Schaefer, Assistant Professor Ph.D., University of Stuttgart, Germany, 2003
Suresh Sitaraman, Professor Ph.D., University of Pennsylvania, 2006
• Fellow of AIMBE
Yan Wang, Assistant Professor Ph.D., University of Pittsburgh, 2003
**Fluid Mechanics**

Cyrus Aidun, Professor
Ph.D., Clarkson University, 1985

Alexey S. Alexeev, Assistant Professor
Ph.D., Technion-Israel Institute of Technology, 2003

Ari Glezer, George W. Woodruff Chair in Thermal Systems and Professor
Ph.D., California Institute of Technology, 1981
  • Associate Fellow of AIAA

David Hu, Associate Professor
Ph.D., Massachusetts Institute of Technology, 2005

G. Paul Neitzel, Associate Chair for Graduate Studies and Professor
Ph.D., Johns Hopkins University, 1979
  • Fellow of APS, ASME and Associate Fellow of AIAA

Marc K. Smith, Professor
Ph.D., Northwestern University, 1982

Minami Yoda, Professor
Ph.D., Stanford University, 1993
  • Fellow of ASME

S. Mostafa Ghiaasiaan, Professor
Ph.D., University of California, Los Angeles, 1983
  • Fellow of ASME

Asegun Henry, Assistant Professor
(Will come to Georgia Tech in spring 2011)
Ph.D., Massachusetts Institute of Technology, 2009

Sheldon M. Jeter, Associate Professor
Ph.D., Georgia Institute of Technology, 1979

Yogendra K. Joshi, John M. McKenney and Warren D. Shiver Distinguished Chair in Building Mechanical Systems and Professor
Ph.D., University of Pennsylvania, 1984
  • Fellow of AAAS and ASME

Satish Kumar, Assistant Professor
Ph.D., Purdue University, 2007

Timothy Lieuwen, Associate Professor of Aerospace Engineering
(Joint Appointment)
Ph.D., Georgia Institute of Technology, 1999

G. P. “Bud” Peterson, President of Georgia Tech and Professor
Ph.D., Texas A&M University, 1985
  • Fellow of AIAA and ASME

William J. Wepfer, Eugene C. Gwaltney Jr. School Chair and Professor
Ph.D., University of Wisconsin, 1979
  • Fellow of ASHRAE and ASME

Zhuomin Zhang, Professor
Ph.D., Massachusetts Institute of Technology, 1992
  • Fellow of ASME

Ben T. Zinn, David S. Lewis Chair of Aerospace Engineering and Regents’ Professor (Joint Appointment)
Ph.D., Princeton University, 1965
  • Fellow of AIAA and ASME
  • Member of NAE

**Manufacturing**

Jonathan S. Colton, Professor
Ph.D., Massachusetts Institute of Technology, 1986
  • Fellow of ASME and SPE

Steven Danyluk, Morris M. Bryan, Jr. Chair in Mechanical Engineering for Advanced Manufacturing Systems and Professor
Ph.D., Cornell University, 1974
  • Fellow of ASME, ASM, and STLE

Suran Das, Associate Professor
Ph.D., University of Texas, 1998

Craig Forest, Assistant Professor
Ph.D., Massachusetts Institute of Technology, 2007

Tequila A. L. Harris, Assistant Professor
Ph.D., Rensselaer Polytechnic Institute, 2006

Kyrakei Kalaitzidou, Assistant Professor
Ph.D., Michigan State University, 2005

Steven Y. Liang, Morris M. Bryan, Jr. Professorship in Mechanical Engineering
Ph.D., University of California, Berkeley, 1987
  • Fellow of ASME

J. Rhett Mayor, Assistant Professor
Ph.D., University of Natal, Durban, South Africa, 2001

Leon McGinnis, Eugene C. Gwaltney Professor of Manufacturing Systems in the Stewart School of Industrial and Systems Engineering (Joint Appointment)
Ph.D., North Carolina State University, 1975

Shreyes N. Melkote, Professor
Ph.D., Michigan Technological University, 1993

I. Charles Ume, Professor
Ph.D., University of South Carolina, 1985
  • Fellow of ASME and IEEE

**Mechanics of Materials**

Antonia Antoniou, Assistant Professor
Ph.D., Iowa State University, 2006

Laurent Capolungo, Assistant Professor
(Will start at Georgia Tech in Spring 2010)
Ph.D., Georgia Institute of Technology, 2007

Mohammed Cherkaoui, Professor
Ph.D., University of Metz (France), 1995

Ken Gall, Professor of Materials Science and Engineering (Joint Appointment)
Ph.D., University of Illinois, 1998

Karl I. Jacob, Professor of Polymer, Textile and Fiber Engineering (Joint Appointment)
Ph.D., University of Maryland, 1985

Richard W. Neu, Professor
Ph.D., University of Illinois, 1991

Oliver Pierron, Assistant Professor
Ph.D., Pennsylvania State University, 2005

Naresh N. Thadani, Professor of Materials Science and Engineering (Joint Appointment)
Ph.D., New Mexico Institute of Mining and Technology, 1984
  • Fellow of APS and ASME

Min Zhou, Professor
Ph.D., Brown University, 1993

Ting Zhu, Assistant Professor
Ph.D., Massachusetts Institute of Technology, 2004

**Heat Transfer, Combustion, and Energy Systems**

Baratunde A. Cola, Assistant Professor
Ph.D., Purdue University, 2008

Andrei G. Fedorov, Professor
Ph.D., Purdue University, 1997

Srinivas Garimella, Professor
Ph.D., Ohio State University, 1990
  • Fellow of ASME

S. Mostafa Ghiaasiaan, Professor
Ph.D., University of California, Los Angeles, 1983
  • Fellow of ASME

Asegun Henry, Assistant Professor
(Will come to Georgia Tech in spring 2011)
Ph.D., Massachusetts Institute of Technology, 2009

Sheldon M. Jeter, Associate Professor
Ph.D., Georgia Institute of Technology, 1979

Yogendra K. Joshi, John M. McKenney and Warren D. Shiver Distinguished Chair in Building Mechanical Systems and Professor
Ph.D., University of Pennsylvania, 1984
  • Fellow of AAAS and ASME

Satish Kumar, Assistant Professor
Ph.D., Purdue University, 2007

Timothy Lieuwen, Associate Professor of Aerospace Engineering
(Joint Appointment)
Ph.D., Georgia Institute of Technology, 1999

G. P. “Bud” Peterson, President of Georgia Tech and Professor
Ph.D., Texas A&M University, 1985
  • Fellow of AIAA and ASME

William J. Wepfer, Eugene C. Gwaltney Jr. School Chair and Professor
Ph.D., University of Wisconsin, 1979
  • Fellow of ASHRAE and ASME

Zhuomin Zhang, Professor
Ph.D., Massachusetts Institute of Technology, 1992
  • Fellow of ASME

Ben T. Zinn, David S. Lewis Chair of Aerospace Engineering and Regents’ Professor (Joint Appointment)
Ph.D., Princeton University, 1965
  • Fellow of AIAA and ASME
  • Member of NAE
Microelectromechanical Systems
Nazanin Bassiri-Gharb, Assistant Professor
Ph.D., Pennsylvania State University, 2005
F. Levent Degertekin, George W. Woodruff Chair in Mechanical Systems and Professor
Ph.D., Stanford University, 1997
James Gole, Professor of Physics (Joint Appointment)
Ph.D., Rice University, 1971
• Fellow of AAAS
Samuel Graham, Associate Professor
Ph.D., Georgia Institute of Technology, 1999
Peter J. Hesketh, Professor
Ph.D., University of Pennsylvania, 1987
• Fellow of AAAS and ECS
Todd Sulichek, Assistant Professor
Ph.D., Stanford University, 2002

Tribology
Itzhak Green, Professor
Sc.D., Technion-Israel Institute of Technology, 1984
• Fellow of ASME and STLE
Richard F. Salant, Georgia Power Distinguished Professor in Mechanical Engineering
Sc.D., Massachusetts Institute of Technology, 1967
• Fellow of ASME and STLE
Jeffrey L. Streator, Associate Professor
Ph.D., University of California, Berkeley, 1990

