SCHOOL HOSTS GEGENHEIMER LECTURE

Richard Teerlink, Retired President and CEO, of Harley-Davidson, Inc. gave the 1999 Harold W. Gegenheimer Lecture on Innovation on Thursday, October 22, 1999. Mr. Teerlink gave a dynamic presentation to the standing room only audience in the Van Leer (ECE) auditorium on Our Learning Journey.

He told about Harley-Davidson's rich history that started in 1903. Since that time it has experienced feast and famine. In 1981 it was acquired by management from AMF, Incorporated. The subsequent journey focused on revitalizing one of the most readily recognizable brands in the world, wherein the company fought for its market and financial survival. Its market share fell to 13 percent in 1983 and in 1985 its lead bank was threatening bankruptcy. As a result, the management had to dramatically change how it approached the business, a process that revitalized the company. As they experienced improvements in the functional areas of the business, management realized they had more to do. They now faced the challenge of changing the underlying culture by recognizing that people are the only competitive advantage and that leaders must take responsibility for the operating environment.

Today, Harley's market share is approaching 50 percent, its market capitalization is approaching $8.5 billion, and it is identified in Fortune as one of the best places to work.

Richard F. Teerlink, a CPA by education and training, joined Harley-Davidson as Chief Financial Officer, two months after the management buyout in August 1981. He was elected to the Board of Directors in 1982. As a member of the Policy Committee, Rich was deeply involved in developing the operating and financial strategies and tactics that saved the firm from bankruptcy in 1985. In 1986, he guided the firm back to public ownership. He was appointed Chairman of the Board of Harley-Davidson, Inc. in May 1996 and served as President and Chief Executive Officer from March 1989 to June 1997.

Teerlink graduated from Bradley University in 1961 with a Bachelor of Science in Accounting and he received his Master's of Business Administration in 1976 from the University of Chicago. He serves on the board of a number of businesses and has been honored by many organizations for his leadership and humanitarian accomplishments.

This lecture was the fifth in a series of annual lectures that began in 1995. An endowment given to the Woodruff School established the Harold W. Gegenheimer Lecture Series on Innovation to support student programs that encourage creativity, innovation, and design. Through the lecture series and support of capstone design projects, students are exposed to processes that stimulate creativity and lead to inventions and patents.

NEW BUILDING NAMED IN MEMORY OF J. ERSKINE LOVE, JR.

J. Erskine Love, Jr. (ME 1949) was one of Tech's most dedicated alumni. Love helped lay the foundation for Georgia Tech's private fundraising efforts and he was serving as chair of the Centennial Campaign Steering Committee when he died unexpectedly in 1987.

To honor Love's 50th reunion, the Love Family and their foundation have committed $5 million to name the Manufacturing Related Disciplines Complex-II in his memory. The funds will establish a permanent, named endowment within the Woodruff School.

"Erskine said many a time that much of his success in life was the result of his Tech education," says Love's wife, Gay. "It cost him so little and gave him so much." She adds that Love himself would probably shy away from seeing his name grace a building, admitting, "That was my choice."
Income from the endowment will be used to support education and research programs in manufacturing related subjects, including interdisciplinary research among faculty and students in mechanical, chemical, electrical and computer, and industrial and systems engineering. The funds will also support faculty retention and junior faculty development, general facilities, and undergraduate and graduate students.

School Chair Dr. Winer is extremely pleased with the Loves' commitment. "This is fantastic! We are honored that the Love family chose the Woodruff School to receive this significant gift," he said. "The funds will help us to advance not only our education and research programs, but also our commitment to engineering. I once had the pleasure of meeting Erskine, and was struck by what a leader he was among his colleagues at Georgia Tech. He was a cherished alumnus, and his family members have, in turn, become treasured friends. We look forward to the spring when we will dedicate this very important building."

Erskine Love was founder of Printpack, Inc. which began as a small manufacturer of unprinted cellophane bags for local food companies and has grown into one of the largest companies in the flexible packaging industry. The company is now run by their five sons - Dennis, Jimmy, Bill, Keith, and David - with support from their mother and chairman of the board, Gay. Daughter Carol Anne Love Jennison also serves as a board member.

In addition to leading Tech's Centennial Campaign, Love was a trustee of the Georgia Tech Foundation, and served as its president from 1981 to 1983. He was also a trustee of the Alumni Association, and he is credited with being one of the founding members of the Thousand Club. Love received the Alumni Distinguished Service Award in 1986, and the Outstanding Young Alumnus Award in 1963. Gay Love, a graduate of Duke University, was named an Honorary Alumna at Georgia Tech in 1989.

A Message from the Chair
Ward O. Winer

Since the last issue of mega tech, Tech converted to a semester system and the Woodruff School was involved in many events, some of which are highlighted in this issue. We also survived the holiday season and especially the Y2K transition. As I predicted, it was a great yawn, but that might be due to the tremendous effort by our staff and Georgia Tech's computer staff. It seems that the only problem the Woodruff School had with 500 or so computers was that one machine came up with its clock an hour off. We no longer have the Y2K issue to worry about and we can expend our energy on something more productive, such as advancing mechanical engineering education and the profession.

