Click on the cover to view the report.
This past year was one of change and growth for the Woodruff School, with changes in our administrative personnel and growth in terms of the faculty. In addition, there were many activities and successes for our School. The biggest change, from my vantage point, was that over the past 18 months all three of the associate chairs of the School stepped down from their positions. Alan Larson retired. Bill Wepfer accepted new responsibilities as Interim Vice Provost for Distance Learning and Professional Education. Ray Vito initially decided to return to full-time teaching and research, but later accepted a position as Associate Dean for Academic Affairs. All three of these associate chairs had been with us for a number of years, and each had done an excellent job. It was a major undertaking to replace them with equally competent and enthusiastic counterparts. Chris Lynch accepted the role of Associate Chair for Administration. David Sanborn is the Associate Chair for Undergraduate Studies, and Yogendra Joshi is the Associate Chair for Graduate Studies. They are each doing a fine job, and I am pleased that the transition has been smooth. In addition, we hired Wayne Whiteman as a Senior Academic Professional and Director of the Office of Student Services to manage the academic office and student advising.

Also during the past year, we added five tenure-track faculty (William King, Jens Karlsson, Robert Mahan, Christiaan Paredis, and Zhuomin Zhang) and one academic professional, Wayne Whiteman, while only losing four faculty (two to retirement and two to resignations). Our net increase is two tenure track faculty and one academic professional. In addition, we added four joint appointments from faculty in other departments at Georgia Tech (James Gole from Physics, Laurence Jacobs and Fotis Sotiropoulos from Civil Engineering, and David Parekh from GTRI).

Going into the 2004 academic year, we will have a net increase of six tenure-track faculty members, resulting from seven new hires and one retirement (James Hartley). The seven new hires are Cassiano de Oliveira, Srinivas Garimella, Samuel Graham and four faculty who joined
us from the Institute of Paper Science and Technology (Fred Ahrens, Cyrus Aidun, David Orloff and Tim Patterson). You might be surprised, as we were, that we have a net increase of nine new faculty members over the past two years, which by all definitions has been a tight economic period.

We had an ABET evaluation visit in October 2002. The exit interview and preliminary report suggest that we should experience no difficulty in obtaining a full accreditation for our programs; the final affirmative decision from ABET arrived at the end of August. The team raised issues during the exit interview about the quality of our undergraduate student advising and questioned our ability to handle the apparently rapid growth in undergraduate enrollment for the nuclear and radiological engineering program. We believe that we have taken care of these concerns. We have reorganized and restructured the Academic Office and hired Wayne Whiteman as the Director of the Office of Student Services. And we hired a new faculty member for the NRE program who started in fall 2003.

Once again, we hosted very successful, major lectures in the Woodruff School. In fall 2002, Roger McCarthy, CEO of Exponent Analysis, Inc. (formerly Failure Analysis Associates), was the Gegenheimer Lecturer. In spring 2003, John Slaughter, President and CEO of NACME, Inc., gave the Woodruff Distinguished Lecture. They both spoke to overflow crowds and did an excellent job. This coming fall, we are fortunate to have Steve Stice, an expert in animal cloning, from the University of Georgia, to give the Gegenheimer Lecture on Innovation.

Last year, I announced the dedication of the Gegenheimer Patent Wall that displays plaques of the patents held by our current academic and research faculty. When we dedicated the wall we had 140 plaques. We agreed to update the display each year by adding the patents of new faculty or newly hired faculty and by removing patents for faculty who have left. Recently, we added thirty-seven new plaques, resulting in 187 U.S. patents held by our current faculty. This display is meant to impress students and visitors with the importance of innovation and invention. The wall also shows the twenty patents held by Harold Gegenheimer (Class of 1933), who endowed this display.

Our student competition groups did very well again. The Student Competition Building, although not yet renovated the way we would like, is functioning well for a large number of groups. During the academic year, it is a virtual beehive of activity with several groups competing for adequate space. The gt motorsports team went to England again and won first place. At the U.S. Competition, they placed fourth. They expect to go to Australia this coming fall and compete there. GT Off-Road did very well in their national competitions and competed with two cars. Many other groups did very well. It seems that our student professional society chapters are also much more active than they have been in the recent past.

Our faculty continues to be very successful in competing for research funding, both from
government funding agencies as well as from corporations. These funds are vital to our operation, particularly in terms of supporting graduate students, purchasing state-of-the-art equipment, and supporting some faculty time.

We are completing our first full year under the guidance of the College of Engineering's new dean, Don Giddens. Many of you may remember that Don was a member of the Woodruff School faculty in the 1980s; he understands the Woodruff School well, knows what our goals and ambitions are, and has been very supportive. We are fortunate to continue to have strong leadership in the College of Engineering.

I would be remiss by not acknowledging the efforts of our external advisory board. We have an excellent board that consists of people who are willing to come in and spend time with us, give us their wisdom, and in many cases, their financial support as well. During the past year, several members (Kerry Adams, William Johnson, Dennis Riddle, Paul Schutt, Michael Tuckman, and Ernest Wilkins) rotated off the board, and we want to thank them for their efforts. We also welcome to the advisory board several new members (Jeffrey Benjamin, David Christian, Thomas Coleman, James Duderstadt, Ken Folk, Louis Long, James Maddox, Bill McCollum, Jr., Jim Morel, and Kyle Turner); we look forward to working with them over the next few years. In closing, I want to thank all the members of the Woodruff School, including our alumni and friends, for their efforts in making this an excellent school. Our faculty and staff work very hard. Our students are good and they do well in their classes. It is a great school with which to be associated. As a personal note, I want to thank the Georgia Tech Alumni Association for making me an honorary alumnus of Georgia Tech this past year. I have completed 34 years at Georgia Tech and feel like I am part of the family. I suspect that I am almost unique or certainly one of a very small group of folks my age who have become alums of Georgia Tech without passing "drownproofing."

Ward O. Winer, Ph.D.
Eugene C. Gwaltney, Jr. Chair of the Woodruff School of Mechanical Engineering

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This report is published each year in the fall by the George W. Woodruff School of Mechanical Engineering at Georgia Tech. For more information about undergraduate and graduate programs in the School, please contact us by any of the following methods:

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The Gegenheimer Lecture on Innovation

Dr. Roger L. McCarthy, Chairman of Exponent, Inc., gave the 2002 lecture in October. He joined the company in 1978, becoming President and CEO in 1982 and Chairman of the Board in 1988. He has been involved in many major national discussions of product safety and acceptable levels of product risk and in analyzing and reconstructing many major disasters, including the loss of the Amoco Cadiz, the grounding of the Exxon Valdez and the collapse of the walkways at the Kansas City Hyatt and the roof of the Kemper Arena.

Dr. McCarthy’s lecture was titled, *Engineering Disasters: Those who cannot remember [innovation’s] past are condemned to repeat it.* He said that “disasters can and do result from innovators failing to remember the experience gained from past innovation. Invention often tests the known and takes us into regimes where we have no experience, and unintended effects have to be accepted as a risk of this exploration. A challenge to our system of engineering and scientific education is to formally teach students to learn and codify lessons gained from failure as well as success. There is invariably deeper meaning in a disaster than the facts of the specific event.”

Woodruff Distinguished Lecture
Dr. John Brooks Slaughter, the Woodruff Distinguished Lecturer, talked about *The Search for Excellence and Equity in Higher Education: A Perspective from an Engineer*. He said, “There is an inevitable divergence between the desire for selectivity and the goal of diversity in higher education. Historically, matters of diversity and pluralism have not been highly visible on the radar screens of science and engineering departments in our nation’s colleges and universities and the relative absence of women and minorities in and in front of the classrooms and laboratories is one indication of this reality. America requires all of the scientific and engineering talent it can muster to maintain a competitive edge in the global marketplace of ideas and artifacts.”

Dr. Slaughter is the fifth president and CEO of NACME – The National Action Council for Minorities in Engineering, Inc. He has a long and illustrious career as a leader in the education, engineering, and scientific communities. He is a member of the National Academy of Engineering, a fellow of the American Association for the Advancement of Science, the Institute of Electrical and Electronic Engineers, the American Academy of Arts and Sciences, and an eminent member of the Tau Beta Pi Honorary Engineering Society.

For a complete biography of Dr. Slaughter and to listen to the webcast of his lecture, view www.me.gatech.edu and open the George Woodruff icon. A transcript of his stimulating lecture will be available in the coming months. In the interim, you may read the transcripts of previous Woodruff lectures on the web.

The Annual Spring Banquet

The Annual Spring Banquet is planned and organized by the Woodruff School Student Advisory Committee (WSSAC) and sponsored by the Woodruff School. Approximately 200 people attended the event in April to
honor graduating seniors. After the buffet dinner, Dr. Winer introduced the Woodruff School Distinguished Alumnus, Joseph H. Anderer, and the Outstanding Educator, James Hartley. Then, the members of the Spring Banquet Executive Committee, Saniya Ahsan, Sena Apewokin, Jacob Brand, Steve Cheuk, Milnes David, Sabrina Singh, Scott Spencer, and Chris Tsigalas, presented faculty awards based on well-known commercials: Most Challenging Professor, Minami Yoda; Most Entertaining Professor, Jonathan Colton; Best Professor, David Sanborn; Professor with the Longest Classes, Sheldon Jeter; Professor with the Best Physique, William Singhose; Professor with the Best Research, Kenneth Cunefare; Best New Professor, Zhoumin Zhang; Most Popular Professor, Jeffrey Streater; Most Inspiring Professor, Dennis Ballou; and Best Student Relations, Jack Lackey.

Distinguished Alumnus Award

The 2003 Woodruff School Distinguished Alumnus Award was given to Joseph H. Anderer (BME 1947). He delivered an entertaining message to the assembled students at the Spring Banquet about the changes that he had seen around campus since his days as a student. He remembered the time that Jackie Robinson came to Atlanta for a baseball game and what an uproar it caused. Then, years later, Hank Aaron broke the home run record and he was a local hero. “Atlanta and Georgia Tech,” he said, “had both changed for the better.”

Mr. Anderer transferred into the NROTC program at Tech in 1943 and was subsequently commissioned a Second Lieutenant in the U.S. Marine Corps. He returned to Georgia Tech in 1946 and graduated with a BME degree in 1947 and a BIE degree in 1948. He then began his engineering career with the Atlantic Refining Company. He went on to various companies at increasing levels of responsibility. In 1978 Mr. Anderer formed the Grendel Corporation of Greenwood, South Carolina and bought the Warren Corporation of Stafford Springs, Connecticut. He served as Chairman and CEO of both textile companies until his retirement in 1987.

Mr. Anderer served on the Georgia Tech National Advisory Board for six years and was its chairman in 1982. He was also a member of the Mechanical Engineering Advisory Board in 1983 and 1984 and has been an active member of the New York Georgia Tech Club for many years. In 1996 he was inducted into the Georgia Tech College of Engineering Hall of Fame.

The Jack M. Zeigler Outstanding Educator Award

Professor James G. Hartley was chosen as the recipient of this year’s Jack M. Zeigler (BME 1948) Woodruff School Outstanding Educator Award because of his sustained excellence in the classroom and his personal touch in challenging and motivating students. He received the Outstanding Teacher Award in 1992, the highest teaching award at Georgia Tech. He continually received some of the highest marks from
students on the faculty evaluations.

Dr. Hartley also has a solid record in research and service to Georgia Tech. He served the Woodruff School as the Associate Director for Graduate Studies for four years in the 1980s. His main research interests are heat and mass transfer in porous media.

Dr. Hartley received a bachelor’s and a master’s degree from Louisiana Tech in 1969 and 1970, respectively, and a Ph.D. from Georgia Tech in 1977. He has been on the faculty of the School of Mechanical Engineering for 26 years; he retired in August 2003.

**Seniors Honors Dinner**

Each fall the Woodruff School sponsors a dinner for outstanding seniors in mechanical engineering and nuclear engineering who are eligible to attend graduate school based on their academic record. This dinner is the annual kick-off to the graduate student recruiting season. About 75 people attended the event and listened to faculty members explain the reasons to attend graduate school. It was also an opportunity for the seniors to meet some current graduate students and learn about their experiences. Information is also available about fellowship opportunities, financial aid, and study-abroad programs.

**Family Weekend**

Family Weekend is a chance for friends and family members to visit campus and attend a football game. We again hosted an open house so that visitors could tour our facilities, listen to a program about undergraduate mechanical engineering education in the Woodruff School given by Professor Ray Vito, Associate Chair for Undergraduate Studies, meet and ask questions of Ms. Kimberly Blue, Undergraduate Academic Advisor, see displays by some of our student competition groups, and meet student leaders from the student chapters of professional societies and other organizations.

**Annual Cookout**

The Annual Woodruff School Cookout is held at the start of the fall semester so that new graduate students can meet returning graduate students, and faculty and staff members in an informal atmosphere. Our tee-shirt featured a new Tech Tower with the theme of Gearing Up for the Future. This event, one of the most popular of the academic year, was attended by almost 500 people and is organized by the Woodruff School Graduate Office.

**Lectures and Conferences**

**Woodruff School Colloquia**

In addition, many other lectures are given throughout the year. For a complete list, view the [Seminars](#) section on our home page.

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**ASME Congress and Exposition**

The Woodruff School was at the R&D Expo that was part of the American Society of Mechanical Engineer’s Congress and Exposition in New Orleans. This was the seventh year we have sponsored a booth from which to speak with potential graduate students, meet with alumni, and discuss mechanical engineering undergraduate and graduate education with conference attendees from industry and academia. Members from the ASME student chapter in the Woodruff School attended the conference and the job fair. Numerous Woodruff School faculty members presented papers and chaired sessions at the conference.

**Programs**

**Rankings**

- In 2003, Georgia Tech is the number one producer of African American engineers at the bachelors
level and the number eight producer of B.S. degrees in engineering for Asian Americans according to Black Issues in Higher Education.