Nuclear and Radiological Engineering/Medical Physics
Said I. Abdel-Khalik, Southern Nuclear Distinguished Professor
Ph.D., University of Wisconsin, 1973
• Fellow of ANS and ASME
Sang H. Cho, Associate Professor
Ph.D., Texas A&M University, 1997
Chaitanya Deo, Assistant Professor
Ph.D., University of Michigan, 2003
Nolan E. Hertel, Professor
Ph.D., University of Illinois, 1979
• Fellow of HPS
Bojan Petrovic, Professor
Ph.D., Pennsylvania State University, 1995
Farzad Rahnama, Chair of the Nuclear and Radiological Engineering & Medical Physics Programs and Professor
Ph.D., University of California, Los Angeles, 1981
• Fellow of ANS
Weston M. Stacey, Jr., Fuller E. Callaway Professor in Nuclear Engineering and Regents' Professor
Ph.D., Massachusetts Institute of Technology, 1966
• Fellow of ANS and APS
C.-K. Chris Wang, Professor
Ph.D., Ohio State University, 1989
Lei Zhu, Assistant Professor
Ph.D., Stanford University, 2007

Academic Professionals
Jeffrey A. Donnell, Coordinator of the Frank K. Webb Program in Professional Communication and Senior Academic Professional
Ph.D. English, Emory University, 1990
Kristi Mehaffey, Undergraduate Academic Advisor and Academic Professional
M.S., Clemson University, 2000

David Sanborn, Associate Chair for Undergraduate Studies and Senior Academic Professional
Ph.D., University of Michigan, 1989
• Fellow of ASME
Michael D. Stewart, Academic Professional
M.S., Wayne State College, 1983
Christine Valle, Academic Professional & Advisor to BS/MS Students
Ph.D., Georgia Institute of Technology, 1999
Wayne Whitman, Director of the Office of Student Services and Senior Academic Professional
Ph.D., Georgia Institute of Technology, 1996

RESEARCH FACULTY
Scott S. Bair, Principal Research Engineer
Ph.D., Georgia Institute of Technology, 1990
• Fellow of ASME
Van B. Biesel, Research Engineer II
M.S., Georgia Institute of Technology, 1993
Dwayne Blaylock, Research Engineer II and Interim Manager of the NRE/MP Laboratories
M.S.N.E., Georgia Institute of Technology, 1997
John R. Bogle, Research Engineering II
M.S., Georgia Institute of Technology, 1987
Jayme Capalli, Research Engineer II
M.S.M.E., Georgia Institute of Technology, 1988
Tom Crittenden, Research Engineer II
Ph.D., Georgia Institute of Technology, 2003
John Culp, Research Engineer II
B.S.M.E., Georgia Institute of Technology, 2000
John Doane, Research Engineer II
M.S.M.E., Georgia Institute of Technology, 2001
Michael Gray, Senior Research Engineering and Co-Director, Acoustics and Vibrations Research Laboratory
M.S.M.E., Georgia Institute of Technology, 1992
Francois M. Guillot, Senior Research Engineer
Ph.D., Georgia Institute of Technology, 2000
James Huggins, Research Engineer II
M.S.M.E., Georgia Institute of Technology, 1988
Peter A. Kottke, Research Engineer II
Ph.D., Georgia Institute of Technology, 2004
Gregg D. Larson, Research Engineer II
Ph.D., Georgia Institute of Technology, 1996
Angela Lin, Research Engineer II
M.S., Georgia Institute of Technology, 2002
James S. Martin, Senior Research Engineer
M.S., Georgia Institute of Technology, 1994
Raghu Ram V. Pucha, Senior Research Engineer
Ph.D., Indian Institute of Science, 1995
Dennis L. Sadowski, Research Engineer II
M.S., University of Illinois at Chicago, 1986
Hazel Stevens, Research Scientist I
B.Sc., University of Durham, United Kingdom
Dave Trivett, Principal Research Scientist
M.S., University of Wisconsin (Madison), 1976
Bojan Vukanovin, Research Engineer II
Ph.D., Georgia Institute of Technology, 2002
Jelena Vukanovin, Research Engineer II
M.S., Georgia Institute of Technology, 2000
Dingkang Zhang, Research Engineer II
Ph.D., Georgia Institute of Technology, 2005
Ji-Xun Zhou, Principal Research Scientist
Chinese Academy of Sciences Graduate School (Ocean Acoustics), 1963-1967
• Fellow of ASA
MEET OUR NEW FACULTY MEMBERS

In a continuing effort to improve the student/faculty ratio, which has remained very high for a number of years, some new faculty members have been added to the Woodruff School. Our undergraduate enrollment continues to grow and our graduate enrollment remains consistently high. The “popularity” of the Woodruff School has resulted in record enrollments in almost all our undergraduate and graduate-level courses. The Woodruff School will continue to seek out and interview potential faculty members to be ready when the economy recovers and new hiring can begin again in a sustained way.

Laurent Capolungo (Ph.D. ME 2007) has accepted a position as assistant professor and will begin in January 2010 at Georgia Tech Lorraine. He recently completed a postdoctoral fellowship at Los Alamos National Laboratories in New Mexico. His primary area of research is mechanics of materials.

Brandon Dixon began as an assistant professor in fall 2009. His area of research is bioengineering, focusing on lymphatics, lipid metabolism, biomechanics, biomedical optics, image processing, and tissue engineering. He directs the Lab for Lymphatic Biology and Bioengineering. Prior to coming to Georgia Tech he was a post-doc at EPFL in Switzerland.

Asegun Henry has accepted a position as an assistant professor starting in spring term 2011 after he completes a post-doc at Oak Ridge National Laboratory. He completed his Ph.D. at MIT in 2009. His work is in the area of computational heat transfer and energy systems.

Leon McGinnis, Eugene C. Gwaltney, Jr. Professor of Manufacturing Systems in the School of Industrial and Systems Engineering, has received a courtesy joint appointment in the Woodruff School. He is the Associate Director of the Manufacturing Research Center and the Director of the Product-Systems Lifecycle Management Center. His research centers on rapid prototyping, environmental issues in manufacturing, system modeling and design, and sustainable manufacturing.

Massimo Ruzzene, Associate Professor of Aerospace Engineering, has accepted a courtesy joint appointment in the Woodruff School. Before coming to Georgia Tech in 2002, he was a member of the faculty at the Catholic University of America in Washington, D.C. His research interests focus around wave propagation in periodic materials and systems.

Yan Wang came to Georgia Tech for the fall 2009 term as an assistant professor. Prior he was an assistant professor at the University of Central Florida. He is the holder of a prestigious National Science Foundation Early Faculty Career Award. His research focuses on modeling and simulation nanoscale CAD/CAM/CAE, and product lifecycle management.

Lei Zhu came to Georgia Tech for the fall 2008 semester as an assistant professor. He received his Ph.D. in electrical engineering from Stanford University in 2007 and then spent several years as a postdoctoral fellow in the radiology department. His research focuses on X-ray imaging system development, algorithm design for tomographic reconstruction, imaging applications in radiation therapy, and advanced radiation therapy planning. At Georgia Tech he is developing the Advanced X-Ray Imaging and Therapy Optimization Laboratory.

DAVE ROSEN IS THE NEW ASSOCIATE CHAIR FOR ADMINISTRATION

Upon the departure of Dr. Jianmin Qu from the Woodruff School, Dr. Dave Rosen became the Associate Chair for Administration. Of his new position, Dr. Rosen says: “The previous Associate Chairs for Administration have done an outstanding job of streamlining processes, formalizing procedures, and ensuring that many of the School’s internal operations run smoothly. I hope to continue their good efforts. With both the Institute and the School embarking on strategic planning exercises, we will have the opportunity to make appropriate adjustments in our organization, research programs, curricula, etc. to enable us to achieve the long-term objectives that are defined. Although we have some challenges in the short term, the long-term prospects for Mechanical Engineering in general and the Woodruff School in particular are excellent. I look forward to working with Dr. Wepfer and the faculty, staff, students, and other stakeholders of the Woodruff School over the next year. Please contact me at rosen.admin@me.gatech.edu with your suggestions on improving our School.”

After receiving his Ph.D. from the University of Massachusetts in 1992, Dr. Rosen joined the Woodruff School faculty as an assistant professor. He was promoted to associate professor in 1998 and to full professor in 2004. His research interests lie at the intersection of design, computer-aided design, and manufacturing. His design research includes product family and configuration design and his research in CAD and manufacturing is focused on rapid prototyping technologies and their applications. He has been a member of the Systems Realization Laboratory since its formation in 1992. He established the Rapid Prototyping and Manufacturing Institute (RPMI) and was appointed its Academic Director in 1995, where he is responsible for developing educational and research programs in rapid prototyping. He was appointed Director of the RPMI in 1998. Dr. Rosen is a Fellow the ASME, was a Woodruff School Fellow from 2002-2007, and was the Society of Professional Engineers (Metro Atlanta Section) Engineer of the Year in Education in 1997.