The Institute's Capital Campaign is going well - so much so that the goal has again been increased by $100 million to $600 million to be attained by the end of 2000. We were about to complete our goal of $30 million when it was raised to $35 million. However, we have been doing extremely well, and I am optimistic we will meet the new goal.

This issue highlights the commitments and funding we have received for two more chairs - the Ramirez/HUSCO Chair and the McKinney/Shiver Chair - and the $5 million endowment from the Love Family to honor J. Erskine Love, a 1949 BME graduate. Such large gifts are wonderful and very helpful in meeting our goal; however, the many smaller gifts we receive from alumni, friends, and industrial supporters are also vital to the effort.

During the past six months, the Woodruff School hosted two major meetings. The Pi Tau Sigma National Convention in October and the IEE/ASME International Conference on Advanced Intelligent Mechatronics in September. The former was hosted by the student chapter and the latter was organized and hosted by faculty in the Woodruff School. This year, we will host the Mechatronics 2000 Conference under the direction of Professor Charles Ume. In late May and early June the 139th Meeting of the Acoustical Society of America will be held in Atlanta. Dr. Yves Berthelot is the General Chair of the meeting and Dr. Jerry Ginsberg is the Technical Chair.

This spring, we are honored to have Dr. William Wulf, President of the National Academy of Engineering, as the Woodruff Distinguished Lecturer. We are also privileged to host a southeastern regional meeting of the National Academy of Engineering on the day following Dr. Wulf's lecture. The formal host of the NAE meeting is Dr. Wayne Clough, and the meeting is being organized by Professor Bob Nerem (a member of the NAE governing council) and myself. This is a great opportunity for us to present our faculty, programs, and facilities to the profession.

It is worth mentioning that a few years ago the Institute obtained permission from the Board of Regents to charge the students a technology fee (over and above tuition). The funds are used to enhance educational equipment at Georgia Tech. All students pay a
fee into a central pool, and each school submits proposals for needed educational equipment. An Institute-wide committee, which includes a number of students, selects the proposals to be funded. Since the students on the committee prefer proposals that impact large numbers of students, and we have a large number of students, the Woodruff School has greatly benefited from the program.

All of the items I mentioned in this message are presented in more detail in this newsletter, but they are only a small slice of the things we did last summer and fall. In summary, things are going well, and we are optimistic about the coming year, the 21st century, and, let's be bold, the whole millennium.

**DICKERSON DONATION TO MAKE UNIVERSITY CLUB A REALITY**

Woodruff School Professor Emeritus Steve Dickerson did a wonderful thing. He donated 143,000 shares of stock from his ATDC-incubated company, DVT (Dickerson Vision Technology) Corporation to the Georgia Tech Foundation to honor his father, Frederick R. Dickerson, and to establish a University Club at Georgia Tech. In turn, Tech sold the stock for $1,001,000 to set up the fund for the club.

Steve started the company in 1991 with Ken Oosting (a former graduate student of Steve's) after a sponsored research program came to fruition. The research had developed a patented apparatus for digital imaging and processing to be used for measurement and inspection in industrial processes.

When asked why he gave the stock to Tech, Steve said, "Jaye and I decided to donate to Georgia Tech because we profited from my long association with Tech, we wanted to do something to honor my father, and I thought a first-class University Club was important." Steve has been working with a number of other "old-timers" on campus to reestablish a faculty club, and was president of the resurgent group in 1998-1999. (The club was inactive for a number of years.) The current plans are for the University Club to be the top floor of the Undergraduate Learning Center, to be built near the site of the old Textiles Building. President Wayne Clough is committed to the idea of the club and has suggested this particular space because it is centrally located and accessible. Steve's gift makes the realization of these plans much more likely.

Fred Dickerson's entire career was with Roper Industries in Rockford and Commerce, Georgia. The company makes pumps in Commerce and has several other divisions. He retired as Chairman in 1980, and passed away in 1998.

With Steve's push, we hope the University Club is up and running soon. For more information about the very active, though retired, professor, see his faculty page at www.me.gatech.edu

We are extremely pleased to announce that more than 100 résumés of our doctoral students have been placed online. View Ph.D. Student Résumés. These graduate students are between twelve to eighteen months from the completion of their degree and are seeking jobs in academia or industry. Please contact them individually if you can help provide a job opportunity. If you prefer a printed copy of these résumés, they are available from the Graduate Office as Résumés of the 1999-2000 Doctoral Candidates in Mechanical Engineering, Nuclear and Radiological Engineering and Health Physics. Contact bill.wepfer@me.gatech.edu if you want to discuss the graduate program or any of the résumés.
NEW WOODRUFF SCHOOL PUBLICATIONS

We were extremely busy this past semester and several new publications are available for your enjoyment:

- 1999 Woodruff School Accolades;
- Georgia Tech Offers First Internet Master’s Degree in Mechanical Engineering;
- Introducing the Minority Ph.D. Graduates from the Woodruff School;
- Presenting the Women Ph.D. Graduates from the Woodruff School of Mechanical Engineering;
- From POTS to PANS.com: Transitions in the World of Telecommunications for the Late 20th Century and Beyond (the 1999 Woodruff Distinguished Lecture Transcript).