- According to the American Society for Engineering Education, Tech was 2nd in the number of engineering degrees awarded and number one in awarding B.S. degrees in engineering to women in 2002.
- In 2002, the undergraduate program in mechanical engineering was ranked 4th and the graduate program was ranked 6th by U.S. News & World Report.
- The Woodruff School is the number one producer of graduate degrees to women.
- According to the National Science Foundation, Mechanical Engineering is 4th in the nation for the dollar value of research funding.

ABET Visit and Evaluation

The Mechanical Engineering program had its ABET (Accreditation Board for Engineering and Technology) visit at the end of October 2002. This visit went well for the School and the exit interview revealed these program strengths: highly regarded nationally; students are enthusiastic about the program; faculty are well qualified; faculty morale is high and have good administrative support; excellent design experience through senior design, FIRST, and gt motorsports; great classroom and undergraduate laboratories; and award winning lab safety program. At the end of August 2003, Dean of Engineering, Don Giddens reported that the official ABET report had arrived and all the reviewed programs at the Institute were accredited. The new ABET reports appear on our web site (see Undergraduate Programs).

The Cooperative Program

Since 1912, Georgia Tech has offered a five-year 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 who enroll in the program alternate between industrial assignments and classroom studies on a semester basis, completing the same course work in five years that is completed by regular four-year students. The graduate cooperative program was established in December 1983 and is currently the largest such program in the United States for science and engineering.

In 2002, there were 528 ME students enrolled, the largest group in the program. In addition, 11 NRE students participated in the program. Fifty-one ME graduate students and one NE/HP student were enrolled in the program in 2002. The job placement rate for co-op students after graduation is very high.

The United Technologies Teaching Interns Program
The United Technologies Teaching Interns Program is funded by the United Technologies Corporation and supports up to seven junior and senior mechanical engineering students for two semesters. Students are invited into the program based on their academic achievement – a 3.5 GPA is required for participation – and recommendations by the faculty. The program is intended to give students the opportunity to work with a faculty member in teaching an undergraduate course in mechanical engineering; encourage our best students to consider going to graduate school; help develop communication and interpersonal skills; and provide a way for practicing engineers and managers at United Technologies to interact with Woodruff School students. The interns for the past academic year (fall 2002 and spring 2003) were Saniya Ahsan, Amir Chanani, James Lanier, Vaughn Melbourne, Anish Momaya, Whitney Morlock, Shantisa Norman, Sabrina Singh, and Matthew Spetzler.

New Degree Program: Paper Science and Engineering

With the incorporation of the Institute of Paper Science and Technology into Georgia Tech, the Woodruff School now offers two additional degrees: The master’s (M.S.P.S.) and Ph.D. degrees in Paper Science and Engineering (PSE) provide an education in the science and engineering involved in the production of paper, tissue, and other products from natural fiber.

PSE students are enrolled in a participating school and, upon completion of the degree requirements, the home school recommends the award of a degree.

Currently, Mechanical Engineering, Chemical Engineering, and Chemistry offer paper science degrees. Four people from IPST are now faculty members in the Woodruff School: Fred Ahrens (Professor), Cyrus Aidun (Professor), David Orloff (Professor), and Tim Patterson (Assistant Professor).

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 provides formal instruction to students in four required laboratory and design courses: Creative Decisions and Design (ME 2110), Experimental Methodology Lab (ME 3056), Mechanical Systems Lab (ME 4053), and Capstone Design (ME 4182). Dr. 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. In addition, he 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.

The Five-Year BS/MS Degree Program

In fall 2001, outstanding freshmen and sophomore students in the Woodruff School were invited to apply to the new Five-Year BS/MS Degree Program. Students can earn two degrees in a five-year period, which will provide a tremendous advantage when entering the job market. It might also be an impetus to continue for the doctorate. The program is individualized with numerous opportunities for faculty and students to interact, including mentoring and undergraduate research. Graduate course work begins in the senior year. The first person to complete the program, David Hopkinson, finished his M.S. in 2003. Currently, there are 40 students in the program. Dr. Tom Kurfess is the Program Director.

Study-Abroad Programs

Woodruff School students participated in a number of study-abroad programs during the past academic year. These programs usually offer courses taught by Georgia Tech faculty. In 1997, the Institute began managing reciprocal exchange programs that allow students to attend foreign universities for a portion of their academic program. During the past academic year, Woodruff School students participated in these programs: Aerospace Engineering in Russia (3 students), Brussels Summer Program (2 students), Costa Rica Summer Program (1 student), Exchange Programs (3 students), German Language for Business and Technology (2 students), Georgia Tech Lorraine Summer Program for Undergraduates (25 students), Oxford Summer Program (8 students), Pacific Study Abroad Program (8 students), Spanish Language for Business and Technology (2 students), Technical University Munich/Siemens (1 student), and Work Abroad/International Coop (1 student).
Georgia Tech Lorraine (GTL)

Our program in France focuses on a master of science in mechanical engineering. Students complete the degree by combining courses taken at GTL, on-campus in Atlanta, or through video and on-line course offerings. The courses at GTL are taught in English by professors from Georgia Tech who go to France on a rotating basis. Professors Al Ferri and Shreyes Melkote went to France in the past academic year. Professor Sam Shelton spent summer 2002 in Metz. The fall 2003 group consists of six Woodruff School graduate students and 27 students from ENSAM and other schools in France. Sixty-nine students participated in the program in the past academic year. Dr. Robert Mahan began in January 2003 as the Academic Affairs Director for GTL.

The Graduate Program: Women and Minorities

The Woodruff School continues to be a leading producer of graduate degrees to women and minorities. In the 2002-2003 academic year, seven women earned their doctoral degrees (6 ME, 1 NE/HP) and twenty-four women earned the master’s degree (22 ME, 2 NE/HP). The first Ph.D. in the Woodruff School given to a woman was awarded to Denise Noonan in Health Physics in 1984. In 1987, Mardi Hastings was the first woman to earn a Ph.D. in mechanical engineering. To date, 71 women have earned the Ph.D. from the Woodruff School.

The Woodruff School granted its first doctoral degree to a minority student in 1978. Since then, 62 minority students have received the Ph.D. Five minority students earned a Ph.D. in the past academic year (3 ME, 2 NE/HP). In addition, fourteen master’s degrees were awarded to minorities, all in mechanical engineering.

Distance-Learning Program
The Woodruff School offers both the MSME degree and the MSHP degree as part of its distance-learning program. Off-campus students may elect to take video classes, Internet courses, or classes in a combination of the two formats. In fall 1999, Georgia Tech became the first university in the nation to offer its master's degree in mechanical engineering entirely online. Twenty-three courses in CD-ROM format are now on the web.

We offer approximately a dozen courses each semester, except during the summer. In the past academic year, there were 160 (142 ME, 18 HP) Woodruff School students involved in distance-learning classes. Forty new mechanical engineering distance-learning students were admitted to the Woodruff School in fall 2003.

STUDENT GROUPS

ASME Student Chapter

The chapter had another busy and exciting year. The highlight, and one of the most popular events in the Woodruff School, was the spring picnic held in March 2003 on the George P. Burdell Plaza. Honda, Kimberly Clark, Lockheed, and the Woodruff School sponsored the event.

Other chapter events were the Paintball Challenge, attendance at the Regional Student Conference in Miami, a Career Fair Reception along with WSSAC, a joint event with the AIAA that included a case study with Lockheed-Martin on the F/A-22, going to the ASME International Conference in New Orleans, plant
trips, a panel discussion on graduate school, the Mystery Design Contest, and corporate meetings with Fuji Film, John Deere, General Motors, Shell Oil, General Mills, and Lyondell. In addition, the chapter held a membership drive and gained almost two dozen more members to what is already one of the largest campus organizations. Jeffrey Streator is the faculty advisor to the group.

Future Truck

The Future Truck team went to the 2003 competition at the Ford Michigan Proving Grounds and finished fourth overall. The team won three major dynamic events, acceleration, customer acceptability, and emissions, plus a second place prize for some Matlab/Simulink simulation work. The team achieved the lowest tailpipe emissions of all vehicles. In addition, the fuel economy over a 106-mile test course came out about 20 percent better than the stock vehicle over the same course. The vehicle has higher fuel efficiency, better performance, and lower emissions than the stock vehicle, the main stated goals of the competition. The faculty advisor for the club is Jerome Meisel from ECE; many of the students are in mechanical engineering.

Odyssey of the Mind

Odyssey of the Mind is a worldwide creative problem solving competition where teams of students are challenged to solve problems with no single solution. A competition consists of two parts: a long-term problem and a spontaneous problem. Teams work four to six months to solve the long-term problem and present a short skit which demonstrates the solution. To solve the spontaneous problem, teams work for 3-5 minutes to complete a verbal or mechanical problem. In 2003, the two Georgia Tech teams each
received a second place finish in the World Finals Competition at Iowa State University.

**gt motorsports**

*gt motorsports* turned in another top five performance in the Formula SAE competition held in Pontiac, Michigan in May 2003. The team placed 4th overall, out of a field of 129 collegiate teams from around the world. Over 100 vehicles passed tech inspection and were eligible to race.

The Formula SAE competition is a blend of static and dynamic events, intended to challenge both the student’s knowledge of their car’s design, and, to challenge the performance and ruggedness of the car. In the static events, the team placed 2nd in presentation (just 0.3 less than a perfect score of 75), 4th in design, and 14th in cost. In the dynamic events, the team placed 13th in skid pad, 13th in acceleration, 11th in autocross, and 6th in the endurance event (40% of the total points are at stake in this event).

The team also received 1st prize for the Altair Engineering Innovation Through Engineering Excellence Award for design innovation and 2nd prize for the Robert Bosch Corporation Engine Management Systems Award for powertrain development. These awards are given by various event sponsors.
GT Off-Road

GT Off-Road designs, builds, and races two small, off-road vehicles for the Society of Automotive Engineer’s Mini-Baja competitions. The Georgia Tech team is one of only a few that runs two cars at every race each year. The team designs and builds a new car from scratch each year and makes significant modifications to the previous year’s car to make it eligible to race again. Track conditions vary, but the West event is generally very rocky, muddy, and rough terrain, the East event includes a water maneuverability portion in which the car must float and propel itself in deep water, and the Midwest race is held at a motorcross-style track.

The team has competed for four years and has consistently improved. They had five top ten endurance race finishes in the last six races, and placed 11th overall in the West event this year. In the 2002 East event, the two cars finished in the top ten for the endurance race, and 13th and 14th overall. They finished 3rd nationally for the 2002 season.

Pi Tau Sigma

Pi Tau Sigma is the national honorary society for outstanding students in mechanical engineering. At the annual national convention the Georgia Tech Nu Chapter received two awards: The Outstanding Performance Award and the Outstanding Service Award. Also, the chapter was one of a handful that received the accolade of Chapter in Good Standing for 2001-2002. Pi Tau Sigma sponsors the Woodruff School's Academic Study Program in space provided on the 2nd floor of MRDC. Janet Allen is the faculty advisor to the group.

The group also runs the Mechanical Challenge, which was held two days in November 2002. Undergraduate students from all majors were welcome to participate in the jeopardy style competition. Fourteen teams answered questions that were similar to the ones in the GRE and EIT exams. In addition to monetary prizes, the winners received an invitation to visit Schlumberger, an event sponsor.

The Woodruff School is home to the national office of the society. Professor Farrokh Mistree is the national secretary of Pi Tau Sigma.
Robojackets FIRST

The Peachtree Regional FIRST Robotics Competition was held in the Gwinnett Civic Center in March 2003. More than 4,000 people, including students, teachers, and mentors, from forty-five high schools representing twelve states and Puerto Rico, attended the two-day event.

Wheeler High School, sponsored by GT Robojackets, received the Johnson & Johnson Sportsmanship Award as well as the Rookie All-Star Award. Roswell High School, the only metro-Atlanta team to have competed in last year’s FIRST competition, received the Kleinberg Perkins Caulfield & Byers Entrepreneurship Award and the Judges’ Award. Roswell High School’s outreach efforts helped bring the robotics event to other schools in Georgia. Roswell was sponsored by GT Robojackets and NASA.

Prior to the Peachtree Regional, Robojackets sponsored a Robot Practice Day in the MARC atrium. Fifteen teams from around the state of Georgia prepared for the upcoming competition, including the Tech sponsored Roswell and Wheeler teams. The teams competed against each other in the Stack Attack, which requires each team of robots to collect and stack containers on their side of the playing field while avoiding the competing team, who is working to sabotage their efforts. Wayne Book is faculty advisor to the FIRST team.
GT Robojackets, the competitive robotics club, held its second Lego Robot Challenge in March 2003. Students from five area high schools worked in teams of three using a Lego Mindstorm Robotics Invention System kit to plan, build, test, and debug a robot to perform relay-type activities that involve capturing balls and placing them into goals. Robojackets members advised and helped the students build their robots. The robots competed against each other on the weekend. Imme Ebert-Uphoff is the faculty advisor to the club.

**Solar Jackets**

Solar Jackets is a team of Georgia Tech students who built a solar-powered car to race cross-country along parts of historic Route 66. About 30 teams from around the world competed in July 2003 to see who had the fastest car in the American Solar Challenge, a 2,300-mile race between Chicago and the Los Angeles area. The winner is the car with the best cumulative time. The Tech team failed to qualify and did not race, but they are already at work on next year’s entry.
The Office of Student Services

The Woodruff School’s Academic Office was refurbished and reorganized and is now called the Office of Student Services. The majority of student needs will continue to be addressed by the Academic Office Staff (Trudy Allen, Norma Frank, Glenda Johnson, and Cosetta Williams).

Dr. David Sanborn is the Associate Chair for Undergraduate Studies. He also serves as an undergraduate advisor and handles the more technical issues in regard to the program, including transfer credit issues and career advisement. Ms. Kimberly Blue continues to serve as the primary undergraduate advisor.