Upon appointing Dr. Rosen to this position, Dr. Bill Wepfer said, “David has done an outstanding job guiding the graduate program and I look forward to working with him in his new role.”
FACULTY HONORS

Said Abdel-Khalik, Southern Nuclear Professor, was appointed by the United State Nuclear Regulatory Commission to a 2nd term on the Advisory Committee on Reactor Safeguards (ACRS). This is a prestigious appointment to a national committee.

Scott Bair, Principal Research Engineer, received the 2009 International Award from the Society of Tribologists and Lubrication Engineers. This is the Society’s highest technical honor, recognizing outstanding contributions to tribology, lubrication engineering, or allied fields.

Gang Bao and Dave Trivett were recognized with a Georgia Tech ten-year service award at the 2009 Faculty/Staff Luncheon. Bao was elected to the grade of Fellow in the ASME.

Baratunde Cola, Assistant Professor, received a DARPA Young Faculty Award for his proposal titled, "Photonthermal Enhanced Carbon Nanotube Antenna Arrays for Solar Energy Conversion."

Andrei Fedorov, Professor, was named to the International Advisory Board, Tokyo Institute of Technology’s (Japan) Global Center of Excellence in Energy Science. Also he received the Semiconductor Research Corporation Inventory Recognition Award for 2009.

Andres Garcia, Professor, received the Class of 1934 Outstanding Interdisciplinary Activity Award at the 2009 Georgia Tech faculty/staff luncheon.

Srinivas Garimella, Professor, was appointed Associate Editor of the ASME Journal of Heat Transfer. Also, he was nominated as a panel member to the UK Research Council Review of UK Energy Research.

Itzhak Green, Professor, is the recipient of the 2009 Captain Alfred E. Hunt Memorial Award from the Society of Tribologists and Lubrication Engineers for his paper, “The Thermo-elastic Behavior of Thrust Washer Bearings Considering Mixed Lubrication.”

Robert Guldberg, Professor, was appointed a member of the Musculoskeletal Tissue Engineering Study Section, Center for Scientific Review of the National Institutes of Health.

Peter Hesketh, Professor, was elected to the grade of Fellow in the Electrochemical Society.

Yogendra Joshi, McKenney/Shiver Chair, received the 2009 IEEE Semi-Thermal Significant Contributor Award and a 2008 IBM Faculty Award that recognizes “the quality of your program and its importance to our industry.”

G. P. “Bud” Peterson, President of Georgia Tech, was named one of the 100 most influential Atlantans by the Atlanta Business Chronicle.

Raghun Pucha, Senior Research Engineer, and Christine Valle, Academic Professional, were selected to participate in the inaugural group of the Class of 1969 Teaching Scholars Program by the Center for Teaching and Learning. The program is designed for untenured assistant professors who want to develop their full teaching potential.

Karim Sabra, Assistant Professor, won the 2009 A. B. Wood Medal from the Institute of Acoustics of Great Britain for “distinguished contributions to the application of underwater acoustics.” The prize was named after Albert Beaumont Wood, and is presented in alternative years to European and North American scientists. Dr. Peter Rogers, Rae and Frank Neely Chair in Mechanical Engineering, was the recipient of the award in 1979.

Richard Salant, Georgia Power Distinguished Professor, won the 2009 Mayo D. Hersey Award. This award was established in 1965 to recognize distinguished and continued contributions over a substantial period of time to the advancement of lubrication science and engineering.

Minami Yoda was appointed a consultant to the Air Force Scientific Advisory Board.

Jun Ueda is the co-recipient of the 2009 Early Academic Career Award in Robotics and Automation from the IEEE Robotics and Automation Society.

WOODRUFF SCHOOL FACULTY MEMBER WINS THE GEORGIA TECH DISTINGUISHED PROFESSOR AWARD

Professor Bob Nerem won the 2009 Georgia Tech Class of 1934 Distinguished Professor Award, the highest award given by the Institute. In 2006 he received the Jack M. Zeigler Outstanding Educator Award in the Woodruff School in recognition of his pioneering achievements in establishing the discipline of biomedical engineering at Georgia Tech and for having a profound influence on its development in the United States. Dr. Nerem, who earned his Ph.D. in 1964 from the Ohio State University, spent the initial part of his career involved in research and education in aerospace engineering. He anticipated the coming tide of biomedical education, studied molecular biology in the mid-1980s, and was hired in 1987 as the Parker H. Petit Distinguished Chair for Engineering in Medicine within the Woodruff School. Since 1995 has served as Director of the Parker H. Petit Institute for Bioengineering and Bioscience (IBB) at Georgia Tech, and since 1998 as director of the Georgia Tech/Emory Center for the Engineering of Tissues. Dr. Nerem established an Undergraduate Research Scholars Program in IBB. He paved the way for graduate students to interact directly with industry partners, which led to the establishment of the course called LIFE, Learning About Industry From Experts.

Dr. Nerem is a member of the National Academy of Engineering and this year he received their Founders Award. He is an elected Fellow of the American Academy of Arts and Sciences, a recipient of the ASEE Theo Pilkington Outstanding Educator Award in Biomedical Engineering, and a recipient of an honorary doctorate from the University of Paris, among other awards.

Only three other Woodruff School faculty members have received this prestigious award: Emeritus Professors Jerry H. Ginsberg and Ward O. Winer in 1994 and 1987, respectively, and Dr. Ben Zinn (joint appointment in the Woodruff School) in 1990.
NEW PATENTS IN THE WOODRUFF SCHOOL
The following patents were granted during the past academic year:


WOODRUFF SCHOOL FACULTY FELLOWS PROGRAM
Dr. Suman Das, Associate Professor, was appointed a Woodruff School Faculty Fellow from 2009 to 2013. This award supports the scholarly activities of mid-career faculty, and provides discretionary funds. His research is in the areas of manufacturing, mechanics of materials and bioengineering, specifically advanced manufacturing and materials processing of metallic, polymeric, ceramic, and composite material for applications in the sciences, propulsion, and energy. He directs the Direct Digital Manufacturing Laboratory. Dr. Das began at Georgia Tech in fall 2007 as an Associate Professor. Prior, he was an Associate Professor and an Assistant Professor at the University of Michigan. He received his Ph.D. in 1998 from the University of Texas at Austin, and in 2008 he received the Outstanding Young Mechanical Engineer from the University of Texas Mechanical Engineering Academy of Distinguished Alumni.

Other Woodruff School Faculty Fellows are Levent Degertekin (2008-2012), Andrei Fedorov (2008-2012), Andres Garcia (2006-2010), Shreyes Melkote (2006-2010), and Minami Yoda (2006-2010). Sam Graham is the current holder of the Anderer Fellow position.

MEET THE NEW GEORGE W. WOODRUFF CHAIR IN MECHANICAL SYSTEMS
F. Levent Degertekin was appointed to the George W. Woodruff Chair in Mechanical Systems, effective August 2009. He came to Georgia Tech in 2000 as an Assistant Professor. He was promoted to Associate Professor in 2005 and to Professor in 2008. Before coming to Georgia Tech, he was an Engineering Research Associate at the E. L. Ginzton Laboratory at Stanford University.

Dr. Degertekin’s research focuses on understanding physical phenomena in acoustics and optics, and utilizing this knowledge creatively in the form of microfabricated devices. His research spans several fields including atomic force microscopy, micromachine opto-acoustic devices, ultrasound imaging, bioanalytical instrumentation, and optical metrology. Dr. Degertekin and his research collaborators have developed innovative devices for various applications, which has resulted in twenty-nine U.S. patents. Applications include hearing aid microphones, intravascular imaging arrays for cardiology, bioanalytical mass spectrometry, material characterization at nanoscale, and parallel interferometers for MEMS metrology.

Professor Degertekin is a Woodruff School Faculty Fellow (2008-2012). He received a Sigma Xi Young Faculty Award (2005), a Whitaker Foundation Biomedical Engineering Research Grant Award (2001), and the IEE Ultrasonics, Ferroelectrics, and Frequency Control Society Outstanding Paper Award (2004). Recently, he was a National Academy of Engineering Frontiers of Engineering Symposium Invited Participant and was named Associate Editor of the IEEE’s Transactions on Ultrasonics, Ferroelectrics, and Frequency Control.