If you are interested in receiving a print copy of any of these publications, let us know. Note that each of these items is also on our web page, usually under Publications.

GRADUATE SCHOOL APPLICATION IS NOW ONLINE

We are pleased to be participating in a test for the Institute that places the Woodruff School Graduate School Application packet on our home page. The Institute wants to test what would happen if a large program, such as ours, put its application materials on the web. (The School of Aerospace Engineering, the test case for a smaller program, has been online for a year.) You can register to view this file at http://www.me.gatech.edu (click on either the Graduate Buzz or Graduate Programs).

OUR TRIP TO NASHVILLE

For the past four years the Woodruff School has taken a booth at the ASME Congress and Exposition and we did so again at the Nashville meeting in November. Since we are the only school to have a booth at this Exposition, people stop by to ask why we do it. The answer is because it is a good opportunity to showcase our programs, talk to students about attending graduate school, greet alumni and tell them about changes in the Woodruff School, and, perhaps most importantly, show by example the high quality of engineering education in the United States.

In addition to all the printed materials we took to stock the booth, we also had two laptop computers. We used one to demonstrate our new online Master's degree courses in mechanical engineering. There was a lot of interest in these Internet courses, and we gave many mini-tutorials on this new delivery method. A new narrated show about the Woodruff School ran on the other computer. This was a big hit, especially with alumni. We also hosted a Hospitality Room for GWW alumni in the Nashville area.

For those of you who would like to view the narrated show, go to our home page and click on About the Woodruff School. Note that this file is very large, so it will take quite a while to download, however, we think you will find it worth your while.

NOTICE

GWW IS THE ONE AND ONLY

Our nomination to become an ASME Mechanical Engineering Heritage Site was approved at the Nashville meeting, and we are awaiting the designation ceremony. We are the first educational site to receive this recognition. More information about this exciting event will be provided at a later time.

ME IN JEOPARDY

Laura Atkinson Schaefer, a Woodruff School doctoral candidate, will appear on the quiz show Jeopardy on February 22, 2000. She went to a contestant selection session in Atlanta and was chosen to go to Los Angeles for the taping in November 1999. When the engineering student was asked what her best category was, she replied, "Shakespeare."
Grant Baynham (BME 1997), a GWW graduate student, received a Weaver-James-Corrigan Postgraduate Scholarship from the Atlanta Coast Conference.

Cavelle P. Benjamin, IV won first place (among undergraduate students) in the 1999 Technical Symposium Contest of the Georgia Tech Chapter of the National Society of Black Engineers. His project was Thermocapillary Droplet Migration Up an Inclined Plate.

N. Peter Davis won the 1999 GoldKist Scholarship from the Georgia Engineering Foundation. The award was presented at the GEF Annual Awards Banquet at the GT Student Center.

Stacey A. Dixon attended the NSF sponsored workshop for the retention and advancement of underrepresented and minority engineering educators. Stacey also won 3rd place (among graduate students) in the 1999 Technical Symposium Contest of the Georgia Tech Chapter of the National Society of Black Engineers. Her project was Biomechanical Analysis of Coronary Arteries Using a Complementary Energy Model and Design Experiments.

Johnney Green has been named the Outstanding GEM Alumnus by the 2000 Black Engineer of the Year Awards Selection Committee.

Joe Haemer has been awarded the 1999-2000 International Microelectronics and Packaging Society (IMAPS) Educational Foundation Grant. Joe is one of only six students in the country to be selected for the award.

Justin McLoughlin was selected to receive the Marjorie Brents Ring received a postdoctoral research award from the National Research Council.

Jodi Sulak received the Applied Health Physics Graduate Fellowship from the Oak Ridge Institute for Science and Education (ORISE) for travel to Seattle, Washington to attend the IEEE Nuclear Science Symposium.

Mark Allen Trautman, along with Professor Ari Glezer, were awarded U.S. Patent 5,957,413 for an invention titled, "Modifications of Fluid Flow About Bodies and Surfaces with Synthetic Jet Actuators."

Christine Valle was invited to attend the workshop for the retention and advancement of underrepresented and minority engineering educators. This workshop was sponsored by the NSF.

Nicole Zirkelback was invited to attend the NSF sponsored workshop for the retention and advancement of underrepresented and minority engineering educators.

The Woodruff School's Annual Cookout for New Graduate Students, Faculty, and Staff was held on Friday, August 27, 1999, just a few days after classes had started for the fall semester. This term marked the return by Georgia Tech to a semester calendar so the cookout was held earlier than usual (under the old quarter system the cookout was around the third week in September, when the term began). Food was plentiful, Woodruff School On the Cutting Edge tee-shirts were handed out to all who attended, people had the opportunity to meet other graduate students and faculty and staff members who came over, conversation flowed, there was a volleyball game that last quite a while, and the weather was just fine. This yearly event is organized by the Woodruff School Graduate Office under the direction of Professor Bill Wepfer with the help of Cosetta Williams and Trudy Allen.
An Open House was held in early October for attendees of the ASME Student Southeast Regional Conference. Students were picked up from their hotel near the Atlanta airport and brought to campus. Professor Ray Vito, Associate Chair for Undergraduate Studies, gave a short presentation about the Woodruff School. Then Sterling Skinner took the group on a tour of the laboratories in the MRDC building. Afterward, they visited the MARC building and saw research demonstrations by Professors Wayne Book on robotics, Daniel Baldwin on the high-speed flip clip and surface mount assembly laboratory, and Ken Cunefare on the anechoic chamber.