Dr. Yogendra Joshi assumed the position of Associate Chair for Graduate Studies in May. He advises and oversees current graduate student issues, including programs of study, degree petitions, and graduate committee issues.

Dr. Wayne Whiteman began in April 2003 as the Director of the Office of Student Services. He manages the Academic Office and staff, and assists the Associate Chairs. Dr. Whiteman assists Dr. Joshi with the recruitment and admission of graduate students, and he oversees and serves as the advisor of the Woodruff School’s distance-learning program.
There were a total of 1303 undergraduate students in the Woodruff School in fall 2002, excluding co-op students at work. Of these, 1,216 were in Mechanical Engineering and 87 in Nuclear and Radiological Engineering.

On the graduate side, we had a total of 690 students. Of these, 399 were master’s students (372 in ME, 22 in NE/HP, and 5 in BIOE), and 277 were doctoral students (243 in ME, 20 in NE/HP, and 14 in BIOE). There were also 14 special students (12 in ME and 2 in NE/HP).

### Enrollment in the College of Engineering

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<td>Materials Science and Engineering</td>
<td>51</td>
<td>48</td>
</tr>
<tr>
<td>Mechanical Engineering (includes NRE/HP)</td>
<td>1,217</td>
<td>1,303</td>
</tr>
<tr>
<td>Textile and Fiber Engineering</td>
<td>95</td>
<td>113</td>
</tr>
<tr>
<td>Undeclared</td>
<td>291</td>
<td>336</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>6,158</td>
<td>6,336</td>
</tr>
</tbody>
</table>

**Student Body Makeup**

In fall 2002, there were 1,095 males (84%) and 208 females (16%) for a total of 1,303 undergraduate students. Of these, 261 (20%) were minorities (note that minority includes only U. S. citizens and permanent residents: Asians, Blacks, Hispanics, American Indian, and Multiracial) and 31 were internationals. On the graduate side, there were 587 males (85%) and 103 females (15%) for a total of 690 students. Of these, 98 (14%) were minorities and 207 (32%) were internationals.

**Profiles of Incoming Students**

The Woodruff School continues to get excellent students as shown by the class profiles of the new undergraduate and graduate students in fall 2003.

**Incoming Graduate Class Profile**

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>Applicants</th>
<th>997</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admitted (35% of applicants)</td>
<td>352</td>
<td></td>
</tr>
<tr>
<td>Matriculated (65% of those accepted)</td>
<td>181</td>
<td></td>
</tr>
<tr>
<td>Average Grade Point</td>
<td>3.48</td>
<td></td>
</tr>
<tr>
<td>Average Score on Graduate Record Exam Verbal (out of 800)</td>
<td>505</td>
<td></td>
</tr>
</tbody>
</table>
Freshman Class Profile

Average SAT Score (out of 1600)

<table>
<thead>
<tr>
<th>Engineering</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>1343</td>
</tr>
<tr>
<td>Nuclear</td>
<td>1344</td>
</tr>
<tr>
<td>Georgia Tech</td>
<td>1337</td>
</tr>
</tbody>
</table>

Analytical (out of 6.0)

- Mechanical Engineering: 4.25
- Nuclear Engineering: 4.25

Demographics

- Males: 158
- Females: 23
- Minority (U. S. Citizens): 20
- Internationals: 68

Geographical Breakdown by Undergraduate School

- East/Northeast: 46 (25%)
- South/Southeast: 42 (24%)
- Midwest: 19 (10%)
- West/Southwest: 18 (10%)
- International: 56 (31%)

High School Grade Point Average

<table>
<thead>
<tr>
<th>Engineering</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>3.72</td>
</tr>
<tr>
<td>Nuclear</td>
<td>3.71</td>
</tr>
<tr>
<td>Georgia Tech</td>
<td>3.79</td>
</tr>
</tbody>
</table>

Freshmen

- Mechanical Engineering: 221
- Nuclear Engineering: 28
- Georgia Tech: 2,200

Demographics (ME & NRE)

- Females: 26
- Males: 223
- Georgia Residents: 143
- Out-of-State Residents: 106

Awards
Martin Aguilera received the CETL/BP Foundation Teaching Assistant Teaching Excellence Award for outstanding service and the positive impact made toward the instructional mission of the Institute.

Saniya Ahsan won a Churchill Scholarship for study at Cambridge University in England. She is the first female student at Georgia Tech to win this coveted award. She also won the Woodruff School Outstanding Scholar Award, which recognizes a graduating senior who has achieved an exceptional scholastic record in the mechanical engineering program.

Anne-Marie Albanese won first prize in the student paper competition from the Structural Acoustics and Vibration Technical Committee of the Acoustical Society of America. Ken Cunefare is her advisor.

Ashante Allen received a Facilitating Academic Careers in Engineering and Sciences (FACES) Fellowship.

Jay Birdwell received the Pi Tau Sigma Outstanding Junior Award for demonstrating outstanding scholarship, and service to the School and to student activities.

Scott Bondi received an Intel Corporation Fellowship. Jack Lackey is his advisor.

Brian Ehrich and Brad Schafer won the James G. and Mary G. Wohlford Scholarships, which recognize outstanding senior co-ops who have excelled academically and on their co-op jobs and who made contributions to the community.
Anna Fincher won the Samuel P. Eschenbach (Class of 1933) Memorial Award in Mechanical Engineering based on academic performance, leadership capabilities in the campus community, and promise as a mechanical engineer.

Christopher Fong won the Westinghouse Savannah River Co. Robert Maher Memorial Scholarship. He is an NRE student and is in the Five-Year BS/MS Program.

Seth Garner was given the Pi Tau Sigma Outstanding Senior Award, for outstanding scholastic achievement and service to the School, the Institute, and to student activities.

Paul Hatcher received the Pi Tau Sigma Outstanding Sophomore Award given for demonstrating outstanding scholarship service to the School and to student activities.

Gaylon Hollis received the Acoustical Society of America’s Graduate Fellowship for Minorities. Ken Cunefare is his advisor.

Benjamin Johnson won the Woodruff School Chair’s Award, given for outstanding scholarship and contributions to the School, especially to its programs by a graduating senior.

Karel Minnaar received the Luther S. Long, III Memorial Award in Engineering Mechanics, given to a graduate student doing research in engineering mechanics, who has excelled in academics, research, leadership, and service.

Shawn O’Connor received the Robert Engineering Award presented on an annual rotation to an outstanding rising senior in CE, ECE, ISyE, and ME.

Billy Oates received a student paper award from Science Applications International Corporation. Jack Lackey is his advisor.

Andrew Perkins received the Hutchins Grant from Surface Mount Technology Association International. Suresh Sitaraman is his advisor.

Greg Mocko won an NSF/IGERT Fellowship. Robert Fulton is his advisor.

Sebastien Wolf received an NSF/IGERT Fellowship. Imme Ebert-Uphoff is his advisor.

HOPE Scholarships

Many undergraduate students in the Woodruff School receive some type of scholarship. Half
of our in-state students receive HOPE Scholarships, the program financed through the Georgia State Lottery.

**President's Scholars**

The President's Scholar Program, which began in 1981, identifies students who have excelled in academia and leadership. Financial awards are for four academic years, and students are expected to maintain honors-level academic performance and to be involved in campus or community activities. The program is funded entirely by endowments and annual contributions from Georgia Tech’s alumni, industry supporters, and other friends through the Roll Call annual giving program. In fall 2003, forty new President's Scholars entered the Institute. Of these, one is a Woodruff School student; Anne Davis.

Other Woodruff School students currently enrolled as President’s Scholars are: Chris Clarke, Michael Clements, Will Cross, Eric Deutsch, Anna Fincher, Parag Gajarawala, Michael Gootman, Ben Gregg, Chris Hannemann, David Harman, Jarod Harper, Lyndsey Heine, Rahul Kirtikar, Kirsten Lundstrom, Matt Madsen, Christyn Magill, John Malek, Gavin McDonald, Daniel Muxie, Shawn O’Connor, Andy Powell, Matthew Prohaska, Adam Reich, Ryan Reynolds, Jenny Schur, Nathan Scripps, Scott Spencer, Cielle Thibodeaux, Brent West, Schenck Wiley, and Charles Wright.

**Scholarships in Nuclear Engineering**


Students receiving scholarships in the past academic year are: Brantley Beaird, Troy Bethune, Eric Branch, Sarah Brashear, Kevin Brenner, Ashby Bridges, Amanda Bryson, Kimberly Burns, Maslin Chen, Sherard Chiu, Steven Collins, Larissa Ann Cottrill, Jeremiah Covillion, Hillary Davis, Lindsey Ewing, Norman Facas, John Floyd, Christopher Fong, James Ganong, Donald Gibbs, Nicholas Giglio, Jimmy Jiang, Perry Johnson, Brian Kern, Ryan Lorio, Brittany Meriwether, Joshua Parker, Justin Pounders, Kevin Riggs, Brian Rotolo, Christopher Sommer, Ian Spivack, Tyler Sumner, Matthew Terry, Pamela Thompson, Sara Jane Wagner, James Weathers, Frederick Willis, Darren Wooten, and Brandon Ylvisaker.

**National Science Foundation Graduate Research Fellowships**
Each year the National Science Foundation awards approximately 1,000 fellowships for graduate study in the sciences, mathematics, and engineering. These awards, based on ability, are made to undergraduate seniors who are going to graduate school or are first-year graduate students.

Since 1990, Woodruff School graduate students have won 113 NSF fellowships and 125 honorable mentions. An average of 45 awards in mechanical engineering are made annually. This means that over the years the Woodruff School has averaged about twenty percent of all the awards given in mechanical engineering. This year’s winners are: Jason Aughenbaugh (Imme Ebert-Uphoff, advisor), John Connelly (Marc Levenston, advisor), Larissa Cottrill (NRE undergraduate), Juan-Carlos Jakaboski (Yogendra Joshi, advisor), Galen Robertson (Robert Guldberg, advisor), Felipe Roman (Bert Bras, advisor), Andrew Schnell (Peter Hesketh & Farrokh Mistree, advisors), and Megan Sumpter (Jens Karlssen, advisor).

Honorable mentions are: Joseph Charest (Bill King, advisor), Jason Cook (Yogendra Joshi, advisor), James Ford (ME undergraduate), Omar Mireles (M. Ghiaassian, advisor), Brent Nelson (Bill King, advisor), Matt Reed (Wayne Book, advisor), and Tanya Wright (Bill King, advisor).

**Careers**

The job market has weakened somewhat for graduates of the Woodruff School. The Office of Career Services reports more than 700 employer visits on campus during the last year. These employers represent a substantial number of the Fortune 500 corporations, as well as many state and regional organizations. The number of companies visiting Georgia Tech that wish to recruit Woodruff School students is very high.

The average reported starting salary for those with a degree from the Woodruff School is shown below. The numbers reflect only those students who reported salary information to Career Services, which is a very small percentage of our graduates. In spring 2003, the average starting salary for a BSME was $47,096, $55,250 for an MSME, and $54,500 for a BSNRE.

<table>
<thead>
<tr>
<th>Reported Starting Annual Salary by Major and Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree 2001 2002</td>
</tr>
<tr>
<td>BSME 47,096 55,250</td>
</tr>
<tr>
<td>BSNRE 47,096 55,250</td>
</tr>
<tr>
<td>Course</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Nuclear Engineering</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Health Physics</td>
</tr>
<tr>
<td>College of Engineering</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
From July 1, 2002 to June 30, 2003, Woodruff School students were awarded more than two million dollars in fellowships for graduate study. The impressive quality of our graduate students is demonstrated by the presence of 114 Georgia Tech President's Fellows and 113 winners since 1990 of the prestigious National Science Foundation Graduate Research Fellowship.

**Advanced Accelerator Applications University Fellowship Program**

Lee Benjamin Van Duyn

**Achievement Rewards for College Scientists (ARCS) Foundation**

Erica Biediger
Rebecca Covert
Peter Kottke
Kristopher Kozak
Susan Stewart
Shannon Stott
Michael Swinson

**Alcoa/GTL Fellowship**

Jessica Bigas
Diane Craig

**ASME Graduate Teaching Fellowship**

Shannon Stott
Susan White
Philip Vogelwede

**Computational Science Graduate Fellowship**

Nathaniel Morgan

**Department of Defense I.S. Fellowship**

Carmen Greene

**Department of Education Graduate Assistance in Areas of National Need**

Cornelius Ejimofor
Neal Hall
Stephen Rieman

**Department of Energy Fusion Fellowship**

Samuel Durbin

**General Electric Faculty for the Future Doctoral Fellowship**

Kellie Murphy

**General Motors/GTL Fellowship**

Javier Garcia-Rivera
Tracy L. Haverty
Georgia Tech Institute Fellowship

Jason Aughenbaugh
Paul Bosscher
Joe Charest
Charlotte Kotas-Walker
Ryan Krauss
Andrea Lay
Robert MacMeccan
Nathan Masters
John Meacham
Anna Pavlova
Catherine Reyes
Harry Rowland
Philip Voglewede