About the Mechanical Systems Chair
George W. Woodruff (1895-1987) was an alumnus (Class of 1917) and influential Atlanta businessman, civic leader, and philanthropist, who believed that education was the key to an individual’s success. In September 1985, at the age of 90, Mr. Woodruff attended the ceremonies to rename the School of Mechanical Engineering in his honor. Today, the Woodruff benevolence continues to benefit Georgia Tech through the support of two major scholarship funds and a significant, unrestricted endowment. The Woodruff bequest to the School of Mechanical Engineering underwrites two faculty chairs—one in Mechanical Systems and one in Thermal Systems—and activities such as the Woodruff Faculty Fellows Program, the Woodruff Graduate Fellowship Program, the Woodruff Teaching Intern Program, and research and teaching assistantships for graduate students. The chair in mechanical systems was established in 1989. In that year, Dr. Jerry H. Ginsberg was named to the chair and held the position for nineteen years, until his retirement in 2008. Dr. Ari Glezer is the current holder of the Thermal Systems Chair.
CHANGES IN THE WOODRUFF SCHOOL

Dr. Janet Allen, Professor in the Woodruff School, was named the John and Mary Moore Chair and Professor in the School of Industrial Engineering at the University of Oklahoma. At Georgia Tech, she was a director of the Systems Realization Laboratory and served as faculty advisor for many years to Pi Tau Sigma, the ME national honor society. Her research area is computer-aided engineering and design, especially the simulation-based design of complex engineering systems. Dr. Allen will remain an adjunct professor in the Woodruff School until all her students have graduated.

Dr. Farrokh Mistree, Professor in the Woodruff School, was named the L.A. Comp Chair and Director in the School of Aerospace and Mechanical Engineering at the University of Oklahoma. At Georgia Tech, he was an Associate Chair of the Woodruff School for Georgia Tech Savannah, having helped to establish the mechanical engineering program in that facility and worked toward ABET accreditation. His area of research is computer-aided engineering and design. He was a founder of the Systems Realization Laboratory and served as the national secretary-treasurer for the Pi Tau Sigma ME honor society for 13 years. Dr. Mistree will be an adjunct professor until all his Georgia Tech students receive their degrees.

Dr. Jianmin Qu left Georgia Tech to accept the position of Walter P. Murphy Professor of Civil and Mechanical Engineering and Chair of the Department of Civil and Environmental Engineering at Northwestern University in Evanston, Illinois. In the Woodruff School, he was a Professor of Mechanical Engineering and had been the Associate Chair for Administration for the past two years. He will remain an adjunct professor until all his Georgia Tech students have graduated.

Jianmin earned his doctoral degree from Northwestern in 1987, and joined the Woodruff School in 1989 as an assistant professor. He established and sustained an impressive and well-funded research group of outstanding graduate students and post-docs in the area of mechanics of materials. He has been a role model for collaborative research in the College of Engineering. According to Bill Wepfer, “I want to thank Jianmin Qu for his service to the Woodruff School as the Associate Chair for Administration during the past two years. I am especially grateful to him since he really helped ‘break me in’ as the new school chair last year.”

Hazel Stevens came to the Woodruff School as a Research Scientist I, working in the bioengineering research group with Bob Guldberg.

STUDENTS

STUDENT GROUPS IN THE WOODRUFF SCHOOL

There are a number of organizations for Woodruff School students to join. These groups offer a unique opportunity to learn about the many facets of mechanical engineering or nuclear engineering, provide an opportunity to meet practicing professionals, and provide valuable service to the School, the community, and the Institute. More information may be found at: www.me.gatech.edu/me/studentorganizations.

COMPETITION GROUPS

gt motorsports (Formula SAE) conceives, designs, builds, and tests a single seat formula race car
Dr. Ken Cunefare, advisor

GT Off-Road (SAE Baja) designs and builds a single seat vehicle from scratch that they race on a dirt track.
Dr. Ken Cunefare, advisor

GT RoboJackets participates in robotics competitions, promotes robotics at Georgia Tech, and helps students learn skills to build robots.
Dr. Wayne Book, FIRST advisor
Dr. Jun Ueda, advisor

Wreck Racing purchases, repairs, and modifies a car to compete in the Grassroots Motorsports Challenge.

Allen
Mistree
Qu
Stevens

RoboJackets

24
GENERAL GROUPS
Mechanical Engineering
Graduate Students Association (MEGA) fosters ME identity, facilitates service opportunities, and fun.
Dr. G. Paul Neitzel, advisor

NRE Student Advisory Committee advises the NRE/MP faculty and administration on issues that affect NRE/MP students.
Dr. Farzad Rahnama, advisor

Woodruff School Student Advisory Committee (WSSAC) advises the faculty and administration on issues that directly affect students.
Ms. Kristi Mehaffey, advisor

Woodruff School Graduate Women (WSGW) serves the academic, social, and career needs of female graduate students in the Woodruff School.

HONOR SOCIETY
Pi Tau Sigma (Nu Chapter) is the national honor society of mechanical engineers.
Dr. Wayne Whitman, advisor

PROFESSIONAL SOCIETIES
Acoustical Society of America (ASA) is a scientific society dedicated to increasing and diffusing knowledge of acoustics and its practical applications.
Drs. Erica Ryherd & Karim Sabra, advisors

American Nuclear Society (ANS) is the link for prospective nuclear engineers with their chosen profession.
Dr. Chattanya Deo, advisor

American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) promotes the art and science of heating, refrigerating, air conditioning, ventilation, and allied technologies.
Dr. Sheldon Jeter, advisor

American Society of Mechanical Engineers (ASME) is the link for prospective mechanical engineers with their chosen profession.
Dr. Bill Singhose, advisor

Society of Automotive Engineers (SAE) International furthers research, development, design, manufacture, and utilization of vehicles.
Dr. Ken Cunefare, advisor

Society of Manufacturing Engineers (SME) advances professionalism, knowledge and learning of the manufacturing environment.
Dr. Rhett Mayor, advisor

HONORS DAY AWARDS
Each April, awards are announced at Georgia Tech’s Student Honors Day luncheon. Winners are selected by the Associate Chair for Undergraduate Studies and the Undergraduate Academic Advisor with the approval of the Woodruff School Chair. The recipients in 2009 were:

Christopher Adams received one of the ten (one for each engineering school) Henry Ford II Scholar Awards, given to the engineering students with the best academic records at the end of the third year of undergraduate study.

Phares Carroll received the J. E. McDaniel Award. This award is given by the Boreaean Honor Society and recognizes the graduating senior co-op with the highest grade point average.

Huan Du received the Joe T. LaBoon (ME 1948) Outstanding Graduating Senior Co-op Award. It is presented to the outstanding graduating co-op who has excelled in the classroom and on the job, and who has made exemplary contributions to the co-op program. Huan also received the Tau Beta Pi Senior Engineering Cup, which is presented to the engineering student having demonstrated academic excellence, leadership, and service to the Institute, as well as having shown potential for continuing growth.

Matthew Eicholtz, Jefferson Gee, Lina Jensen, Cameron Miller, Noah Randolph and Joel Weber each received a Richard K. Whitehead Jr. Memorial Award. This award is presented to outstanding mechanical engineering seniors who exemplify high standards of scholarships and service.

Joshua Haar, Prathyusha Kantheti, Ryan Kraft and Yulani Smith each won a James G. and Mary G. Wholiford Scholarship. These scholarships recognize outstanding senior co-op students who have excelled both academically and on their co-op jobs, and who have made significant contributions to the community.

Brandon Kearse won the Woodruff School of Mechanical Engineering School Chair’s Award, which is given on the basis of outstanding scholarship and contributions to the School, especially to its programs and external representation.

Adam Lord received the Woodruff School of Mechanical Engineering Outstanding Scholar Award. This award recognizes a graduating senior who has achieved an exceptional scholastic record in the mechanical engineering program.

Jose Medina received the Samuel P. Eschenbach Memorial Award in Mechanical Engineering. This award, given by the family of Samuel P. Eschenbach (ME 1935), is based on academic performance, leadership capabilities as demonstrated through involvement in the campus community, and promise as a mechanical engineer.