Tara Varga, recently returned from a seven-month stay in Shanghai, China, back to Georgia Tech where she is a senior in mechanical engineering. Before going to China, Tara co-oped for three years at Saturn, where she worked in the body shop. In April 1999 she was hired full-time by GM and they sent her to SGM (General Motors Shanghai), which produces a Buick (similar to the Regal) and a minivan (similar to the one made in Doraville, Georgia). At SGM, Tara was part of the launch team to put the minivan into production. She worked in the body shop, where they tailored the cars to a Chinese market.

Tara knew how to speak Spanish when she left for China, but not Chinese. She still cannot read the language, but she worked hard at listening and after two or three months she was using Chinese at work. In fact, she was translating for many of the 50 non-Chinese people in the shop who could not speak Chinese and for the Chinese workers who could not speak English. She never went to a language class!

SGM is the largest joint venture in China, and the Chinese government is very proud of that. So much so, that Tara got to meet the president of China when he visited the plant. On another day some workers found a snake in the building and argued over who would get to take it home!

Tara loved China. She did some traveling while there -- in China itself and to Thailand. She ate everything and learned not to ask what was in a dish. She came to the conclusion that as long as it tasted okay, it was fine to eat. The people seem very contented, according to Tara, and were always telling her how much better their lives are now. The only thing Tara did not like about China was the pollution, which, at times was so bad that she had difficulty running.

While in China, Tara sent e-mails to her family and friends - the list grew to about 200 names - about her everyday experiences. Her mom saved them all and someday Tara would like to use these to write a book about her stay. Tara, who is from Ohio, wants to return to China someday, but first she has to graduate from Tech. You can reach Tara at taravarga@hotmail.com.
PI TAU SIGMA HOLDS NATIONAL CONVENTION IN ATLANTA

The Georgia Tech Nu Chapter of Pi Tau Sigma, the mechanical engineering national honorary fraternity, had the honor of hosting the 79th Annual National Convention in Atlanta during the weekend of October 22-24, 1999. The Woodruff School was a sponsor of the very successful event. On Friday afternoon, after attendees had registered, they were invited to a condensed presentation of a workshop on "Getting into Graduate School," given by Professor Bill Wepfer, Associate Chair for Graduate Studies, and Dr. Jeff Donnell, Coordinator of the Professional Communications Program. At the end of the lively session, Sterling Skinner, Undergraduate Laboratory Coordinator, took the students on a tour of some of our research facilities.

In addition to the plenary and breakout sessions, there was a Career Fair on Saturday, followed by a banquet at which Mary Ellen Heyde, Ford Motor Company executive, and Professor Tom Kurfess, a member of Pi Tau Sigma, spoke. Fifteen new members of the GT Chapter Nu were initiated and one new chapter was installed.

Professor Prasanna Kadaba is the faculty advisor to the group and Professor Farrokh Mistree is the national secretary of the organization (the Woodruff School houses the national office). This mostly student run event was coordinated by Brent Barkley, Chapter President, with the help of Frances Carter, Vice President; Arynn Padgett, Recording Secretary; Reinhard Powell, Corresponding Secretary; Taryn Thompson, Treasurer; Brad Czerwonky, Past President (BME 1999); and GWW graduate students Amanda Weber and Douglas Spearot. To view additional pictures of the conference view: http://www.me.gatech.edu/pts/convention.

MEET KIMBERLY BLUE:
UNDERGRADUATE ACADEMIC ADVISOR

Kimberly E. Blue joined the Woodruff School in August 1999, filling the vacancy created by Joan Kraft. They had a three week overlap in August, when both had to deal with the last minute rush of students before the semester system began. Coincidentally, Joan moved to Chicago and Kimberly moved to Atlanta from Chicago.

Ms. Blue has been in higher education for nine years, and she has held positions in Academic and Student Affairs at Illinois Institute of Technology in Chicago and Miami University in Ohio. She has worked as Director of New Student Orientation and Retention, Director of First Year Experience, and coordinated and directed commencement exercises. She enjoys working with students in the areas of student development and leadership and has extensive experience in counseling students in academic, career, and personal issues.

Of her tenure thus far at Tech she says, "It has truly been trial by fire, particularly with semester conversion! But it has been great working with the students as their Academic Advisor, and I look forward to working with them in other areas as well in the future."

Kimberly earned a B.A. in Psychology and an M.A. in Counseling and Guidance with an emphasis on college student personnel, both from West Virginia University in Morgantown. She may be reached by e-mail at kimberly.blue@me.gatech.edu or by phone at (404) 894-3205. Her office is MRDC, Room 3112.

FACULTY AWARDS

Said Abdel-Khalik was named a Fellow of the American Society of Mechanical Engineers and he is the new Chair of the Institute's Executive Board.
Wayne Book, Steve Dickerson, and Nader Sadegh received U.S. Patent No. 5,996,449 for an invention titled, "Precision Apparatus with Nonrigid, Imprecise Structure, and Method for Operating Same."