Georgia Tech President's Fellowships

Anne Albanese
Adya Ali
Matthew Allen
Jeff Badertscher
Brent Bailey
Douglas Bakkum
Melissa Bargman
Jonathan Bartetta
Brad Beadle
Erika (Ooten) Biediger
Scott Bondi
JoSette Briggs Broiles
Jonathan Butcher
David Butts
Benjamin Byers
Maria-Isabel Carnasciali
Michael Carone
Matthew Chamberlain
Robert Chedester
Matthew Christopher
John Clayton
Michael Colella
Rhima Coleman
John Connelly
Adam Coutee
Rebeccah Covert
Fredrick Cowan
Thomas Crittenden
Karen Deen
Joseph DeKroon
Marnico Deladisma
Benjamin Dempsey
Mary Douglas
Eric Dumbaugh
Scott Duncan
Samuel Durbin
Tarek El-Shazly
Brian English
Timothy Ferguson
Marco Fernandez
Alicia Fortier
Nathan Gallant
Heather Gepford
Donovan Gerty
Ali Gordon
Christopher Green
Neal Hall
Edward Hoffman
Mark Holdhusan
Mihaly Horvath
Ryan Johnson
Robert J. Kenny
Junhyck Kim
Joshua Knight
Timothy Koehler
Michael Kohl
Peter Kottke
Kris Kozak
Travis Laker
Jason Lawrence
Margaret Lowder
Lisa Mauck
Casey McIntosh
Jeffrey McLean
Kristin Michael
Dana Swalla-Michaud
Mitul Modi
Nathan Morgan
Janna Mouw
Jennifer (Venton) Muncy
Srinidhi Nagaraja
Brent Nelson
James Nichols
Matthew Pavlick
Andrew Perkins
Blaise Porter
Frank Pyrtle
Anand Raghu
Alicia Ramirez
John Reap
Christopher Rinehart
Ramiro Rivera-Rivera
Felipe Roman
William Rooker
Laura Rowe
Benny Sager
Brian Schroeter
Jevin Scrivens
Brian Shellabarger
Katherine Shilling
Christopher Shumway
Shane Siebenaler
Douglas Spearot
Susan White Stewart
Wesley Stone
Shannon Stott
Jiann-Cheng Su
Dana Swalla
Davin Swanson
David Tamburello
Eric Vanderploeg
Benjamin Wagner
Andrew Watt
Annica Wayman
Brian Wayman
Nathan Weiland
Paul Wickersham
Christopher Williams
Jamal Wilson
Thomas Wilson
Wesley R. Wolf
Michael Woodmansee
Hasani Wooten
Tanya Wright

Glenn Fellowship

Adya Ali
Matthew Allen
Ulf Andresen
Maria-Isabel Carnasciali
Peter Carnell
Michael Carone
Joseph Ceremuga II
Brian Corbett
Anh Dang
Ty Dawson
Michael DeSalvo
Scott Duncan
Daathan Erdahl
Douglas Fenneman
Donavon Gerty
Jeffrey Gould
Christopher Green
Neal Hall
Gavin Ho
Turner Howard
Hsingching Crystal Hsu
Desiree Jangha
Junhyck Kim
Brian Lemon
Margaret Lowder
Courtney Marrett
Ryan Melcher
Kristin Michael
Brent Moffitt
Scott Mosher
Janet Mouw
Kellie Murphy
Matthew Pavlick
Cynthia Phillips
Sharad Rantham
Christopher Rinehart
Ramiro Rivera-Rivera
Brian Schroeter
Katharine Shilling
John Slanina
Charlotte Cody Song
Benjamin Wagner
Andrew Watt
Nathan Weiland
William Wolf
Michael Woodmansee
Tracie Zoeller

Glenn GTL Fellowship

Jessica Bigas
Diane Craig
Adam Liberatore
Alexander Muller
Niko J. Murrell
Alexander Valle

Goizueta Fellowship

Alicia Fortier

Graduate Education for Minorities Fellowship

Ajamu Baker
Kwaku Eason
Gaylon Hollis
Sarne Hutcherson
Jeffery Jones
Larry McCarthy
Kareem Muhammad
Kwame Ofori
Paul Rio
Felipe Roman
Leyla Valladares
David Woessner

**Hertz Fellowship**

Carolyn Seepersad

**Jean-Lou Chameau GTL Fellowship**

Vinh P. Khuu

**Medtronic Foundation**

John Slanina
Shannon Stott

**NASA Graduate Fellowship**

Ramiro Rivera-Rivera

**National Defense Science & Engineering Graduate Fellowship**

Paul Bossher
Peter Kottke

**National Institutes of Health Training Grant**

John Slanina
Shannon Stott

**National Physical Science Consortium Fellowship**

Michael Woodmansee
Tracie Zoeller

**National Science Foundation FACES Fellowship**

Rodney Averett
Cornelius Ejimofor
Ali Gordon
Chris Green
Sudiata Jangha
Wayne Johnson
Gena Poe
Jevin Scrivens
Kim Sheafe
Annica Wayman
Brian Wayman
H. Omar Wooten

**National Science Foundation Graduate Research Fellowship**

Anne Marie Albanese
Matthew S. Allen
Melissa Bargmann
Aimee M. Beargie
JoSette Broiles  
David E. Butts  
Matthew Chamberlain  
Lisa H. Chang  
Adam Coutee  
Elyssa F. Crafton  
Mary E. Douglas  
Timothy P. Ferguson  
Marco Fernandez  
Turner Howard  
Richard Howe  
Hsingching Crystal Hsu  
John Huey  
Stacy M. Imler  
Susan Knueven  
Charlotte Kotas-Walker  
Andrea N. Lay  
Angela Lin  
Robert MacMeccan  
Casey McIntosh  
John Mark Meacham  
Kristin E. Michael  
Janna Mouw  
Pamela Murray  
Galen Robertson  
Andrew Schnell  
Eric Vanderploeg  
Annica Wayman  
Susan White  
Robert E. Williams  
Hasani Wooten

**National Science Foundation/Georgia Tech Student and Teacher Enhanced Partnership (STEP) Fellowship**

Sundiata K. Jangha  
Frank Pyrtle  
Fredrick Cowan  
David Woessner

**Office of Naval Research Fellowship**

Ali Gordon  
Sundiata K. Jangha  
Jie Yang

**Packard Fellowship**

Christopher K. Green  
Desiree Jangha  
Jamal O. Wilson

**Sandia Fellowship**

Harry Rowland

**U. S. Air Force Traineeship**
Donald Rhymer

**Whitaker Fellowship**

Rhima Coleman  
Catherine Reyes  
Brian Wayman

**Woodruff Fellowship**

Ali Adya  
Matthew Allen  
Ulf Andresen  
Josette (Briggs) Broiles  
Timothy Cao  
Maria-Isabel Carnasciali  
Brian Corbett  
Michael DeSalvo  
Scott Duncan  
Lisa Ellis  
Joseph Frankel  
Donavon Gerty  
Christopher Green  
Hsingching Crystal Hsu  
Desiree Jangha  
Junhyck Kim  
Peter Kottke  
Margaret Lowder  
Patrick Opdenbosch  
Matthew Pavlick  
Gena Poe  
Frank Pyrtle  
Jeffrey Rambo  
Sharad Ranthan  
Christopher Rinehart  
Harry Rowland  
Katharine Shilling  
Sathyam Subbiah  
David Tamburello  
Benjamin Wagner  
Nathan Weiland  
Jamal Wilson  
Tracie Zoeller

**Woodruff School GTL Fellowship**

Jason Aughenbach  
Ajamu Baker  
Robert Chen  
Bruno Deletre  
Javier Garcia-Rivera  
Tracy L. Haverty  
Vincent Hennemand  
Vinh P. Khuu  
Martin Kunardi  
Jean Marchand-Arpoume  
James Nafracherr  
Philippe Michel  
Johan Ricky  
Vincent Rongier  
Yasmine Umbdenstock  
Sylvan Vitry

**Woodruff School High Score on Ph.D. Qualifying Exams**

Peter Kottke  
Sathyam Subbiah
Woodruff School Teaching Internship

Brian English
Marco Fernandez

Yopp Fellowship

Angela Lin
Katharine Shilling

Table of Contents

Degrees
In 1888 when Georgia Tech opened, mechanical engineering was the only degree-granting program. Today, the Woodruff School offers two undergraduate degrees and nine graduate degrees. In addition, the master’s degree can be completed off-campus through the distance-learning program which employs a combination of technologies, including video, CD-ROM, and the Internet. The charts on the next few pages detail the degrees awarded from summer 2002 to spring 2003.

### Degrees Awarded in the College of Engineering from Summer 2002 to Spring 2003

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Bachelor's Degrees</th>
<th>Master's Degrees</th>
<th>Doctoral Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineering</td>
<td>65</td>
<td>70</td>
<td>17</td>
</tr>
<tr>
<td>Biomedical Engineering</td>
<td>0</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>110</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>Civil and Environmental Engineering</td>
<td>105</td>
<td>111</td>
<td>20</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>405</td>
<td>194</td>
<td>49</td>
</tr>
<tr>
<td>Industrial and Systems Engineering</td>
<td>298</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Materials Science and Engineering</td>
<td>11</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Mechanical Engineering (and NRE/HP)</td>
<td>276</td>
<td>166</td>
<td>38</td>
</tr>
<tr>
<td>Textile and Fiber Engineering</td>
<td>18</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td><strong>Totals for COE</strong></td>
<td><strong>1288</strong></td>
<td><strong>681</strong></td>
<td><strong>164</strong></td>
</tr>
</tbody>
</table>

### Degrees Awarded in the Woodruff School by Discipline and Gender from Summer 2002 to Spring 2003

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Bachelor's Degree</th>
<th>Master's Degree</th>
<th>Ph.D. Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>ME</td>
<td>54</td>
<td>215</td>
<td>22</td>
</tr>
<tr>
<td>NRE</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>HP</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>56</strong></td>
<td><strong>220</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

### Degrees Awarded in the Woodruff School by Ethnicity from Summer 2002 to Spring 2003
<table>
<thead>
<tr>
<th></th>
<th>Bachelor's Degree</th>
<th>Master's Degree</th>
<th>Ph.D. Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ME</td>
<td>NRE</td>
<td>ME</td>
</tr>
<tr>
<td>Asians</td>
<td>24</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Blacks</td>
<td>23</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Hispanics</td>
<td>9</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Native Americans</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Whites</td>
<td>201</td>
<td>6</td>
<td>82</td>
</tr>
<tr>
<td>Multiracials</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Internationals</td>
<td>9</td>
<td>0</td>
<td>59</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>269</strong></td>
<td><strong>7</strong></td>
<td><strong>155</strong></td>
</tr>
</tbody>
</table>

**UNDERGRADUATE DEGREES AWARDED**

During the past academic year, 276 undergraduate degrees were awarded: 61 degrees in summer 2002, 89 in fall 2002, and 126 in spring 2003.

**Summer 2002**

Veronica Addison  
Bishakha Bandyopadhyay  
Jonathan Bandzul  
Michael Bannister  
Paxton Billingsley  
Jason Bradford  
Kristin Carpenter  
Usman Chaudhry  
David Clark  
Michael Corcos  
Colette Cowie  
Kelly Dadson  
Karen Deen  
Kristin Dion  
Daniel Dominguez  
Bradley Durham  
Benjamin Entrekin  
Seke Godo  
Charles Hagadorn  
Faiza Hassan  
Benjamin Hopwood  
Karen Hoyal  
Gregory Jackson  
Charles Keller  
Matthew Kvancz
James Lane
David Lee
Amelia Leichliter
Tiffany Levreault
Stephen Little
Yoshitaka Matsuzawa
Ryan McKibben
Juan Melendez
Jerome Mickle
Dung Nguyen
Patrick Opdenbosch
Craig Paganucci
Tyson Parker
Greg Popowitz
Bini Rajan
Nancy Rimedio
Ricardo Roberts
Galen Robertson
Kyle Sanborn
Stuart Scully
Scott Siegel
Gonzalo Stabile
Eric Stallworth
Kelly Stowers
Matthew Terek
Yonas Tesfa
Brian Thorstad
Jared Walker
Leonard Weinstein
Ryan West
Jarrett White
Lawrence White
Robert White
Allan Williams
John Williams (NRE)
Lisa Winsett

Fall 2002

Shahzan Akber
Daniel Arnett
Joshua Bagwell
Eric Bell
Matthew BeVier
Adam Bierce
Jason Brown
Brooke Bunzmann
Joseph Calderon
Lashawn Certain
Carmen Chang
Min Cho
Benjamin Clare
Heidi Schafer
Joseph Segarra
Horace Smith
Michael Smith
Nimesh Solanki
Matthew Spetzler
Kimberly Spuller
Eric Stamm
Jason Taylor
Henry Tran
Heather Ulrich
Jeffrey Villar
Eric Walzer
James Washburn
Kerry Weatherford
Dennis Wenz
Jeffrey Wernz
Baker Whisnant
John Wigginton
David Williams
Gregory Wilson
Patrick Windley
Albert Wong
Robert Yearwood

Spring 2003

Anthony Achudume (NRE)
Saniya Ahsan
William Allen
William Allgood
James Anderson
Megan Applegate
Christine Argo
Benjamin Bailey
John Baronowski
Lisa Bryant
Ryan Bunn
Brandon Canfield
Adam Caplan
William Carpenter
David Carter
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GRADUATE DEGREES AWARDED
In the period from summer 2002 to spring 2003, the Woodruff School awarded 204 graduate degrees: 166 master's and 38 doctoral degrees. In summer 2002, there were a total of 56 degrees (45 master's and 11 Ph.D.'s); in fall 2002, 74 degrees were awarded (62 master's and 12 Ph.D.'s); and in spring 2003 we granted 74 degrees (59 master's and 15 Ph.D.'s).