Nicole Miller received the Pi Tau Sigma Outstanding Senior Award, Hanna Wagner received the Pi Tau Sigma Outstanding Junior Award, and Kevin Wright received the Pi Tau Sigma Outstanding Sophomore Award. These awards are presented to the students who have demonstrated outstanding scholastic achievements and service to the School, to the Institute, and to student activities.

Matthew Rogge received a CETL/BP Graduate Teaching Assistant Award. This Institute-wide award is given to the TA acting as instructor of record for outstanding contributions and excellence in undergraduate instruction. He also received the Woodruff School Outstanding Teaching Assistant Award for excellent instruction in undergraduate laboratory courses. He assisted his advisor, Dr. Charles Ume, in mechatronics courses for the past four years.

Yulani Smith won the Georgia Tech Society of Black Engineers Faculty Advisor Excellence Award, which is presented to an NSBE student with outstanding scholarship and leadership qualities that best typify the mission of NSBE and who has exhibited excellence in the best Georgia Tech tradition.
MORE STUDENT AWARDS

Dinesh Bansal, graduate student, received the Peter J. Kemmy Memorial Student Scholarship at the 14th International Symposium on Electromagnetic Launch (EML) Technology.

Adam Christensen, graduate student, won a Congressional Fellowship from the ASME. He will go to Washington, D.C. next January to work on energy policy.

Shaheen Dewji, doctoral student in NRE, was selected as an SAIC Fellow to support his participation in the Sam Nunn Security Program. This program allows a select set of students to study the policy aspects of their technical discipline as they relate to international security.

Sergey Doudy and Christopher Broughton, undergraduate students, each received an ME co-op scholarship from John Deere.

Roderick Jackson, graduate student, won a Congressional Fellowship from the Materials Research Society to work on energy policy.

Nivedh Manohar won a 2009 AAPM Summer Undergraduate Fellowship. Dr. Sang Cho is participating in the program as his mentor.

Chris Paneuf received a 2009 Department of Homeland Security Fellowship.

Marc Pare (ME) teamed with Kathy Pham (CS) at GTL, and were selected as finalists in the 2009 Imagine Cup sponsored by Microsoft and the UN. Only one US team made the finals.

James Potter, Heather Humphreys, Yang Xie, and Raphael Okereke won first place with customized golf clubs with integrated sensors at the 2009 Design for Direct Digital Manufacturing Student Competition at the RAPID Conference & Exposition.

Ben Waghorn won the prestigious John R. Cameron Young Investigator Award for his graduate research presented at the 2009 AAPM Young Investigators Symposium Competition. There were ten finalists in the competition.

THE PI TAU SIGMA HONOR SOCIETY

Pi Tau Sigma is the national honor society for mechanical engineering. The Georgia Tech Nu Chapter was chartered on November 29, 1932. During the past academic year, the chapter’s goal was to inform their members about opportunities for graduate school. In addition, the chapter participated in Team Buzz Service Day, the Atlanta Food Bank, a voter registration drive, and the Tech Beautification Day. In the spring term, they hosted the Engineering Academic Challenge which is open to all undergraduate students at Georgia Tech, ran the concession stand at the Georgia Tech Auto Show, and participated in intramural sports and homecoming activities. There were two induction ceremonies with 52 new initiates.


STAFF

Larry Adkins
Segried Allen
Trudy Allen
Bruce Barkley
Antonette Benford
Shauna Bennett-Boyd
Amy Bondurant
Vladimir Bortkevich
Louisa Boulanger
William Cheesborough
Robert Cooper
Phillip Coulson
Andrew Davis
Judy Diamond
Dimetra Diggs-Butler
Richard Duplessis
Dana Foster
Melody Foster
Marlena Frank
Norma Frank
Kyle French
Rona Ginsberg
John Graham
Cheryl Griffin
Camellia Henry
Angela Hicks
Phyllis Hinton
Nancy Hutton
Samantha James
Deidra Johnson
Glenda Johnson
Vivian Johnson
Cecelia Jones
Mark Juliano
Theresa Keita
Tom Lawley
Phu Le
Joyce Lowe
Dorothy McDuffie-Alexander
Stephanie Merrick
Regina Neequaye
Cary Ogletree
Joli Outlaw
Rekha Patel
Michael Proctor
Melissa Raine
Kysten Raleigh
Amina Sadiq
Glenda Skinner
Sterling Skinner
Valarie Spradling
Kellie Templeman
Melinda Wilson

Clerk IV
Administrative Assistant II
Academic Advisor I
Building Coordinator
Administrative Assistant I
Administrative Coordinator
Director of Human Resources
Electrical Engineer III
Mechanical Technician III
Director of Financial Services & Admin.
Mechanical Technician III
Financial Specialist
Electronics Specialist
Administrative Coordinator
Program Coordinator II
System Analyst III
Administrative Assistant I
Administrative Manager II
System Analyst III
Academic Advisor I
Electrical Engineer II
Director of Communications
Machine Shop Manager
Administrative Assistant I
Administrative Assistant I
Financial Manager I
Project Coordinator II
Accountant III
Administrative Assistant II
Administrative Assistant I
Academic Advisor I
Administrative Advisor II
Administrative Coordinator
Director of Information Technology
Academic Assistant II
Director of Development
System Analyst III
Administrative Assistant II
Program Coordinator II
Administrative Assistant II
Administrative Assistant II
Facilities Project Manager
Administrative Assistant I
Accountant III
Computer Services Specialist II
Administrative Coordinator
Administrative Assistant I
Accountant III
Program Coordinator I
Director of Instructional Labs
Administrative Assistant I
Research Technician IV
Administrative Coordinator
THE ADMINISTRATIVE STAFF IS REORGANIZED

In October 2008 the Woodruff School implemented a reorganization plan that was developed by Georgia Tech Consulting Services with input from the School’s Faculty Advisory Committee. The goals of the reorganization plan were to improve our customer service by closer alignment of available services to faculty and student needs; to streamline layers of management and improve the workload distribution; to upgrade IT services by building better research computing support for faculty and improved basic IT support for the entire school; to improve financial services by providing more timely and clear information on current projects and by developing a strategic financial planning capability; and to develop collaborative space management solutions. Some positions were changed to create the Director of Financial Services and Administration, the Director of Information Technology, and Project Manager for Facilities. Search committees were formed that resulted in the hiring of outstanding candidates for these positions. According to Dr. Wepfer, “The test of any such reorganization is our ability to adapt to future needs while providing both our faculty and staff with outstanding and timely support.”

THE WOODRUFF SCHOOL HAS A DIRECTOR OF INFORMATION TECHNOLOGY

Mark Juliano began in April as the Woodruff School’s Director of Information Technology. Prior, he was Manager at Autotrader.com; Systems and Database Manager at the Georgia Tech Foundation; and he designed embedded software for Tracor. In this new job, Mark oversees the computing infrastructure and daily computer support in the Woodruff School, including the support of High Performance Computing (HPC), student access clusters, and next-generation web services that enable the Woodruff School community to meet its academic and research goals. Mark sees his immediate goals as improving basic services and support as well as building partnerships with other IT organizations at Tech. He believes that leveraging common resources at Tech will free his team to focus more on the unique needs of the Woodruff School, and provide solutions for those needs. As an example, the increased use of simulation and modeling as a research method is driving demand for HPC. So the Woodruff School is working to provide a common HPC resource which will help us to remain competitive in attracting research funding and new faculty. Mark earned his B.S. from the University of Central Florida and an MBA from Kennesaw State University in Georgia. As an aside, he is interested in observational astronomy, especially double and multiple stars, the history of science and Georgia. As an aside, he is interested in observational astronomy, especially double and multiple stars, the history of science and Georgia.

MEET THE DIRECTOR OF FINANCIAL SERVICES AND ADMINISTRATION

Bill Cheesborough began as Director of Financial Services and Administration in late February. This is a new position in the Woodruff School. Prior, Bill directed the financial and planning affairs of a small business and a national security field site, and served as an Army aviation officer. He received his B.S. from West Point and an M.B.A. from Syracuse University. Bill is now responsible for fiscal, logistical, and administrative support of the Woodruff School. This includes providing strategic vision while directing the Finance, Facilities, and Administrative Support teams to promote an atmosphere of fiscal responsibility; provide a working environment commensurate with a leading engineering school; and facilitate the efforts of faculty and students engaged in learning and research. Some objectives that are already in process are: implement predictable and sustainable budgets; increase interaction between the administrative and financial support functions; and instill a proactive approach to planning. Bill’s personal interests have migrated from flying helicopters to more grounded activities such as hiking, triathlon, old movies, and all sports.