Ari Glezer (and graduate student Mark Allen Trautman) were awarded U.S. Patent No. 5,957,413 for an invention titled, "Modifications of Fluid Flow About Bodies and Surfaces with Synthetic Jet Actuators."

David Ku was appointed to the Lawrence P. Huang Endowed Chair in Engineering and Entrepreneurship.

Farrokh Mistree accepted an invitation from the Board on Manufacturing and Engineering Design to serve on a panel on Theoretical Foundations for Decision Making in Engineering Design. In addition, he received the 1999 Design Automation Award from the Design Engineering Division of the ASME and was named an Associate Fellow of the AIAA.

Richard Salant served as the Charitable Campaign Coordinator for Woodruff School faculty and staff.

Bill Wepfer served as a judge for the Siemens Westinghouse Science and Technology Competition in Princeton, New Jersey. The idea behind the competition is to support talented high school students interested in science, math, and engineering.

John Valentine was elected to the Radiation Instrumentation Steering Committee of the IEEE Nuclear Science Symposium and Medical Imaging Conference.

**Woodruff School Gets a New Chair**

The Ramirez/HUSCO International Distinguished Chair in Fluid Power Systems has been established by Mr. Agustin A. Ramirez (AE ’68). Mr. Ramirez’s gift consists of a pledge of $1,875,000 to the Georgia Tech Foundation of which $375,000 is to fund a fluid power lab and $1,500,000 to endow the chair in the Woodruff School of Mechanical Engineering.

Mr. Ramirez is Chairman and CEO of HUSCO International, a major manufacturer of hydraulic and electrohydraulic controls for mobile equipment in the construction, materials handling, agriculture, and automotive markets. The corporate headquarters is in Waukesha, Wisconsin. HUSCO International has manufacturing plants and sales facilities in Europe and the Pacific Rim as well as manufacturing affiliates in several countries.

While funding for the laboratory is well on its way, additional funds for equipping and operating the laboratory are being sought from the fluid power industry. Once that is complete, a search committee will be formed to fill the chair.

According to Dr. Ward Winer, Eugene C. Gwaltney, Jr. Chair in Manufacturing and Chair of the Woodruff School, “The chair will allow Tech to retain an eminent scholar in a field that has relatively little presence in American engineering education, yet is a crucial technology for aerospace, automotive, off-highway equipment, machine tools and other machinery businesses. We will be studying similar programs in Germany, England, and Sweden in order to structure ours in a way that will provide the most for our students and provide a really critical resource of expertise for U. S. industry.”

Mr. Ramirez is a graduate of Georgia Tech's aerospace engineering school (BS and MS) and Harvard University (MBA). He is a past chairman of the National Fluid Power Association, a past Wisconsin Entrepreneur of the Year recipient, and serves on numerous nonprofit and public company boards. He engineered a management buyout of HUSCO in 1985 and the company's 700% growth since then has resulted in market leadership in North America, Europe, and Japan (through its affiliates).

**Introduction to Mechatronics: ME 6405**

Mechatronics is the integration of mechanical engineering with electronics and intelligent computer control in the design and manufacture of products and processes. This concept has found applications in home appliances, cars, intelligent highways,
Introduction to Mechatronics (ME 6405), a graduate course taught by Professor Charles Ume, consists of the modeling and control of actuators and electro-mechanical systems, and the performance and application of microprocessors and analog electronics to modern mechatronic systems. The mechatronics lab in the MRDC building contains seven individual workstations for three or four students at each, and was equipped with a $180,000 grant from the National Science Foundation and Georgia Tech.

Students, working in groups of three, conceive of a final group project based on design and implementation guidelines given at the beginning of the semester. The seven fall semester projects included: Vision Servoing System, Classroom Vibration Absorber, Remote Home Automation, Camera Tracking System, Control for a Model Airplane, and the Ever Level System. View [http://www.me.gatech.edu/mechatronics_lab/beautiful/index.html](http://www.me.gatech.edu/mechatronics_lab/beautiful/index.html) to learn more about the individual projects.

Other courses in the mechatronics sequence include: ME 4447 (Microprocessor Control of Manufacturing Systems) and ME 6403 (Digital Control Systems).

**AIM ’99 HIGH IN ATLANTA**

Professor Kok-Meng Lee was the General Chair of the 1999 IEEE/ASME International Conference on Advanced Intelligent Mechatronics held in Atlanta from September 19-23, 1999. Other GWW faculty involved in the organization of the conference were Tom Kurfess as the Invited Session Chair, Wayne Book on the International Program Committee, and Imme Ebert-Uphoff as chair of the roundtable discussion on Infrastructure for Microelectronics Education. Other faculty participating were Stephen Dickerson, Harvey Lipkin, Shreyes Melkote, Nader Sadegh, and Charles Ume.

The purpose of the biennial meeting was to promote activities in the relatively new area of mechatronics by providing a forum for the exchange of ideas, presentation of technical achievements, and discussion of future directions. The ways in which information, communication, high-performance computing, and intelligent control are brought into product and process designs will lead to Informatics in Mechatronics, which was the theme of the conference. The idea is to create systems that are more capable, precise, reliable, intelligent, and cheaper. One hundred seventy-one papers were submitted by people from 24 different countries.