### SUMMER 2002 GRADUATES

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<td>Implementation of Arbitrary Path Constraints Using Dissipative Passive Haptic Displays</td>
<td>Georgia Tech</td>
</tr>
<tr>
<td>Tay, Cheng</td>
<td>MSME*</td>
<td>William Wepfer</td>
<td>Nonthesis</td>
<td>University of Strathclyde, Scotland</td>
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<td>Thomas, Dale</td>
<td>MSHP</td>
<td>Chris Wang</td>
<td>Radiochemical Methods and Results Used to Characterize Concentrations of Radioactive Material in Soil at the Former McClellan Air Force Base (AFB)</td>
<td>West Virginia State College</td>
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<td>Totty, Jennifer</td>
<td>MSME</td>
<td>David McDowell</td>
<td>Linear Cellular Copper in Bending, Compression, and Shear</td>
<td>Washington University</td>
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<td>Underwood, Robert</td>
<td>MSME</td>
<td>Richard Cowan</td>
<td>Nonthesis</td>
<td>North Carolina State University</td>
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<td>Wayman, Annica</td>
<td>MSME</td>
<td>Cheng Zhu</td>
<td>Quantitative Study of Selectin-Mediated Adhesion Under Flows</td>
<td>University of Maryland</td>
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<td>Wayman, Brian</td>
<td>MSME</td>
<td>Raymond Vito</td>
<td>Cyclic Axial Distension of Arteries in Perfusion Organ Culture</td>
<td>University of Maryland</td>
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<td>Welsh, Jeffrey</td>
<td>MSME</td>
<td>Yogendra Joshi</td>
<td>Nonthesis</td>
<td>University of Notre Dame</td>
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<td>Whidby, Jon</td>
<td>MSME</td>
<td>Thomas Kurfess</td>
<td>Precision Machining of a Turbine Nozzle Segment</td>
<td>Georgia Tech</td>
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<tr>
<td>Name</td>
<td>Degree</td>
<td>Affiliation</td>
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<td>Zhou, Debao</td>
<td>MSME</td>
<td>Tsinghua University, China</td>
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<td>Kok-Meng Lee</td>
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<td>Zion, Howard</td>
<td>Ph.D.</td>
<td>Penn State</td>
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<tr>
<td>W. Steve Johnson</td>
<td>ME</td>
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</table>

* This denotes participation in Georgia Tech's Distance Learning Program
+ This denotes participation in Georgia Tech Lorraine
The Woodruff School maintains a standard of excellence in all the core, traditional areas of mechanical engineering, and has expanded into other interdisciplinary areas and applications such as acoustics, bioengineering, materials, microelectromechanical (MEMS), nanotechnology, paper science, and tribology. The School also encompasses complete programs in Nuclear and Radiological Engineering and Health Physics.

Demographics The Woodruff School has 74 tenure-track faculty. In addition, nine faculty members have joint appointments in the Woodruff School. Of this total, thirteen have endowed chairs or distinguished professorships. We also have twenty-two research faculty, four academic professionals, and a support staff of fifty-four. We average twenty postdoctoral fellows and fifteen visiting scholars each semester. By gender, there are 38 male and one female professors, 24 male and one female associate professors, and eight male and two female assistant professors. The research faculty has 18 males and four females. All four academic professionals are male.

Acoustics and Dynamics

Yves H. Berthelot, Professor
Ph.D., University of Texas at Austin, 1985
Started at GT in 1985; holds two U. S. Patents
Acoustics, laser instrumentation in acoustics, and ultrasonics
Fellow of ASA

Kenneth A. Cunefare, Associate Professor
Ph.D., Pennsylvania State University, 1990
Started at GT in 1990; holds one U. S. Patent
Active/passive control, modeling and control of brake squeal, fluid-structure interaction, and optimal acoustic design
Fellow of ASA

Aldo A. Ferri, Associate Professor
Ph.D., Princeton University, 1985
Started at GT in 1985
Acoustics, structural dynamics, and nonlinear dynamics and control

Jerry H. Ginsberg, George W. Woodruff Chair in Mechanical Systems and Professor of Mechanical Engineering
E.Sc.D., Columbia University, 1970
Started at GT in 1980
Vibrations, acoustics, dynamics, and fluid-structure interaction
Fellow of ASA and ASME

Thomas E. Michaels, Associate Professor of Electrical Engineering (Joint Appointment)
Ph.D., Washington State University, 1972
Started at GT in 2002; holds seven U. S. Patents
Measurement technology, ultrasonics, and systems and controls

Peter H. Rogers, Rae and Frank H. Neely Chair in Mechanical Engineering and Professor
Ph.D., Brown University, 1970
Started at GT in 1983; holds six U.S. Patents
Underwater acoustics and bioacoustics
Fellow of ASA

Automation and Mechatronics

Wayne J. Book, HUSCO/Ramirez Distinguished Chair in Fluid Power and Motion Control and Professor of Mechanical Engineering
Ph.D., Massachusetts Institute of Technology, 1974
Started at GT in 1974; holds four U.S. Patents
Robotics, automation, modeling, fluid power, and motion control Fellow of ASME and IEEE

Ye-Hwa Chen, Associate Professor
Ph.D., University of California, Berkeley, 1985
Started at GT in 1988
Controls, manufacturing systems, neural networks, and fuzzy engineering

Imme Ebert-Uphoff, Assistant Professor
Ph.D., The Johns Hopkins University, 1997
Started at GT in 1998
Robotics, theoretical kinematics, dynamics, parallel manipulators, and digital clay

Kok-Meng Lee, Professor
Ph.D., Massachusetts Institute of Technology, 1985
Started at GT in 1986; holds six U.S. Patents
System dynamics, control, automation, and optomechatronics

Harvey Lipkin, Professor
Ph.D., University of Florida, 1985
Started at GT in 1985; holds two U.S. Patents
Design and analysis of mechanical systems, robotics, and spatial mechanisms

John G. Papastavridis, Associate Professor
Ph.D., Purdue University, 1976
Started at GT in 1979
Analytical, structural and nonlinear mechanics, vibrations, and stability

Nader Sadegh, Associate Professor
Ph.D., University of California, Berkeley, 1987
Started at GT in 1988; holds one U.S. Patent
Controls, vibrations, and design

William E. Singhose, Assistant Professor
Ph.D., Massachusetts Institute of Technology, 1997
Started at GT in 1998; holds one U.S. Patent
Vibration, flexible dynamics, and command generation
Bioengineering

Andres J. Garcia, Assistant Professor
Ph.D., University of Pennsylvania, 1996
Started at GT in 1998; holds one U. S. Patent
Cellular and tissue engineering, cell adhesion, and biomaterials

Robert E. Guldborg, Associate Professor
Ph.D., The University of Michigan, 1995
Started at GT in 1996
Biomechanics, microCT imaging, and tissue engineering

Jens O. M. Karlsson, Associate Professor
Ph.D., Massachusetts Institute of Technology, 1994
Started at GT in 2002
Thermodynamics and transport in biological systems, nonequilibrium solidification, tissue engineering, and bioMEMS

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 Started at GT in 1986; holds six U. S. Patents
Thrombosis, biomaterials, and tissue engineering Fellow of AIMBE

Marc E. Levenston, Assistant Professor
Ph.D., Stanford University, 1995 Started at GT in 1998
Orthopedic biomechanics, soft tissue mechanics, and tissue engineering

Robert M. Nerem, Parker H. Petit Distinguished Chair for Engineering in Medicine and Institute Professor
Ph.D., The Ohio State University, 1964
Started at GT in 1987
Biomedical engineering, cellular and tissue engineering
Fellow of AAAS, AIMBE, APS, ASME, and IME
Member NAE and IOM

Raymond P. Vito, Professor and Associate Dean for Academic Affairs
Ph.D., Cornell University, 1971 Started at GT in 1974; holds five U. S. Patents
Biomechanics, tissue mechanics, and design
Fellow of ASME

Timothy M. Wick, Associate Professor of Chemical Engineering (Joint Appointment)
Ph.D., Rice University, 1988
Started at GT in 1988
Tissue and bioprocess engineering, bioreactor design, cell adhesion, and blood rheology

Ajit P. Yoganathan, Professor of Biomedical Engineering and Regents’ Professor (Joint Appointment)
Ph.D., California Institute of Technology, 1978
Started at GT in 1979
Cardiovascular fluid dynamics, rheology, Doppler ultrasound, and MRI
Fellow of AIMBE
Cheng Zhu, Professor
Ph.D., Columbia University, 1988
Started at GT in 1990
Biomechanics of single cells and single molecules, cell adhesion kinetics, and bio-MEMS

**Computer-Aided Engineering and Design**

Bert A. Bras, Professor
Ph.D., University of Houston, 1992
Started at GT in 1992
Environmentally conscious design, design for recycling, and robust design

Robert E. Fulton, Professor
Ph.D., University of Illinois, 1960
Started at GT in 1985
Finite-element methods, structural mechanics, integrated CAD/CAM, information management, and electronic commerce
Fellow of ASME

Farrokh Mistree, Professor
Ph.D., University of California, Berkeley, 1974
Started at GT in 1992
Strategic design, design of product families, and distributed design and manufacture
Fellow of ASME and Associate Fellow of AIAA

Christiaan J. J. Paredis, Assistant Professor
Ph.D., Carnegie Mellon University, 1996
Started at GT in 2002
Simulation-based design, information technology for design, mechatronics, and evolutionary algorithms

David W. Rosen, Associate Professor
Ph.D., University of Massachusetts, 1992
Started at GT in 1992
Virtual and rapid prototyping and intelligent CAD/CAM/CAE
Fellow of ASME

Suresh Sitaraman, Associate Professor
Ph.D., The Ohio State University, 1989
Started at GT in 1995
CAD/CAE, electronic packaging, thermomechanics and reliability, and FEM

**Fluid Mechanics**

Cyrus Aidun, Professor
Ph.D., Clarkson University, 1985
Started at GT in 1988; holds eight U. S. Patents
Hydrodynamic stability, liquid coating, and suspended particle hydrodynamics

Ari Glezer, George W. Woodruff Chair in Thermal Systems and Professor of Mechanical Engineering
Ph.D., California Institute of Technology, 1981
Started at GT in 1992; holds seventeen U. S. Patents
Fluid mechanics, turbulent shear flows, flow control, and diagnostics
Associate Fellow of AIAA

G. Paul Neitzel, Professor
Ph.D., The Johns Hopkins University, 1979
Started at GT in 1990
Hydrodynamic stability, surface-tension-driven and rotating flows, noncoalescence, and nonwetting and bioreactor fluid dynamics
Fellow of APS and ASME

David Parekh, Professor and Director, Aerospace, Transportation, and Advanced Systems Laboratory at GTRI (Joint Appointment)
Ph.D., Stanford University, 1989
Started at GT 1997; holds one U. S. Patent
Active flow control, propulsion, and fuel cell systems

Marc K. Smith, Associate Professor
Ph.D., Northwestern University, 1982
Started at GT in 1991; holds one U. S. Patent
Hydrodynamic stability, liquid films, and droplet atomization

Fotis Sotiropoulos, Associate Professor of Civil and Environmental Engineering (Joint Appointment)
Ph.D., University of Cincinnati, 1991
Started at GT 1995
Computational fluid dynamics, turbulent shear flows, fluid mixing, biofluid mechanics, and environmental hydraulics

Minami Yoda, Associate Professor
Ph.D., Stanford University, 1993
Started at GT in 1995
Experimental fluid mechanics, suspension flows, nano- and microfluids, and optical diagnostics

Heat Transfer, Combustion, and Energy Systems

Frederick W. Ahrens, Professor
Ph.D., University of Wisconsin, 1971
Started at GT in 1997; holds seven U. S. Patents
Heat and mass transfer, drying, transport phenomena in porous media, thermal and energy systems modeling, simulation, and optimization

J. Narl Davidson, Professor and Associate Dean of Engineering
Ph.D., The University of Michigan, 1969
Started at GT in 1973
Academic administration, engineering education, plasma physics, and power plant operation

Andrei G. Fedorov, Assistant Professor
Ph.D., Purdue University, 1997
Srinivas Garimella, Associate Professor
Ph.D., The Ohio State University, 1990
Started at GT in 2000
Catalysis and fuel cells, chemical and electrochemical sensors, atomic force microscopy, and thermal radiation

S. Mostafa Ghiaasiaan, Professor
Ph.D., University of California, Los Angeles, 1983
Started at GT in 1991
Sustainable technologies, phase change in microchannel and compact heat exchangers, and heat and mass transfer in binary mixtures

Sheldon M. Jeter, Associate Professor
Ph.D., Georgia Institute of Technology, 1979
Started at GT in 1978; holds four U. S. Patents
Thermodynamics, energy systems, and heat transfer

Yogendra K. Joshi, Professor and Associate Chair for Graduate Studies
Ph.D., University of Pennsylvania, 1984
Started at GT in 2001
Thermo-fluid issues in emerging technologies and microthermal systems
Fellow of ASME

J. Robert Mahan, Professor and Academic Affairs Director of GTL
Ph.D., University of Kentucky, 1970
Heat transfer, thermal radiation, applied optics, and infrared survivability of air targets

David Orloff, Professor
Ph.D., Drexel University, 1974
Started at GT in 1988; holds eight U. S. Patents
Impulse drying, pressing, and web preheating

Sam V. Shelton, Associate Professor
Ph.D., Georgia Institute of Technology, 1969
Started at GT in 1969
Energy systems, HVAC systems, absorption, and refrigeration
Fellow of ASHRAE; holds eight U. S. Patents

William J. Wepfer, Professor and Interim Vice Provost for Distance Learning and Professional Education
Ph.D., University of Wisconsin, 1979
Started at GT in 1980
Heat transfer and thermodynamics
Fellow of ASHRAE and ASME

Zhuomin Zhang, Associate Professor
Ph.D., Massachusetts Institute of Technology, 1992
Started at GT in 2002; holds two U. S. Patents
Microscale heat transfer, thermophysical properties, and radiation thermometry
Ben T. Zinn, David S. Lewis Chair of Aerospace Engineering and Regents' Professor (Joint Appointment)
Ph.D., Princeton University, 1965
Started at GT in 1965; holds nine U. S. Patents
Combustion instability, active control, microscale combustion, propulsion, and acoustics
Fellow of AIAA and ASME; member NAE

Manufacturing

Daniel F. Baldwin, Associate Professor
Ph.D., Massachusetts Institute of Technology, 1994
Started at GT in 1995; holds five U. S. Patents
Manufacturing systems design, electronics manufacturing and packaging, and polymer processing

Jonathan S. Colton, Professor
Ph.D., Massachusetts Institute of Technology, 1986
Started at GT in 1985; holds five U. S. Patents
Manufacturing, polymer/composites processing, rapid prototyping, and nano/microfabrication
Fellow of ASME