HONORS AND AWARDS

Trudy Allen, Academic Advisor I, won the Woodruff School Outstanding Achievement Award for Classified Employees for spring semester 2009.

Vladimir Bortkevich, Robert Cooper, Joyce Lowe, and Stephanie Merrick each received a Georgia Tech ten-year service award at the 2009 faculty/staff luncheon.

Dimetra Diggs-Butler, Program Coordinator II, received a Georgia Tech Outstanding Staff Performance Award at the 2009 faculty/staff luncheon. Previous Woodruff School winners of this award are Norma Frank, Academic Advisor I, in 1995 and Rona Ginsberg, Director of Communications, in 1999.

Cecelia Jones and Melissa Raine were promoted to Administrative Coordinator.

Joi Outlaw received the Woodruff School Outstanding Achievement Award for Classified Employees for summer 2008. In addition, she was promoted to Administrative Assistant I in the MARC Building.

Michael Proctor, Computer Services Specialist II, won the fall semester 2008 Woodruff School Achievement Award for Classified Employees.

THE WOODRUFF SCHOOL OUTSTANDING ACHIEVEMENT AWARD

Sterling Skinner, Director of the Undergraduate Instructional Laboratories, received the Woodruff School Outstanding Achievement Award for Classified Employees for 2008. He was nominated by a number of faculty members and some GTA’s for his instrumental role in the upgrades and routine activities in the labs; for his support of the remote lab facilities at GT Savannah; and for an extraordinary level of performance on multiple, complex tasks and daily emergencies. In addition to his activities for ME 2110 (Creative Decisions/Design), ME 3057 (Experimental Methods Lab), ME 4053 (ME Systems Lab), ME 4182 (Capstone Design), and ME 4447 (Microprocessor Control of Manufacturing), he oversees the Student Competition Center, is the advisor to the Wreck Racing competition team, and is the founder in 2004 and host for the Georgia Tech Auto Show.

Sterling, who is from Statesboro, Georgia, came to Tech in 1986 to pursue a degree in mechanical engineering; he received his B.S. degree in 1991. While a student at Tech, he was a team leader of gt motorsports for four years contributing to the 2nd place overall finish in 1990 and the 6th place overall finish in 1991. He was a GM Scholar, worked for General Motors for three summers, and was the first recipient of the Richard K. Whitehead Memorial Award in 1991. Off-campus, Sterling builds and collects hot rods such as his 1973 Porsche 914 with a transplanted Lexus LS400 4.0 liter V8 engine.
THE GEORGIA TECH STAFF TRAINING AWARDS
The following Woodruff School staff members were recognized at the Georgia Tech Staff Training Awards Ceremony: Dimetra Diggs-Butler (Course Leader, Emerging Leaders); Cheryl Griffin (Office Professional); Vivian Johnson (Office Professional); Joyce Lowe (Defining Customer Service); Stephanie Merrick (Defining Customer Service); Amina Sadiq (Departmental Financial Management); and Glenda Skinner (Emerging Leaders).

FINANCES
The Woodruff School’s finances are built on a triad of funds from the state, sponsored research projects, and GT Foundation funds. As 90 percent of state funds must pay faculty and staff salaries, the School relies heavily on the other sources of revenue to provide the flexibility necessary to maintain our leadership role in engineering. Detailed financial information is available from the Woodruff School Finance Office.

The talents of a motivated and aggressive faculty have added significantly to the School's financial position, as sponsored research awards have grown to over $20 million annually, a 41 percent revenue growth in just two years.

ENDOWMENT
The market value of all endowments in the Woodruff School at the beginning of the Fiscal Year was $103,222,578, which generated $4 million available to the School for FY09.

28
THE WOODRUFF ENDOWMENT

Funds from the George W. Woodruff Trust continue to provide for the enhancement of the School of Mechanical Engineering. George Woodruff (class of 1917) served as a trustee and trustee emeritus of the Georgia Tech Foundation from 1941 until his death at the age of 91 in 1987. He received the Alumni Distinguished Service Award in 1963. In addition to providing a significant endowment for the School of Mechanical Engineering, his contributions to Georgia Tech provide National Merit Scholarships and scholarships for student athletes in nonrevenue producing sports and are an ongoing source of unrestricted support for the Institute. In FY09, 64 percent of the School’s endowment expenditures were for investment type activities, while 36 percent funded operational activities. This split highlights the ever increasing importance of the Woodruff Endowment in an era of State budget deficits.

The market value of the Mechanical Engineering Woodruff Endowment on July 1, 2008 was $71,698,449. That principle amount generated $2,820,864. The expenditures fall into the following categories:

Faculty
- Endows the George W. Woodruff Chair in Mechanical Systems and the George W. Woodruff Chair in Thermal Systems with funds from the Woodruff Trust. Dr. F. Levent Degertekin was named to the Mechanical Systems Chair as of August 17, 2009. Dr. Jerry H. Ginsberg, held the Mechanical Systems Chair from 1989 until his retirement in May 2008. Dr. Ari Glezer, Professor of Mechanical Engineering, was appointed to the Thermal Systems Chair in 2002.
- Funds travel and equipment purchases for faculty.
- Funds the Woodruff Faculty Fellows Program, which encourages young professors to build their careers at Georgia Tech by providing seed money for research projects and other discretionary activities. The award is given for a five-year period. Drs. Suman Das, F. Levent Degertekin, Andrei Fedorov, Andres Garcia, Shreyes Melkote, and Minami Yoda are the current faculty fellows.
- Partially supports the Frank K. Webb Program in Professional Communication and the hiring of academic professionals and part-time faculty to supplement the course offerings of the School.
- Funds faculty recruiting and a faculty retreat.
- Provides nuclear and radiological engineering students with graduate research assistantships to support teaching.
- Provides development funds for the Associate Chairs of the Woodruff School.
- Partially supports the Joseph H. Anderer Faculty Fellow, currently Dr. Sam Graham.
- Funds faculty development activities, including new faculty orientation, faculty socials, and retirement receptions.

Students
- Graduate students comprise the Woodruff Endowment’s largest category of support, with 229 students receiving $1,189,433 for graduate research assistantships, teaching assistantships, fellowships, and fees.
- Funds the Woodruff School Welcome Social, a fall event to welcome all Woodruff School undergraduate and graduate students, faculty, and staff back to campus.
- Funds the Class Recognition Reception to recognize those receiving their bachelor’s, master’s, or doctoral degree from the Woodruff School and their families, and to honor the Woodruff School’s Distinguished Alumnus and the Zeigler Outstanding Educator. This event was held in place of the Annual Spring Banquet.
- Provides funds, including travel, to recruit new ME, NRE, and MP graduate students to the Woodruff School. This includes three recruiting weekends in which potential graduate students are brought to campus for a weekend of activities.
- Partially funds student organizations such as the ASME Student Chapter, gt motorsports, GT Off-Road, GT Robojackets, Solar Jackets, and WSSAC.
- Provides partial financial support for student participants in the Georgia Tech Lorraine program.
- Provides funds for the Annual Outstanding Seniors Dinner. The purpose of this dinner is to encourage Woodruff School seniors with a grade point average of 3.5 and above to go to graduate school.
- Funds luncheon meetings between the Woodruff School administration and graduate students at which graduating students are asked to assess our programs.
- Funds an Open House and other activities in the Woodruff School during Family Weekend.
- Provides plaques and funds for students who receive an award at the annual Student Honors Day Luncheon.
- Provides partial financial support for student participants in the Georgia Tech Lorraine program.
- Partially supports the Pi Tau Sigma National Office, the honorary mechanical engineering society that the school hosts.
- Helps fund recruiting efforts for undergraduate students in nuclear and radiological engineering.

Facilities
- Helps fund the operation of the Student Competition Center.
- Provides funds to improve and furnish School facilities, including computer cluster and networking equipment.
- Provides funds to upgrade Woodruff School security equipment.
- Provides funds to renovate laboratory and office space.

Lectures and Seminars
- Underwrites the Annual Woodruff Distinguished Lecture.
- Provides support for the Woodruff Colloquium Series. These funds allow the Woodruff School to bring in well-known scholars to campus to present a seminar and interact with the faculty in small groups.