View [http://www.me.gatech.edu/AIM99/](http://www.me.gatech.edu/AIM99/) for more details about the conference, and see [Faculty/Staff](http://www.me.gatech.edu/faculty.staff) for some specifics about the Automation and Mechatronics research group in the Woodruff School.

**VISUALIZE A NEW COURSE**

With the introduction of the semester system at Georgia Tech in fall 1999 and the improvements made to the mechanical engineering curriculum as a result, the Woodruff School introduced ME 1770: Engineering Graphics and Visualization. This required course is about engineering graphics and visualization including sketching, line drawing, simple wire-frame and solid modeling; and the development and interpretation of drawings and specifications for product realization. Calculus I is the only prerequisite for the course, which is cross listed with CE 1770, and is required for AE students as well. Approximately 325 students in nine sections are exposed to these skills each semester.

In addition, the School purchased an inexpensive rapid prototyping machine - the 3D printer cost approximately $50,000 for all the components - from Z-Corp for students to use in class. As far as we know, we are the only school where all mechanical engineering students will be exposed to a rapid prototype model.

To handle the large number of students, Robert L. Mabrey was hired as an Academic Professional to teach the course. Mabrey received his B.S. and M.A. degrees from Eastern Michigan University in 1963 and 1968, respectively. His interests include: hybrid
computer modeling, visualization processes, rapid prototyping, and design. Mr. Mabrey is shown in the lab with the rapid prototyping setup and a student, Jiro Dokeh, is pictured with one of the design models.

**INTEGRATED PREDICTIVE DIAGNOSTICS FORUM HELD AT GEORGIA TECH**

The Multi-University Center for Integrated Diagnostics (CID) hosted a forum at Georgia Tech on September 14 and 15, 1999 for the purpose of promoting an exchange of information concerning the development of technologies needed to improve the maintainability, sustainability and reliability of mechanical systems and structures. Over 70 representatives from industry, government, and academia participated in the event, organized by CID’s Program Manager Richard Cowan, and Ronald Wagner, Director of the GTRI-EOEML Logistics & Maintenance Applied Research Center.

Keynote addresses were given by Col. Robert Leavitt, Commanding Officer, Cherry Point Naval Aviation Depot in North Carolina; Gerald Beck, Deputy Department Head, NAVAIR, Design Interface & Maintenance Planning in Patuxent River, Maryland; and Georgia Tech alum Brooks McAllister, Director, Bus Maintenance of the Metro Atlanta Rapid Transit Authority (MARTA), in Atlanta, Georgia.

CID was established in 1995 through a five-year DoD Office of Naval Research M-URI grant to perform research critical to the development of integrated diagnostic systems, capable of accurately predicting the remaining useful life of a machine or structure without reducing time in service. To address this mission, a multidisciplinary team of investigators led by School Chair Ward Winer has been assembled from Georgia Tech, Northwestern University and the University of Minnesota to undertake projects in nondestructive evaluation; condition monitoring; material fatigue modeling; sensor development; and signal processing. For more details on the Center view [http://www.me.gatech.edu/diagnostics](http://www.me.gatech.edu/diagnostics).

**GWW TECHNOLOGY FEE WINNERS**

Provost Michael Thomas recently announced the allocations resulting from the Technology Fee proposals. Every student pays this fee each term. Over $4 million was requested and $2.13 million was awarded. The College of Engineering received $1.23 million and the Woodruff School got $311,361. The funded projects in the Woodruff School are: Computer Upgrade for Undergraduate Instructional Labs and School Clusters, John McCullough and Sterling Skinner, $136,000; Design Studio Modernization, Professor Tom Kurfess, $85,000; WEMLAB for Control and Automation, Professor Kok-Meng Lee, $35,962; Virtual Access to a Real Laboratory in Systems Dynamics and Controls via the Internet, Professors Wayne Book and Imme Ebert-Uphoff, $28,400; and Creation of a Robotics Laboratory Center, Professors Imme Ebert-Uphoff and Harvey Lipkin, $26,000.

**STAFF NEWS**

**Trudy Allen** is the new Academic Assistant II in the Graduate Office. Prior she was with the School of Chemical Engineering.

**Carla Bennett** turned her position as a Tech Temp into an Accountant II position in the Finance Office.

**Kimberly E. Blue** is the new Undergraduate Academic Advisor in the Woodruff School, filling the vacancy left by Joan Kraft, who moved to Chicago. Coincidentally, Kimberly worked in Academic and Students Affairs at Illinois Institute of Technology in Chicago prior to moving to Atlanta.

**Vladimir Bortkevich** is an Electrical Engineer II, who does design, alteration, construction, maintenance, and repair of electrical power systems and electronic equipment.

**Angela Carlton** recently began her position as Administrative Assistant II, working for the Bioengineering group in the IBB Building.

**Anna Cromiak** resigned her position in the Woodruff School and took a position in IBB as the primary purchasing agent for Professor Nerem's group.