Steven Danyluk, Morris M. Bryan, Jr. Chair in Mechanical Engineering for Advanced Manufacturing Systems and Professor
Ph.D., Cornell University, 1974; holds two U. S. Patents
Started at GT in 1993
Semiconductor processing, lubricant-surface interaction, polishing, and sensors
Fellow of ASME and STLE

Thomas R. Kurfess, Professor
Ph.D., Massachusetts Institute of Technology, 1989
Started at GT in 1994
System dynamics, control, metrology, CAD/CAM/CAE, and precision system design

Steven Y. Liang, Professor
Ph.D., University of California, Berkeley, 1987
Started at GT in 1990; holds one U. S. Patent
Automated manufacturing, control systems, and digital signal processing

Shreyes N. Melkote, Associate Professor
Ph.D., Michigan Technological University, 1993
Started at GT in 1995
Machining processes, surfaces, intelligent fixturing, and CAM/CAPP

Timothy Patterson, Assistant Professor
Ph.D., Georgia Institute of Technology, 1999
Started at GT in 1993; holds four U. S. Patents
Web preheating

I. Charles Ume, Professor
Ph.D., University of South Carolina, 1985
Mechanics of Materials

Laurence J. Jacobs, Professor of Civil Engineering (Joint Appointment)
Ph.D., Columbia University, 1987
Started at GT in 1988
Nondestructive evaluation, wave propagation in solids, and experimental mechanics

Iwona M. Jasiuk, Professor
Ph.D., Northwestern University, 1986
Started at GT in 1996
Micromechanics, elasticity, fracture, composite materials, nano and biomaterials
Fellow of ASME

W. Steven Johnson, Professor of Materials Science and Engineering (Joint Appointment)
Ph.D., Duke University, 1979
Started at GT in 1994
Fatigues, fracture mechanics, and durability of materials and structures
Fellow of ASM and ASTM

W. Jack Lackey, Professor
Ph.D., North Carolina State University, 1970
Started at GT in 1986; holds sixteen U. S. Patents
Nuclear fuel and waste processing, ceramic and metallic coatings, composites, and rapid prototyping
Fellow of ACS

Christopher S. Lynch, Associate Professor and Associate Chair for Administration
Ph.D., University of California, Santa Barbara, 1992
Started at GT in 1995
Experimental mechanics and smart materials

David L. McDowell, Carter N. Paden Distinguished Chair in Metals Processing and Regents’ Professor
Ph.D., University of Illinois, 1983
Started at GT in 1983 Material deformation and damage, constitutive laws, and metals processing
Fellow of ASME

Richard W. Neu, Associate Professor
Ph.D., University of Illinois, 1991
Started at GT in 1995
Fatigue, deformation, and degradation of materials

Jianmin Qu, Professor
Ph.D., Northwestern University, 1987
Started at GT in 1989
Fracture, composite materials, wave propagation, and microelectronic packaging

Min Zhou, Associate Professor
Ph.D., Brown University, 1993
Started at GT in 1995
Micro- and nano-scale behavior, continuum and molecular dynamics modeling, experimental/computational mechanics, dynamic behavior, and fracture

Microelectromechanical Systems

F. Levent Degertekin, Assistant Professor
Ph.D., Stanford University, 1997
Started at GT in 2000; holds nine U. S. Patents
Micromachined sensors and actuators, ultrasonics, atomic force microscopy, and nondestructive evaluation

James Gole, Professor of Physics (Joint Appointment)
Ph.D., Rice University, 1971
Started at GT in 1977; holds seven U. S. Patents
Nanostructured materials, porous media, sensors, and micro- and nanocatalysis

Samuel Graham, Assistant Professor
Ph.D., Georgia Institute of Technology, 1999
Started at GT in 2003
Microscale heat transfer, thermophysical properties, nanostructured materials, nanodevices, and device reliability

Peter J. Hesketh, Professor
Ph.D., University of Pennsylvania, 1987
Started at GT in 2000; holds six U. S. Patents
Microfabrication, micromachining, sensors, actuators, biosensors, and microfluids

William King, Assistant Professor
Ph.D., Stanford University, 2002
Started at GT in 2002
Micro/nanoscale heat transfer and thermal processing, atomic force microscopy, MEMS and micro/nanofabrication

Wenjing Ye, Assistant Professor
Ph.D., Cornell University, 1998
Started at GT in 1999
CAD design of MEMS, microfabrication, and numerical analysis

Nuclear and Radiological Engineering/ Health Physics

Said I. Abdel-Khalik, Southern Nuclear Distinguished Professor and Professor of Nuclear and Mechanical Engineering
Ph.D., University of Wisconsin, 1973
Started at GT in 1987; holds three U. S. Patents
Reactor engineering and thermal-hydraulics; two-phase flow and heat transfer; and inertial fusion technology
Cassiano de Oliveira, Professor
Ph.D., University of London, England, 1987
Started at GT in 2003
Numerical radiation transport, computational fluid flow and molecular flow and numerical modeling

Nolan E. Hertel, Professor
Ph.D., University of Illinois, 1979
Started at GT in 1993
Radiation shielding, neutron dosimetry, radiological assessment, radioactive waste management, accelerator sources and applications, and high-energy particle transport

Farzad Rahnema, Professor and Associate Chair of the Woodruff School, Chair of the Nuclear and Radiological Engineering/Health Physics Program
Ph.D., University of California, Los Angeles, 1981
Started at GT in 1992
Reactor physics, perturbation and variational methods, computational transport theory, and criticality safety
Fellow of ANS

Weston M. Stacey, Jr., Fuller E. Callaway Professor in Nuclear Engineering and Regents’ Professor
Ph.D., Massachusetts Institute of Technology, 1966
Started at GT in 1977
Fusion engineering, plasma physics, and reactor physics
Fellow of ANS and APS

C.-K. Chris Wang, Associate Professor
Ph.D., The Ohio State University, 1989
Started at GT in 1991
Radiation detection and dosimetry, medical and industrial applications of ionizing radiations, and spent nuclear fuel measurements

Tribology

Itzhak Green, Professor
Sc.D., Technion-Israel Institute of Technology, 1984
Started at GT in 1985; holds one U. S. Patent
Hydrodynamic lubrication, vibrations, rotordynamics, fluid sealing, design, and diagnostics
Fellow of ASME and STLE

Richard F. Salant, Georgia Power Distinguished Professor in Mechanical Engineering
Sc.D., Massachusetts Institute of Technology, 1967
Started at GT in 1987; holds six U. S. Patents
Fluid mechanics, fluid sealing, lubrication, and tribology
Fellow of ASME and STLE

Jeffrey L. Streator, Associate Professor
Ph.D., University of California, Berkeley, 1990
Started at GT in 1990
Computer-disk tribology, thin-film lubrication, capillarity, and contact mechanics

Ward O. Winer, Eugene C. Gwtlney, Jr. Chair of the Woodruff School and Regents’ Professor
Ph.D., Cambridge University, 1964
Ph.D., The University of Michigan, 1961
Started at GT in 1969
High-pressure rheology, lubrication, tribology, thermomechanics, and mechanical systems diagnostics
Fellow of AAAS, ASME, and STLE; member NAE

Research Faculty

Janet Allen, Senior Research Scientist
Ph.D., University of California, Berkeley, 1973
Started at GT in 1992
Design evolution over time, modeling uncertainty, decision-based design, and design pedagogy

Scott S. Bair, Principal Research Engineer
Ph.D., Georgia Institute of Technology, 1990
Started at GT in 1985; holds eleven U. S. Patents
Tribology, rheology, properties of liquids at high pressure, and machine design

Van B. Biesel, Research Engineer II
M.S., Georgia Institute of Technology, 1993
Started at GT in 1994
Acoustics, vibrations, noise control, numerical modeling, transducers, and piezoelectric materials

John R. Bogle, Senior Research Engineer
M.S., Georgia Institute of Technology, 1987
Started at GT in 1990
Structural acoustics, finite/boundary element modeling interaction of underwater sound and structures, and vibrations

Richard S. Cowan, Research Engineer II
Ph.D., Georgia Institute of Technology, 2002
Started at GT in 1996
Mechanical system maintenance and modeling, technology management, and public policy

Tom Crittenden, Research Engineer II
Ph.D., Georgia Institute of Technology, 2003
Started at GT in 2003; holds one U. S. Patent
Flow control, fluidic actuation techniques, small-scale combustion, and MEMS-based actuators

John R. Culp, Research Engineer I
B.S., Georgia Institute of Technology, 2000
Started at GT in 2001
Fluidic actuators and technologies, computer-based data acquisition, fluid flow fields, and electronic components

François M. Guillot, Research Engineer II
Ph.D., Georgia Institute of Technology, 2000
Started at GT in 2001
Acoustic material characterization, measurement methodology, laser Doppler vibrometry, electromechanical transduction, and structural acoustics

Steven R. Hahn, Research Engineer II
M.S., Georgia Institute of Technology, 1988
Started at GT in 1992; holds one U. S. Patent
Structural acoustics, vibrations and control, and finite- and boundary element techniques

Sam Heffington, Research Engineer II
Ph.D., Georgia Institute of Technology, 2001
Started at Georgia Tech in 2001
Thermal management of electronic packages, spray cooling, boiling enhancement, and two-phase flows

Gregg D. Larson, Research Engineer II
Ph.D., Georgia Institute of Technology, 1996
Started at GT in 1997; holds one U. S. Patent
Transduction, acoustics, vibrations, and piezoelectric ceramics

Angela Lin, Research Engineer I
M.S., Georgia Institute of Technology, 2002
Started at GT in 2003

Raghav Mahalingam, Research Engineer II
Ph.D., Georgia Institute of Technology, 1999
Started at GT in 2001; holds one U. S. Patent
Thermal management in microelectronics, vortex dynamics, unsteady aerodynamics, rotorcraft aeromechanics and active flow control

John Mandrekas, Senior Research Scientist
Ph.D., University of Illinois, 1987
Started at GT in 2002
Plasma physics, transport theory, fusion reactor design, numerical methods, and computational physics

James S. Martin, Senior Research Engineer
M.S., Georgia Institute of Technology, 1994
Started at GT in 1991
Shallow water sound propagation, internal gravity waves, structural acoustics, bioacoustics/biomimetics, nondestructive testing, and nonlinear bubble dynamics

Dennis L. Sadowski, Research Engineer II
M.S., University of Illinois, 1986
Started at GT in 1995; holds three U. S. Patents
Thermal sciences, fluid dynamics, and design and construction of experimental equipment

Reza Sadr, Research Engineer II
Ph.D., University of Utah, 2002
Started at GT in 2002
Two-phase boundary layer flows

Dave Trivett, Principal Research Scientist
Bojan Vukasinovic, Research Engineer II
Ph.D., Georgia Institute of Technology, 2002
Started at GT in 2003

Jelena Vukasinovic, Research Engineer II
M.S., Georgia Institute of Technology, 2000
Started at GT in 2002

Xuezhen Zhang, Research Scientist II
Department of Physics of Nanjing University
Majored in Physics (3.5 years), and Acoustics (1.5 years), 1958-1963
Started at GT in 1992

Ji-Xun Zhou, Principal Research Scientist
Graduate School of the Chinese Academy of Sciences, majored in Ocean Acoustics, 1963-1967
Started at GT in 1992

Academic Professionals

Jeffrey A. Donnell, Academic Professional
Ph.D. English, Emory University, 1990
Started at GT in 1992
Coordinator of the Frank K. Webb Program in Professional Communication

David Sanborn, Senior Academic Professional and Associate Chair for Undergraduate Studies
Ph.D., The University of Michigan, 1969
Started at GT in 2000; holds four U. S. Patents
Design, thermodynamics, and combustion

Michael D. Stewart, Academic Professional
M.S., Wayne State College, 1983
Started at GT in 2001
Engineering design graphics, computer-aided design, advanced feature-based parametric solid modeling, and rapid prototyping

Wayne Whiteman, Senior Academic Professional and Director of the Office of Student Services
Ph.D., Georgia Institute of Technology, 1996
Started at GT in 2003
Vibrations, structural dynamics, nonlinear dynamics, and engineering education

Adjunct Professors and Part-Time Appointments
L. Dennis Ballou, Instructor
  J.D., Law, University of Georgia, 1977
  Started at GT in 1991
  Elastic instability of cylindrical shells and availability analysis

Barbara McCord, Instructor
  Ph.D., Georgia Institute of Technology, 1992
  Started at GT in 2000
  Two-phase heat transfer, and bioengineering

J. Ernest Wilkins, Jr., Adjunct Professor, Clark-Atlanta University
  Ph.D., University of Chicago

Awards

Said Abdel-Khalik received the 2003 Georgia Tech Faculty Outstanding Service Award.

Scott Bair is a Fellow of the American Society of Mechanical Engineers.

Ken Cunefare was named a Fellow of the Acoustical Society of America.

Steven Danyluk was recognized for ten years of service to Tech.

Imme Ebert-Uphoff will serve in the General Faculty Assembly and the Academic Senate from fall 2002 to 2005.

Bob Fulton was named the 2003 Engineer of the Year in Education by the Engineers of Greater Atlanta.

Nolan Hertel was recognized for ten years of service to Tech.

Iwona Jasiuk was named a Fellow of the American Society of Mechanical Engineers.

David Rosen was named a Fellow of the American Society of Mechanical Engineers.

Richard Salant received the 2003 Machine Design Award from the ASME.

Bill Singhose won the 2003 Jiri Tlusty Outstanding Young Manufacturing Engineer Award from the Society of Manufacturing Engineers.

Suresh Sitaraman had the best paper for the 2nd year in a row in the IEEE Transactions on Components and Packaging Technologies.
William Stacey won the 2003 Georgia Tech Outstanding Faculty Research Award.

Ray Vito received the 2002 Wallace H. Coulter Award for Innovation and Entrepreneurship. This prestigious award recognizes a technical achievement likely to have a significant impact on health care delivery and comes with a $100,000 grant to assist his company in bringing the technology to market.