Publications and Public Relations
- Funds the design, production, and distribution of all Woodruff School publications, such as this annual report.
OTHER ENDOWMENTS

In addition to the Woodruff Endowment, the Woodruff School has a number of other endowments with a total value of more than $32 million. Most of these endowments are designated funds and can be categorized into mechanical engineering endowments, endowed scholarship programs for undergraduate students, and endowed fellowships for graduate students.

MECHANICAL ENGINEERING ENDOWMENTS
Arnold Goldberg Endowment Fund
Augustin A. Ramirez/HUSCO International Distinguished Chair Fund
Carter N. Paden, Jr. Distinguished Chair Fund
Centennial-Mechanical Engineering Fund
Dean Lennard Endowment Fund
Edward A. Eppinger Endowment
Eugene C. Gwalney, Jr. Chair in Manufacturing Fund
Frank K. Webb, Jr. Endowment Fund
Harold W. Gegenheimer Fund
Henry Ward Endowment
Ike Murray Endowment Fund
J. Erskine Love, Jr. Family Endowment Fund
Jack M. Zeigler Endowment Fund
Jack M. Zeigler Outstanding Educator in the School of Mechanical Engineering Award Endowment Fund
James Charles Leathers Endowment Fund
John G. Johnson Mechanical Engineering Fund
John M. McKenney & Warren D. Shiver Distinguished Chair in Building Mechanical Systems Fund
Joseph H. Anderer Faculty Fellow Endowment Fund
Kilpatrick and Fitzpatrick Endowment
Mark Morelli Endowment
Mary B. and Henry L. Pruitt Endowment Fund

ME-BioEngineering Research and Education Fund
Morris M. Bryan, Jr. Chair in Advanced Manufacturing Systems Fund
Neely Professorship Fund
Parker H. Petit Chair Fund
Phillip F. L’Engle and Williams B. Hardin Endowment Fund
Ward O. Winer Professional Development Fund
Warren K. Wells Endowment for Mechanical Engineering Fund
William B. Crane, Sr. Endowment Fund

SCHOLARSHIPS
Alan F. Sides Scholarship Endowment Fund
Arthur Dean Brook Scholarship Fund
Carl F. Phillips Endowment Fund
Danyluk ME Scholarship Endowment Fund
David V. Carswell Memorial Scholarship Fund
Francis R. Hammack Scholarship Endowment Fund
James C. Leathers Scholarship Endowment Fund
John S. Webb and Julian C. Stanley, Sr. Scholarship Endowment Fund
Joseph H. Dean Memorial Endowment Fund
Leslie U. Hammack and Ola Ryle Hammack Memorial Fund
Louis B. Long Endowment Fund
Paden-Cheves Scholarship Fund
Procter & Gamble Technical Scholarship Fund
Richard A. Trotter Memorial Scholarship Fund
Richard K. Whitehead, Jr. Fund

FELLOWSHIPS
James E. Pruitt, Jr. Fellowship
John Harris Maddox Fellowship Endowment Fund
Paul R. Yopp Memorial Scholarship Fund
William H. Glenn Fellowship Fund
Henry Fisher Jr. Fellowship Endowment (NRE)

FACILITIES
Georgia Tech has 228 buildings, totaling 14,408,652 square feet. For its programs in mechanical engineering, nuclear and radiological engineering, and medical physics, the Woodruff School has the use of the following buildings: the J. Erskine Love Jr. Manufacturing Building (shared with MSE); the Manufacturing Related Disciplines Complex (MRDC) (shared with PTFE); the Fuller E. Callaway, Jr. Manufacturing Research Center (MARC) (interdisciplinary space); the Parker H. Petit Biotechnology Building (interdisciplinary space); IPST Centennial Engineering Building (faculty in Paper Science); the Student Competition Center (officially the ME Research Building); and the NARA Tech Way Building (faculty labs). The NRE/MP Programs will remain in the Frank H. Neely Research Center until the renovation of the Boggs Building is completed at the end of the fall semester.
CONTRIBUTORS

This list includes donors who have designated gifts to the George W. Woodruff School of Mechanical Engineering between July 1, 2008 and June 30, 2009. If you would like to contribute to the Woodruff School or if you have questions about establishing an endowment, contact Tom Lawley, director of development, at (404) 385-6345 or by e-mail to tom.lawley@me.gatech.edu.

Alumni and Friends
Roger Sherman Banks, EE, 1987
Arthur D. Brook, ME, 1956
Debra J. Brook, Friend
Pamela S. Bullock, ARCH, 1979
Michael W. Burnette, EE, 1998
Chaz Cone, Jr., IM, 1961
Eric Cummins, Friend
Joel D. Davis, CE, 1998
Jane W. Dickerson, Friend
James R. Downing, IM, 1966
Kathleen C. Fitzpatrick, Friend
Michael L. Fuller, ESM 1980
Vicki Fuller, Previous Parent
Sharon Perry Galloway, Friend
Frank E. Genovese, Past Parent
Arnold I. Goldberg, ME, 1950
Tina L. Heil, ME, 1996
Jane H. Jeter, Friend
Ronald D. Jobe, CE, 1978
Eric W. Johnson, BC, 2003
Bruce A. Jones, CE, 1974
David M. Jordan, Friend
Michael F. Kemp, Friend
Deborah Kilpatrick, ESM, 1989
Douglas Kirk, Parent
James C. Leathers, ME, 1955
Marcia Lee, Friend
Louis B. Long, PHYS, 1966
Gay M. Love, Friend
James J. Mercure, CHE, 1978
Mark D. Morelli, ME, 1987
Isaac E. Murray, Jr., ME, 1949
Marilyn R. Nerem, Friend
Jerome Pentaleri, Friend
James Pernikoff, Friend
Michael A. Pusateri, ECON, 1983
Mahnaz Rahnema, Friend
Mikel L. Sawyer, ME, 1993
Lisa A. Schott, ME, 1990
Alan F. Sides, ME, 1983
Ronda R. Sides, Friend
Joseph R. Stetter, Friend
David L. Sullivan, ARCH, 1976
William L. Thacker, Jr., ME, 1967
David I. J. Wang, ME, 1953
Henry B. Ward III, ME, 1993
Jeremy Webber, Past Parent
Lynne M. Wepfer, Friend
Wendell M. Williams, Jr., ME, 1955
Charles H. Willis, Friend
Mary Jo Winer, Friend

Corporations and Foundations
Agilent Technologies Foundation
Air Products Foundation
American Chemical Society
American Heart Association
ARCS Foundation, Inc.
AREVA NP Inc.
Association for Manufacturing Technology
Boeing Company
Caterpillar Foundation
Caterpillar, Inc.
CB&I Constructors, Inc.
Chevron
Cisco Systems, Inc.
Cooper Industries Foundation
Cummins Business Services
Deere & Company
Denso Manufacturing Tennessee, Inc.
Duke Energy Foundation
E2M, Inc.
Eaton Corporation
Electrochemical Society
Eric Johnson Inc.
ExxonMobil Corporation
FIRST
The Fluor Foundation
Ford Motor Company
Gay and Erskine Love Foundation, Inc.
Gay M. Love Charitable Trust
Georgia Power Company
Greater Houston Community Foundation.
Herbert and Marion Haley Foundation
IBM Corporation
Intel Corporation
Jim Ellis Atlanta, Inc.
John Deere Foundation
Johnson Research & Development Inc.
Jon Kaase Racing, Inc.
Kaminsky-Clark
Korean Institute of Machinery and Materials
Levenson Foundation Inc.
Liebert Corporation
Lockheed-Martin Corporation Foundation
McKenney’s Management Corp.
MedShape Solutions, Inc.
Metaforming, Inc.
Miliken & Company, Inc.
MSC Software Corporation
National Corporate College Consultants, Inc.
National Fluid Power Assoc. (NFPA)
National Instruments
Norfolk Southern Foundation
Osha Llang LLP
PAX Streamline
Pipeline Micro
Robert Bosch LLC
Rockwell Automation
Rolls-Royce North America Tech. Inc.
Sample IT! Promotions, LLC
Schlumberger
Shell Oil Company
Shell People Services Div Soc
Siemens Energy & Automation, Inc.
Southern Nuclear Operating Co.
Springer-Verlag Berlin-Heidelberg-N
Stress Engineering Services, Inc.
The Timken Company
Toyota Motor Engineering & Manufacturing, North America Inc.
Unboundary
United Technologies Corporation
Weyerhaeuser Company Foundation