**Betty Crumbley** received a promotion to Administrative Assistant II. She provides support to Nuclear Engineering and Health Physics faculty and serves as the lead secretary in the ESM Building. Betty also received the Woodruff School Classified Staff Outstanding Achievement Award for summer quarter 1999.

**Judy Diamond** was promoted to Administrative Assistant I. She provides support to the Fluid Mechanics research group and serves as the lead secretary in the SSTC Building.
Norma Frank was promoted to Academic Advisor I in the Undergraduate Office.

Rona Ginsberg was promoted to Director of Communications for the Woodruff School. She is the web page editor, and director of publications, public relations, special events, and special projects. She also serves as creative consultant for the School's Internet degree program.

Becky Hembree was promoted to Administrative Assistant I.

Vivian Johnson was promoted to Administrative Assistant I. She supports the Bioengineering group and moved to the new IBB Building.

Cecelia Jones assumed the position of Administrative Assistant I for the Mechanics of Materials research group.

Mary Jo Kleine won the GWW Outstanding Achievement Award for Classified Employees for fall semester 1999.

Sherron Lazarus was promoted to Administrative Manager I. She provides administrative and secretarial support to the Associate Chair for Administration

Joyce Lowe, who had been serving as a Tech Temp, is now an Administrative Assistant II for the Acoustics and Dynamics research group. Joyce filled the vacancy left by Ernestine Bradley, who retired in July.

Michael Murphy moved into the MRDC building, where he manages the electronic database for telecommunications, door locks and keys, capital assets inventory, and lab safety compliance.

Claudine Nickens moved to the Administrative Office, where she provides support to two Administrative Managers and the Directors of Development, Finance, and Communications, and also serves as the receptionist.

Verna Phillips, who served as a Tech Temp, is now an Administrative Assistant I for the Tribology research group. She also assisted Professor Richard Salant with the 1999 Charitable Campaign in the Woodruff School.

Cosetta Williams was promoted to Academic Advisor I in the Graduate Office.

Caroline Wood, Director of Development, returned from maternity leave in January 2000. Her son, Jeffrey, was born in August 1999.

DOLLAR LEADS IN COBB COUNTY

Ken Dollar, Director of Support and Technical Services for the Woodruff School, was selected to participate in the Chamber of Commerce Leadership Cobb Program for 1999-2000. This is a nine-month educational program that identifies potential leaders in Cobb County and helps them become more familiar with the county. Participants are introduced to the array of economic, political, educational, and social factors at work in Cobb County, Georgia. Each class consists of up to 45 representatives. At least 70 percent of those selected come from the business community or the professions, while the remaining 30 percent are from education, social service programs, or community service agencies.
A committee of Woodruff School staff, consisting of Judy Diamond, Verna Phillips, Stephanie Wheeler, and Melinda Wilson, led an effort to purchase holiday gifts for needy children at the Home for Children, which houses approximately 50 children, ages 6 to 18. Woodruff School staff, faculty, and students were invited to pick a raindrop off the umbrella, which had a child’s name, age, and gift request, and “shower” their chosen child(ren) with the things they asked for. Monetary donations were also accepted with which the committee members purchased needed presents. On December 17, 1999, the gifts were delivered to the home, where just about every child received two gifts.

**LETTERS TO THE EDITOR**

- I just received the latest copy of mega tech. Thanks, I really enjoy reading about happenings back at GT and with my alumni friends. (Steven Daneman, BME 1988, MSME 1990, via e-mail)

- I have just finished reading issue No. 20 of mega tech. I really enjoyed the newsletter but was confused by the array of courses being taught in the School of Mechanical Engineering since I graduated. In my day we took thermodynamics and strength of materials courses, I noticed that today courses like automation and mechatronics, health physics and bioengineering are being taught.

And what is this about getting a master's degree in mechanical engineering and never going to class? I also noticed pictures of female mechanical engineering students. What an improvement! Why didn't someone think of that when I was a student?

You may be able to tell that it has been a long time since I have been on campus. Will there be an open house and orientation program during Homecoming weekend so that old grads can see what is going on at the George W. Woodruff School of Mechanical Engineering today? Keep up the good work. mega tech is a very interesting publication. (George P. Burdell, ME 1962, via e-mail)

- I read mega tech this past Friday morning on a flight from Atlanta to Washington, D.C. It is quite informative and nicely done. (Gerald Nathe, Chairman and President, Baldwin Technology Company, Inc.)

**ALUMNI HONORS**

Four alumni were inducted into the College of Engineering Hall of Fame at the College of Engineering Alumni Awards Induction Ceremony on October 22, 1999. This designation is the college’s most prestigious award and is based on life-long career accomplishments. The alumni inducted were Thomas S. Lucas (BME 1947), Arturo Rodriguez-Ulloa (BME 1933), A. Chester Skinner, Jr. (BME 1943), and David I. J. Wang (MSME 1952).

Four mechanical engineering alumni were honored with selection into the Academy of Distinguished Engineering Alumni of the College of Engineering. The award is intended for alumni who have sustained and made distinguished contributions to Georgia Tech, the profession, or the society at large. The 1999 group included: Jose Estrada (BSME 1963), Joseph K. Tannehill (BME 1955), John H. Tundermann (BME 1963, MSME 1964), and F. Thomas Tuttle (BME 1964).