He is working on developing a biomechanical device to grow new arteries for bypass surgery patients. In 2003 he was named Associate Dean for Academic Affairs.

Patents

The following U. S. patents were received by the faculty from July 1, 2002 to June 30, 2003.


Andres J. Garcia with others, Bioactive Glass or Ceramic Substrates Having Bound Cell Adhesion Molecules, U. S. Patent 6,413,538, July 2, 2002.


Promotions

John Bogle was promoted to Senior Research Engineer.

Bert Bras was promoted to full Professor.
Changes

Raymond Vito left his position as Associate Chair for Undergraduate Studies and is now Associate Dean for Academic Affairs in the College of Engineering. He continues as Professor of Mechanical Engineering.

William J. Wepfer is now Interim Vice Provost for Distance Learning and Professional Education and Professor of Mechanical Engineering. He left his position as Associate Chair for Graduate Studies.
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Started at GT</th>
</tr>
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<tbody>
<tr>
<td>Segried Allen</td>
<td>Administrative Assistant I</td>
<td>January 2003</td>
</tr>
<tr>
<td>Trudy Allen</td>
<td>Academic Assistant II</td>
<td>July 1998</td>
</tr>
<tr>
<td>Shauna Bennett-Boyd</td>
<td>Administrative Assistant II</td>
<td>January 2000</td>
</tr>
<tr>
<td>Kimberly Blue</td>
<td>Academic Advisor II</td>
<td>August 1999</td>
</tr>
<tr>
<td>Vladimir Bortkevich</td>
<td>Electrical Engineer III</td>
<td>August 1999</td>
</tr>
<tr>
<td>Lindsay Bryant</td>
<td>Research Technician III</td>
<td>November 2002</td>
</tr>
<tr>
<td>Donald F. (Butch) Cabe</td>
<td>Manager of Facilities</td>
<td>September 1968</td>
</tr>
<tr>
<td>Robert Cooper</td>
<td>Mechanical Technician III</td>
<td>April 1999</td>
</tr>
<tr>
<td>Phillip R. Coulson</td>
<td>Financial Specialist</td>
<td>November 1986</td>
</tr>
<tr>
<td>Carla Crippins</td>
<td>Administrative Assistant II</td>
<td>May 2001</td>
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<tr>
<td>Andrew G. (Drew) Davis</td>
<td>Electronics Specialist</td>
<td>August 1986</td>
</tr>
<tr>
<td>Judith E. Diamond</td>
<td>Administrative Assistant II</td>
<td>March 1994</td>
</tr>
<tr>
<td>Dimetra Diggs-Butler</td>
<td>Administrative Assistant I</td>
<td>April 2003</td>
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<tr>
<td>Kenneth Dollar</td>
<td>Director of Support and Technical Services</td>
<td>December 1996</td>
</tr>
<tr>
<td>Richard Duplessis</td>
<td>Computer Services Specialist III</td>
<td>October 1992</td>
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<td>Melody Foster</td>
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<tr>
<td>Norma L. Frank</td>
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<td>February 1973</td>
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<tr>
<td>Kyle French</td>
<td>Electrical Engineer II</td>
<td>July 2002</td>
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<tr>
<td>Phyllis Frost</td>
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<td>August 1959</td>
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<tr>
<td>Rona A. Ginsberg</td>
<td>Director of Communications</td>
<td>December 1996</td>
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<tr>
<td>John W. Graham</td>
<td>Machine Shop Manager</td>
<td>May 1986</td>
</tr>
<tr>
<td>Rebecca Hembree</td>
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<td>March 1994</td>
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<tr>
<td>Angela L. Hicks</td>
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<tr>
<td>Claudine Henkel</td>
<td>Administrative Assistant II</td>
<td>September 1988</td>
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<tr>
<td>Nancy Hutton</td>
<td>Accountant II</td>
<td>August 2001</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Date</td>
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<tr>
<td>------------------------</td>
<td>---------------------------------------------</td>
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<tr>
<td>Wanda Joefield</td>
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<td>July 1995</td>
</tr>
<tr>
<td>Glenda Johnson</td>
<td>Academic Assistant I</td>
<td>October 2000</td>
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<tr>
<td>Vivian Johnson</td>
<td>Administrative Assistant I</td>
<td>March 1992</td>
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<td>Cecelia Jones</td>
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<td>August 1999</td>
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<tr>
<td>Theresa S. Keita</td>
<td>Administrative Assistant II</td>
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<tr>
<td>Mary Jo Kleine</td>
<td>Administrative Assistant II</td>
<td>October 1990</td>
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<tr>
<td>Lorrie Lay</td>
<td>Web Assistant</td>
<td>June 1995</td>
</tr>
<tr>
<td>Sherron Lazarus</td>
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<tr>
<td>Donald E. Long</td>
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<tr>
<td>Joyce Lowe</td>
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<td>August 1999</td>
</tr>
<tr>
<td>Lisa Manning</td>
<td>Administrative Assistant II</td>
<td>August 1994</td>
</tr>
<tr>
<td>John P. McCullough, II</td>
<td>Manager of Computing, Networking &amp; Electronics</td>
<td>December 1995</td>
</tr>
<tr>
<td>Dorothy McDuffie-Alexander</td>
<td>Clerk IV</td>
<td>January 2003</td>
</tr>
<tr>
<td>Bill Miller</td>
<td>Systems Analyst III</td>
<td>November 2000</td>
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<tr>
<td>Jefforey Murphy</td>
<td>Systems Analyst III</td>
<td>January 1998</td>
</tr>
<tr>
<td>Michael L. Murphy</td>
<td>Facilities and Laboratory Coordinator</td>
<td>June 1986</td>
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<tr>
<td>Regina Neequaye</td>
<td>Administrative Assistant II</td>
<td>September 2000</td>
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<tr>
<td>Cary Ogletree</td>
<td>Administrative Coordinator</td>
<td>April 2003</td>
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<tr>
<td>Gail Payne</td>
<td>Administrative Coordinator</td>
<td>September 1997</td>
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<tr>
<td>Linda Perry-Miller</td>
<td>Administrative Assistant I</td>
<td>September 1998</td>
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<tr>
<td>Verna Phillips</td>
<td>Administrative Assistant II</td>
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</tr>
<tr>
<td>Amina Sadiq</td>
<td>Accountant III</td>
<td>December 1995</td>
</tr>
<tr>
<td>Sterling Skinner, Jr.</td>
<td>Director of Instructional Labs</td>
<td>September 1992</td>
</tr>
<tr>
<td>Lona Smith</td>
<td>Administrative Assistant I</td>
<td>January 2003</td>
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<tr>
<td>David W. Stone</td>
<td>Director of Finance</td>
<td>February 1994</td>
</tr>
<tr>
<td>Stephanie Wheeler</td>
<td>Administrative Assistant II</td>
<td>February 1999</td>
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<tr>
<td>Cosetta Williams</td>
<td>Academic Advisor I</td>
<td>May 1995</td>
</tr>
<tr>
<td>Melinda A. Wilson</td>
<td>Manager of Admin. Services</td>
<td>September 1976</td>
</tr>
<tr>
<td>Caroline G. Wood</td>
<td>Director of Development</td>
<td>March 1998</td>
</tr>
</tbody>
</table>
Promotions

Shauna Bennett-Boyd was promoted to Administrative Assistant II. She works with the Nuclear and Radiological Engineering/Health Physics group.

Drew Davis was promoted to Electronics Specialist. He will continue testing, repairing, and maintaining printers and other electronic equipment.

Glenda Johnson was promoted to Academic Assistant I. She works at the front desk in the Student Services Office where she assists visitors, provides information, schedules appointments, and manages the student data bases.

Cecelia Jones was promoted to Administrative Assistant II. She supports faculty members in the Mechanics of Materials group.

Theresa Keita was promoted to Administrative Assistant II. She supports faculty in the Automation and Mechatronics group.

Mike Murphy was promoted to Facilities and Laboratory Coordinator. He oversees the capital assets program, and manages phone operations, building access, and security systems for the School.

Regina Neequaye was promoted to Administrative Assistant II. She provides support to faculty in the Heat Transfer, Combustion, and Energy Systems group.

Verna Phillips was promoted to Administrative Assistant II. She provides support to members of the Tribology group.

Stephanie Wheeler was promoted to Administrative Assistant II. She provides support to members of the Computer-Aided Engineering and Design group.

Honors

The Outstanding Classified Employee Achievement Award is awarded each semester and at the end of the calendar year. At the end of a semester, nominations are received for any staff person
who has performed in an exceptional manner during that term. A volunteer committee of staff members selects the winner from nominations received from any employee of the Woodruff School. **Verna Phillips** was the recipient of the 2002 Woodruff School Outstanding Achievement Award for Classified Staff. She, along with **Joyce Lowe** and **Terri Keita** were the recipients of the individual semester awards in 2002.
Fifty Years of Women at Georgia Tech

Georgia Tech celebrated fifty years of women on campus. This is a good time to look back to a precursor to that event. In May 1919, a female engineering student at the University of Colorado in Boulder sent a letter to the Dean of Engineering at Georgia Tech inquiring about the names and addresses of the women registered in the program. She wanted to organize women engineering students and alumna into a society auxiliary to the mens’ organizations. The following reply was sent on May 7, 1919 by Dr. John Saylor Coon, Professor of Mechanical Engineering and Head of the department: “Dear Lady: Up to the present, women students have not been admitted to Georgia Tech. Yesterday, the City of Atlanta conferred suffrage on women in City affairs, so no knowing what may happen!”

It wasn’t until 1952 that the Board of Regents of the State of Georgia voted to admit women into Georgia Tech. Four months later, Elizabeth Herndon and Diane Michel made history by enrolling at Tech. In fifty years, Georgia Tech has evolved from accepting no female students in engineering and science to being the number one producer of female engineers in the country. For more information, view [www.gatech.edu/50yearsofwomen](http://www.gatech.edu/50yearsofwomen).

The Harold S. Falk Distinguished Alumnus Award

The 2003 winner of the Harold S. Falk Distinguished Alumnus Award was Harold Gegenheimer (BME 1933). The award is presented to a Chi Psi alumnus for outstanding accomplishment and performance in the member’s career or field of endeavor. Mr. Gegenheimer is the Chairman Emeritus of the Baldwin Technology Company, an international manufacturer of material handling, press accessory, and prepress equipment for offset printing. He invented the Convertible Offset Perfecting Press, a feature used by most press manufacturers that allows for one or more colors to be printed on both sides of the paper with just one pass through the press. His inventions, for which many United States and foreign patents have been obtained, were keys to the great growth of the offset printing process after World War II.

Mr. Gegenheimer is a long-time contributor to Georgia Tech’s Thousand Club, served as co-chair of his 50th Reunion Committee, and was the recipient of the 1996 Woodruff School Distinguished Alumnus Award. An endowment given to the Woodruff School in 1995 by Mr. Gegenheimer established the Harold W. Gegenheimer Lecture Series on Innovation. In 2001, his endowment supported the School’s new display, Patents of the Woodruff School Faculty.
Winer Named Honorary Georgia Tech Alumnus

Dr. Ward O. Winer was named an honorary alumnus of Georgia Tech in 2003. He arrived at Georgia Tech in 1969 as an associate professor and now holds the Eugene C. Gwaltney, Jr. Chair of the Woodruff School. His research area is in the field of Tribology (the study of friction, lubrication, and wear).

Dr. Winer is a fellow in the American Society of Mechanical Engineers, the American Association for the Advancement of Science, and the Society of Tribologists and Lubrication Engineers. In 1986 he received the Tribology Gold Medal from the British Tribology Trust and was elected to the National Academy of Engineering in 1988. He has also received the Mayo D. Hersey Award, the Charles Russ Richards Memorial Award, and the Melville Medal from ASME, as well as the Lamme Award and the Donald E. Marlow Award from the American Society for Engineering Education. He received the Georgia Tech Distinguished Professor Award in 1987.

Frank K. Webb and the Program in Professional Communication

The Woodruff School is committed to improving the skills of its students so that they can build successful engineering careers. One important investment is to teach students verbal and written communication skills. In 1990 the Woodruff School created a communications program to focus on the needs of its graduate students, and hired an instructor to introduce students to enhanced verbal and written communication skills.

When Frank K. Webb (BSME 1938) saw an article about the new communications program in the Spring 1991 issue of mega tech (our alumni newsletter), he contacted Woodruff School Chair Dr. Ward Winer about funding the program. The result was the Frank K. Webb Program in Professional Communication.

Graduate fellowship applications were addressed first, as this was potentially a high-profile activity for the Institute. However, Webb’s endowment and his strong support for improving students’ communication skills gave the Woodruff School the latitude to extend the program to meet the need of all its students. As a result,
when Tech converted to semesters, the Woodruff School formally integrated what was previously an informal program – the teaching of verbal and written communication skills – into the new, undergraduate engineering curriculum.

Mr. Webb worked in the oil industry and quickly advanced into management. Through a career that spanned more than three decades (beginning in the 1940s) he became convinced that engineers could not thrive or realize their potential if they did not have excellent communications skills; they couldn’t advance on technical skills alone. His employer, Amoco Oil Company, provided some training classes for engineers in communications skills. After he retired from Amoco in 1981, he started a second career as vice president of Brooks Erection and Construction Company. In addition to the Frank K. Webb Endowment Fund that was established in 1992, Mr. Webb served as a volunteer for the 39th Georgia Tech Roll Call and was named the 1992 Woodruff School Distinguished Alumnus.

Mr. Webb provided the impetus behind the Woodruff School's very successful communications program, which has set an example for others on campus. To date, there are writing programs in the Schools of Chemical Engineering, Civil Engineering, Electrical and Computer Engineering, and Materials Science.