Faculty and Staff
Cyrus K. Aidun
Janet K. Allen
Wayne J. Book
Steven Danyluk
Stephen L. Dickerson, Retired Faculty
Kenneth Dollar
Ari Glezer
Nolan E. Hertel
Sheldon M. Jeter
Bernd Kahn, Retired Faculty
Farrokh Mistree
Robert M. Nerem
Jianmin Qu
Farzad Rahnema
Peter H. Rogers
Richard F. Salant
Suresh K. Sitaraman
Weston M. Stacey, PHYS, 1959
William J. Wepfer
Wayne E. Whiteman
Ward O. Winer, Retired Faculty
Caroline G. Wood
**ALUMNI**

**THE COLLEGE OF ENGINEERING ALUMNI AWARDS**
In his welcome statement to the 2008 Induction Ceremony, Don Giddens, Dean of Engineering, said, “The members of these prominent groups provide unquestionable proof that Georgia Tech continues to be among the preeminent engineering programs in the world. Those honored tonight, as well as those who have been honored in the past, are true role models for future generations of engineers.” The new inductees are:

**ACADEMY OF DISTINGUISHED ENGINEERING ALUMNI**
- Benedict A. Eazzetta (BNE 1986, MSME 1987) is President of International Operations of Rolta India Limited, a leading multinational technology services provider serving North America, Asia/Pacific, Europe, and the Middle East.
- Ravi Rangan (Ph.D. ME 1990) is Chief Technical Officer at Centric Software, Inc.
- Robert C. Traylor (BME 1958) is a Partner at Bull Moose Energy, LLC, a developer of biomass-based power plants.
- Juan C. Valdes (BME 1981) is President and CEO of Alliance Medical Products, Inc., a pharmaceutical contract manufacturing company that he co-founded.

**PASSINGS**
- Jerry A. Davis, Jr. (BSME 1938) passed away on March 23, 2009 in Perry, Georgia. At Georgia Tech he was a member of the Skull and Bones Fraternity. After graduation he helped build Robins Air Force Base. After service in the marines in the Pacific during WWII, he was a founder and first President of First National Bank of Houston County.
- Paul A. Duke (BME 1945) died on March 24th in Atlanta from the effects of Alzheimer’s. He was the 1991 Woodruff School Distinguished Alumnus and a member of the Woodruff School advisory board for many years. He was active in Georgia Tech alumni affairs, and received the Institute’s Distinguished Service Award in 1982 and the President’s Award in 1987. He was the founder and chairman of Peachtree Corners, Inc. in Norcross, Georgia.
- Vice Admiral Earl B. Fowler Jr. (BME 1946), a resident of Sarasota, Florida, died on February 9, 2008.
- Morris Harrison was a three-time letterman at GT, where he played fullback and linebacker for Bobby Dodd. He earned two degrees—ME and EE. His firm, Morris E. Harrison & Associates worked on projects with Atlanta architect John Portman. Mr. Harrison died on June 11th in Atlanta.
- Jerry Tom Hinson (BME 1965) died on December 5th in his home in Atlanta after battling a rare blood disease, amyloidosis. In addition to his degree from Georgia Tech he held a law degree from Emory University. He worked as a real estate developer and later he was president of the National Automobile Association, a position he held until his death. He was an avid Georgia Tech fan.
- Dean Lennard (BME 1953) passed away on May 3, 2008 in Cincinnati, Ohio.
- Frank K. Webb (BME 1938) died on November 24, 2008 at his home in Texas City. He received the 1992 Woodruff School Distinguished Alumnus Award, in 1994 he was inducted into the College of Engineering Hall of Fame, and was a member of the Georgia Tech Hill Society. Mr. Webb funded the Frank K. Webb Program in Professional Communications, whose purpose is to help students improve their oral and written communications skills. At Georgia Tech he was active in Tau Beta Pi, Kappa Kappa Pi, ASME, the Georgia Tech band and the Delta Tau Delta social fraternity. Upon graduation, he went to work for Amoco Oil in Texas City. He became manager of several refineries and later assumed overall charge of refineries across the country.
- Randolph Whitfield (BME 1932, MSME 1934) died on August 1st in Atlanta, at age 100. He was a native of Tallahassee, Florida, but a devoted alumnus of Georgia Tech, where he graduated with honor. At Tech, he was President of his Class and President of ODK, the Tech Cotillion Club, Pi Delta Epsilon, and Co-op Club. He was a member of the ANAK Society, Phi Kappa Psi, Tau Beta Pi, and the Delta Tau Delta fraternity. Later, he was President of the Great Atlanta Georgia Tech Club, Trustee of the Georgia Tech National Alumni Association, and State chairman of the Tech-Georgia Development Fund. In 1995, he received the Georgia Tech Distinguished Alumnus Service Award. A suite of offices at Georgia Tech is named in his honor. His family endowed a President’s Scholarship at GT in his name.
- Mr. Whitfield pioneered the world's first air-conditioned city busses when Georgia Power owned the Atlanta transit system. He was a strong environmentalist, and was a charter member, and trustee of the Georgia Conservancy, Chairman of the Environment Legislation Committee of the Atlanta Chamber of Commerce, and a member of the Isaac Walton League. He served as a member of Governor Jimmy Carter’s State Reorganization Study Group and as Chairman of the Southern States Energy Board Engineering Task Force on Nuclear Energy Planning.

He served as Chairman of the Atlanta Section of the Society of Automotive Engineers, and was a member of the ASME and the ANS.
THE WOODRUFF SCHOOL ADVISORY BOARD

The role of the Woodruff School Advisory Board is to recommend strategic directions for the Woodruff School, suggest broad-based curriculum changes, and consult with the School Chair and the faculty on important issues. Mr. Henry Ward chaired the fall advisory board meeting. The agenda for the meeting consisted of a discussion of the School’s budget, organizational changes, and a fundraising update. In addition, the group discussed ABET and the new Program Educational Objectives, and considered the board’s bylaws. They held a breakout session to discuss increasing the quality of the graduate program, especially at the Ph.D. level; how to enhance interdisciplinary research especially in areas of societal impact; and the best strategies for faculty hiring.

Dr. Dennis Assanis
Jon R. and Beverly S. Holt Professor of Engineering
University of Michigan
Ann Arbor, Michigan

Mr. Jeffrey A. Benjamin
Senior Vice President for Commercial and International Nuclear Projects
CH2M Hill
Englewood, Colorado

Mr. Michael J. Bly
(BME 1990)
Executive Director GM Powertrain Engine Hardware
Pontiac Global Headquarters
Pontiac, Michigan

Mr. Lou Cerone
General Electric Energy Systems
Greenville, South Carolina

Dr. Dana Christensen
Associate Laboratory Director Nuclear Programs
ORNL
Oak Ridge, Tennessee

Mr. Thomas A. Coleman
(BSPhys 1971, MSNE 1973)
Vice President of Federal Services
Framatome-ANP
Lynchburg, Virginia

Mr. Joseph P. DeRoy
Vice President
Operations Support Entergy
Jackson, Michigan

Mr. Ken S. Folk
Manager, Core Analysis
Southern Nuclear Operating Company
Birmingham, Alabama

Mr. Jeffrey Gasser
(BME 1983)
Executive Vice President/Chief Nuclear Officer
Southern Nuclear Operating Company
Birmingham, Alabama

Mr. Manuel Junco, Jr.
(BME 1975)
CEO
Brinderson Engineers and Constructors
Costa Mesa, California

Mr. John Kluber
Vice President
Kluber Skahan & Associates
Batavia, Illinois

Mr. Thomas Kopsanski
Siemens
Norcross, Georgia

Mr. Bryan Labrecque
Managing Partner & CEO
Healthcare Team Training LLC
Fayetteville, Georgia

Dr. James A. Lake
(MSNE 1969, Ph.D. NE 1972)
Retired from Idaho National Laboratory
Idaho Falls, Idaho

Dr. William R. McColllum Jr.
Chief Operating Office
Tennessee Valley Authority
Chattanooga, Tennessee

Mr. Mark D. Morelli
(BME 1987)
President & CEO
Energy Conversion Devices
Rochester Hills, Michigan

Dr. John M. Parker
Associate Professor
University of Kentucky
Lexington, Kentucky

Mr. Jim E. Reeb
Director, Manufacturing R&D
Production System Division
Caterpillar Inc.
Peoria, Illinois

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