Carter N. Paden, Jr. (BIM 1951) was nominated by the Woodruff School to receive the Georgia Institute of Technology Honorary Engineering Award for his work in the engineering field.

In addition, three of the School’s young alumni were inducted into the Council of Outstanding Young Engineering Alumni. Membership is reserved for those individuals under the age of 40 who have distinguished themselves through professional practice and/or service to Georgia Tech. The 1999 group included: Deborah K. Beattie (BSME 1989, MSME 1994, Ph.D. ME 1996), Kennon H Guglielmo (MSME 1990, Ph.D. ME 1992), and Julie Miller (MSME 1984).

Figure caption: Top Row (L to R) John Tundermann, Joseph Tannehill, Thomas Tuttle, Debbie Beattie, Julie Miller, Kennon Guglielmo, and Ward Winer. Bottom Row (L to R) Carter Paden, Arturo Rodriguez-Ulloa, Chester Skinner, and Thomas Lucas. Not shown: Jose Estrada.
Dawn Amos (BME 1998) was married in June 1998 to Jacob Smrekar. She is an Assistant Plant Engineer at Springs Industries in South Carolina.

Won S. Chang (Ph.D. 1981) was named a Fellow of the ASME. His interests include a broad range of heat and mass transfer problems, particularly heat pipes and thermocapillary stresses.

Jimmy Cooper (BME 1992) recently joined Pumping Systems, Inc. in Atlanta. Prior, he spent seven years working in industry as a Process Engineer and Project Design Engineer. In his new position, he will be making equipment recommendations and providing assistance in design for systems including pumps, blowers, and air compressors. He is a registered professional engineer in Georgia and he resides in Carrollton, Georgia.

Steven Daneman (BME 1988, MSME 1990) was recently promoted from Manager, Manufacturing Engineering to Director, New Product Introduction at Powerwave Technologies in Irvine, California. He and his wife, Tammy, live in Irvine.

Wincy Du (Ph.D. ME 1999) is teaching at Georgia Southern University.

Stephen Hill (Ph.D. ME 1999) is working at Schlumberger in Houston, Texas.

Chris May (BME 1998) is in a two-year training program at Ford Motor Company in Dearborn, Michigan, where he is a design engineer. As part of the training program he moves throughout the company to learn different aspects of design, including marketing and testing. He was recently in Atlanta to work on the roll out of the 2000 Taurus. Chris may be reached at cmay6@ford.com.

Stephen L. Peet (BME 1980) joined BellSouth Corporation as Facility Project Manager. Stephen, his wife Dianna H. Peet (MICS 1979), and their four children live in Norcross, Georgia.

Pete Petit (BME 1962, MSEM 1964) was given the Biomedical Industry Growth Award at a monthly meeting of the Georgia Biomedical Partnership.

Paul Philpott (MSME 1992) has founded the Ben Carson LIFETIME Scholars College Prep Academy in Detroit to coach African-American high school students for the SAT and to boost their grades. Philpott edits the Reappraising AIDS newsletter and writes movie screenplays while working days as an automotive engineer. He lives in Detroit with his five-year old daughter.

Patrick Riban (BME 1986) passed the mechanical engineering PE exam in October 1999. Since obtaining the license, he has received two promotions at Toshiba. He was an undergraduate in nuclear engineering while at GT, but his work experience involves mostly fluid pumping systems and HVAC.

Earl B. Smith (BME 1988) has completed the requirements for the Ph.D. in Mechanical Engineering from Texas A&M University. In 1994 he received his M.S. in Engineering from Prairie View A&M University.

Garrett Stanley (BME 1992, Ph.D. Berkeley, 1997) joined the faculty in the Division of Engineering and Applied Sciences at Harvard University. His field is bioengineering.


Christine Valle (Ph.D. ME 1999) accepted a position as Assistant Professor at the University of Maine.

Sean F. Wu (Ph.D. ME 1987) was promoted to Professor in the Mechanical Engineering Department of Wayne State University. In addition, he is Director of the Acoustics, Vibration and Noise Control Laboratory.

Let us hear from you! If you've received an award, changed occupations, or have other professional news you'd like to share with your classmates, please complete this form and submit it, or send an email to rona.ginsberg@me.gatech.edu.
For complete information on Woodruff School and related Institute events, please view our [Calendar of Events](#).

**February**  
3-6 Recruiting Weekend  
24-27 Recruiting Weekend

**March**  
6-10 Spring Break  
16-19 Recruiting Weekend  
20-22 Academic Advisement  
27-31 Written Ph.D. Qualifying Exams

**April**  
3-7 Oral Ph.D. Qualifying Exams  
6 Annual ME Spring Banquet  
6-9 Recruiting Weekend  
25 Annual Woodruff Distinguished Lecture  
28 Last day of classes for spring semester

**May**  
1-5 Final Exams  
6 Commencement

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**RESERVE THIS DATE**

The Annual Woodruff Distinguished Lecture will be given by  
Dr. William A. Wulf  
President of the National Academy of Engineering  
Tuesday, April 25, 2000 at 3:30 p.m.  
Van Leer (ECE) Auditorium  
Georgia Tech Campus  
Invitations will be mailed in March 2000

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