**Honors**

Three alumni were selected for the Georgia Tech Council of Outstanding Young Engineering Alumni. Membership in the Council is reserved for alumni under 40 years of age who have demonstrated outstanding professional achievements. They are Calvin Mackie (BME 1990, MSME 1992, Ph.D. ME 1996), co-founder of Channel ZerO and Associate Professor of Mechanical Engineering at Tulane University, Mark D. Morelli (BME 1987), Vice President of Business Development and Strategy at UTC Fuel Cells, and Kathleen Klee Spillane (MSHP 1990, Ph.D. NE 1994), Director of Physics at Millennium Oncology Management in Philadelphia.

The Academy of Distinguished Engineering Alumni recognizes alumni who have made significant contributions to their profession, the Institute, or society-at-large. Individuals receiving this award are widely respected, recognized for their professional and personal services, and actively involved in engineering or management. They bring distinction to Georgia Tech. Our two inductees are: Robert Cantwell (BME 1978), Chief Executive Officer of Hadady Corporation in Munster, Indiana, and William W. Dean (BME 1977), Partner in Newcomb & Boyd in Duluth, Georgia.
The highest honor that can be bestowed on alumni in the College of Engineering is the Hall of Fame. Membership is reserved for alumni who have made sustained and meritorious engineering and/or managerial contributions during their careers. **J. Adreon “Jack” Keller** (BME 1939), Retired Chief Executive Officer of Eltra Corporation in New York; **Stephen C. Hale, Jr.** (BME 1940), Chief Executive Officer of Hale Indian River Groves, and **Lawrence J. Ybarrondo** (Ph.D. ME 1964), Retired Founder of SCIENTECH, Inc. in Jackson, Wyoming, were chosen for this honor.

L-R: Mr. William W. Dean (BME 1977), Dr. Larry Ybarrondo (Ph.D. ME 1964), Dr. Kathleen Klee Spillane (MSHP 1990, Ph.D. NE 1994), Mr. Robert Cantwell (BME 1978), Dr. Calvin Mackie (Ph.D. ME 1996), and Dr. Ward O. Winer.
This list includes donors who have designated gifts to the Woodruff School of Mechanical Engineering between July 1, 2002 and June 30, 2003.

Alumni and Friends

Philip S. Armstrong, Jr., IE 1965
G. Bingham Bache, ME 1961
Jay D. Bilyeu, PHYS 1968
L. Conrad Bishop, Friend
Mark A. Bourcier, ME 1989
Debra J. Brook, Friend
William B. Crane, ME 1950
William B. Faulkner, Jr., IE 1971
Sara P. FitzGerald, Friend
Richard L. Frame, Jr., MGT 1989
Mark A. Franke, CHE 1974
Jason N. Green, ME 1992
Kenneth A. Gresham, Friend
George F. Head, ME 1951
Eric P. Igel, CE 1999
Sheldon M. Jeter, Ph.D., ME 1979
Edward L. Kelly, IE 1962
Deborah Kilpatrick, ESM 1989, MS ME 1994, Ph.D., ME 1989
Kenneth B. Kimble, ME 2001
John J. Kluber, ME 1984
Laura L. Lambeth, Friend
F. Paul Lomangino, ME 1995
Gaye M. Love, Honorary Alumna
Todd Maddox, ME 1997
Henry F. McCamish, Jr., IM 1950
Robert K. Mueller, Friend
Isaac E. Murray, Jr., ME 1949
Daniel C. Polstra, ME 1983
Richard J. Protus, EE 1998
Weston M. Stacey, Ph.D., PHYS 1959
Christopher Tanaka, CHE 1998
William L. Thacker, Jr., ME 1967
Peter M. Warner, CE 1996
Frank K. Webb, ME 1938
Wendell M. Williams, Jr. Ph.D., ME 1955
Thomas L. Williams, ME 1967
Ward O. Winer, Honorary Alumnus
Joel A. Wright, CE 1978
Qingmin Yang, Friend
Faculty and Staff Contributors

Wayne J. Book
Gene T. Colwell
Kenneth A. Cunefare
Steven Danyluk
Stephen L. Dickerson
Aldo A. Ferri
Robert E. Fulton
Nolan E. Hertel
Sheldon M. Jeter, Ph.D., ME 1979
Alan V. Larson
Christopher S. Lynch
Lora L. Magnuson
David L. McDowell
William J. Miller
Robert M. Nerem
Jianmin Qu
Farzad Rahnema
Richard F. Salant
William J. Wepfer
Wendell M. Williams, Jr. Ph.D., ME 1955
Ward O. Winer, Honorary Alumnus
Caroline G. Wood

Corporate and Foundation Contributors

21st Century Medicine, Inc.
American Society of Charitable Endowments
American Society of Mechanical Engineers
American Standard Foundation
Arpeggio Acoustic Consulting LLC
ArvinMeritor, Inc.
ASHRAE
ATDC
Bache Enterprises
Bank of America Foundation
BASF Corporation
Boeing Company
Caterpillar Foundation
Chevron Oil Company
Crown Products Company, Inc.
Community Foundation for Greater Atlanta
Cummins Engine Company, Inc.
Deere & Company
Dickerson Vision Technologies, Inc.
Dow Chemical Company Foundation
Engelhard Corporation
EVAPCO, Inc.
ExxonMobil Corporation
Fluor Foundation
Ford Motor Company
Fuji Photo Film, Inc.
General Motors Corporation
General Motors Foundation
Georgia Advanced Technology Ventures, Inc.
Georgia Power Company
Georgia Trane Equipment Company
Guidant Foundation
Herbert & Marian Haley Foundation
Hitachi, Ltd.
Homeworks/Warner Robin Supply of Macon
Institute of Mechanical Engineering
Intel Corporation
John Deere Commercial Products
John Deere Foundation
Kimberly-Clark Corporation
Komatsu
Lake Norman Security Systems
Liebert Corporation
Lubrizol Corporation
Michelin Americas R & D
Milliken & Company, Inc.
Mingledorff’s Incorporated
M.K. Plastics Corporation
Newell Rubbermaid Inc.
Northside Anesthesiology
Parametric Technology Corporation
Procter & Gamble Fund
Rivr Media, LLC
Roche Bioscience
SAE Foundation
Shell Oil Company Foundation
Schlumberger Well Services
Siemens VDO Automotive
Society of Automotive Engineers, Inc.
Springer-Verlag Berlin-Heidelberg-New York
Student Government Association
Sun Hydraulics
Taiho Kogyo Tribology Research Foundation
Therics, Inc.
The Timken Company
Tom Barrow Company
Zesto on Ponce de Leon, Inc.
For fiscal year 2003 (July 1, 2002 to June 30, 2003), the Woodruff School’s finances were reflected in the number of grants and contracts received from external sources, the budget of the School (state support), and the revenue generated from the Woodruff Endowment. These categories break down as given below. Detailed information on any of these categories is available from the Woodruff School’s Director of Finance, David Stone, at (404) 894-7400.

### Grants and Contracts

<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Total new funds received on external/internal grants and contracts active during fiscal year 2003a</td>
<td>$16,206,097</td>
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<td>(includes endowment revenue)</td>
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<tr>
<td>Endowment and externally funded grant and contract expenditures b</td>
<td>$19,001,720</td>
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<tr>
<td>Internally funded grant expenditures b</td>
<td>$1,939,994</td>
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<tr>
<td>Total grant, contract, and endowment expenditures</td>
<td>$20,941,714</td>
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### Number of Grants, Contracts, and Proposals

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<tr>
<td>Total number of active (external/internal) grants and contracts (includes endowment accounts)</td>
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<tr>
<td>Number of proposals submitted to external agencies</td>
<td>172</td>
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<tr>
<td>Number of externally funded grants, contracts, and endowments receiving new funds</td>
<td>232</td>
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<tr>
<td>Number of internally funded grants receiving new funds</td>
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### School Budget

<table>
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<tr>
<td>State support</td>
<td>$12,851,258</td>
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Endowments (as of July 1, 2002)

Total Woodruff School endowments (market value principal) $78,872,002
Endowment-generated revenue available for expenditure $3,711,537

In addition about $8,258,539 was received by our faculty through the college and interdisciplinary centers.

Includes direct costs, fringe benefits, and overhead, if applicable.
Funds from the George W. Woodruff Trust continue to provide for the enhancement of School of Mechanical Engineering. George W. Woodruff received his degree in mechanical engineering in 1917. He served as a trustee and trustee emeritus of the Georgia Tech Foundation from 1941 until his death at the age of 91 in 1987, and 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.

The market value of the Mechanical Engineering Woodruff Endowment on July 1, 2002 was $56,538,126. The endowment generated $2,660,556 that was available to the Woodruff School to update and enrich our programs during fiscal year 2003. The expenditures may be categorized as follows: faculty, students, facilities, lectures and seminars, staff, publications, and general projects and supplies. A breakdown of the use of these funds includes:

**Faculty**

- Funds from the Woodruff Trust are used to endow the George W. Woodruff Chair in Mechanical Systems and the George W. Woodruff Chair in Thermal Systems. Dr. Jerry H. Ginsberg, Professor of Mechanical Engineering, has held the Mechanical Systems Chair since 1989. Dr. Ari Glezer 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 ($15,000 per year) for research projects and other discretionary activities. The award is given for a five-year period. David Rosen and Bert Bras are faculty fellows until 2007.
- Partially supports the School’s participation in the Georgia Tech Lorraine Program in Metz, France.
- 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.
- Faculty recruiting, travel, and research equipment.
- Supplements faculty travel.

**Students**

- The largest single category of support is for students ($1,328,280) in the form of teaching assistantships, research assistantships, fellowships, and fees to outstanding students. Approximately 232 student-semesters of support.
- Provides funds, including travel, to recruit new ME, NE, and HP graduate students to the Woodruff School. This includes four recruiting weekends in which potential graduate students are brought to campus for a full weekend of activities.
- Funds the Annual Spring Banquet, a yearly gathering of students, staff, and faculty to recognize the accomplishments of Woodruff School students and to honor the Woodruff School’s Annual Distinguished Alumnus and the Outstanding Educator.
- Partially funds student organizations such as the ASME Student Chapter, **gt motorsports**, GT Off-Road (the Mini-Baja Team), GT Robojackets (including the FIRST team), Future Truck, and WSSAC.
- Provides partial financial support for student participants in the Georgia Tech Lorraine program.
- Provides funds for the Outstanding Seniors Dinner held each year in September. 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 Woodruff School administration and graduate students and a sampling of graduating undergraduate students to obtain students’ assessment of our programs.
- Funds an Open House and other activities in the Woodruff School during Family Weekend.
- Pays for the Woodruff School Annual Cookout, held at the beginning of the fall semester, whose purpose is for new graduate students to meet Woodruff School faculty, staff, and returning graduate students.
- Provides plaques and funds for students who receive an award at the annual
Honor's Day Luncheon.

- Partial support for the Pi Tau Sigma National Office, the honorary mechanical engineering society that the school hosts.
- Funds recruiting efforts for undergraduate students in nuclear and radiological engineering.

Facilities

- Funds some of the renovations in the Student Competition Center (the Tin Building).
- Partial funds for furniture for the Mechatronics Lab and the Acoustic Test Chamber in the MARC building.
- Funds for the renovations to the Office of Student Services (the Academic Office) and the Finance Office.
- Provides funds to improve and furnish School facilities, including computer cluster equipment and the seminar room.

Lectures and Seminars

- Funds activities associated with the Annual Woodruff Distinguished Lecture Series.
- Provides support for the Woodruff Colloquium Series. These funds allow the Woodruff School to bring in well-known scholars to present a seminar and interact with the faculty in small groups.
- Pays for receptions that accompany various seminars in the Woodruff School.

Publications and Public Relations

- Funds the design, production, and distribution of all Woodruff School publications.

Miscellaneous Projects

- Provides funds for the Woodruff School Advisory Board meetings.
- Purchase of gifts for lecturers, special guests, and retirees.
- Funds various retirement and other special receptions for faculty and staff.
Special Projects

- Funds to improve office equipment and upgrade computers.
- Funded a hospitality suite and an exhibition booth at the American Society of Mechanical Engineers (ASME) International Meeting and Exposition in New Orleans.

Personnel

Provides funds for various personnel in the Woodruff School, including the Director of Communications, and four Academic Professionals (Director of the Frank K. Webb Program in Professional Communication, the instructor for ME 1770 (Engineering Graphics and Visualization), the Director of the Office of Student Services, and the Associate Chair for Undergraduate Studies, who has oversight for the senior design course. Also provides partial funds for the Academic Affairs Director of Georgia Tech Lorraine.

Training

- Funds for both off-site and on-site staff training programs.

other endowments


Table of Contents  The Advisory Board
The annual advisory board meeting was held on November 1, 2002 and had an ambitious agenda. Dr. Winer reviewed the state of the Woodruff School and talked about the recent ABET visit, followed by a general discussion of these items. Dr. Rahnema talked about the nuclear engineering program and their ABET review. This was followed by brief presentations by Dr. Don Giddens, the new Dean of the College of Engineering, and Dr. Jean-Lou Chameau, Provost. Later, the board divided into groups for program critiques/discussions between Woodruff School members and the board. Dr. David Sanborn gave a presentation about the new Student Competition Center and the board had an opportunity to visit with some of the teams. Members are invited to join the Advisory Board so that its composition reflects the scope of mechanical engineering, nuclear engineering, and health physics in industry, the health-related professions, and the academic community. The board recommends strategic directions to the Woodruff School, suggests broad-based curriculum revisions, and consults with the Chair and faculty on important issues. Dr. Lawrence Ybarrondo is the chair of the Advisory Board.

Mr. Thomas A. Barrow (BME 1948)
Atlanta, Georgia

Mr. Jeffrey A. Benjamin
Vice President, Licensing & Regulation
Exelon Corporation
Warrenville, Illinois
Dr. David B. Bogy  
Department of Mechanical Engineering  
University of California at Berkeley  
Berkeley, California  

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