



Beranek Delivers Very Successful Gegenheimer Lecture

The annual Harold W. Gegenheimer Lecture on Innovation was delivered by Dr. Leo Beranek on November 1, 2001 to a packed house in the Howey Physics Building. In *Concert Halls of the World and Their Design*, Dr. Beranek reported on a series of interviews with conductors, music critics, and classical-music aficionados that led to a ranking of fifty well-known halls in the world according to their acoustical quality. Simultaneously, acoustical laboratories have been searching for physical measures to determine which halls are good because acoustical engineers need to know how to design successful halls that don't look alike.

Dr. Beranek has a set of parameters that he feels will lead to successful concert hall design. He showed a series of photographs and drawings of good and bad designs to demonstrate where concert hall design stands today.

Dr. Beranek received his B.A. degree from Cornell College in 1936 and his D.Sc. from Harvard University in 1940. During World War II he headed the Electro-Acoustic Laboratory at Harvard. He served as Associate Professor of Communications Engineering at MIT from 1947 to 1958.

Dr. Beranek was co-founder, in 1948, of Bolt Beranek & Newman (BBN) of Cambridge, Massachusetts, and was its president for sixteen years from 1953 to 1969. He changed the business from principally architectural acoustics and noise control, to an equal emphasis on acoustics and computer software. The most prominent of his efforts at BBN in the computer field was putting together the group that invented the forerunner of the INTERNET, the ARPANET, which was the world's packet-switched computer network and operated from 1969 to 1989.

A lifelong interest in music led Dr. Beranek to specialize in concert hall and opera house acoustics in recent years. Following trips to more than one hundred of the world's leading halls and interviews of several hundred conductors and music critics, he wrote *Concert and Opera Halls: How They Sound* (Acoustical Society of America, 1996).

If you missed the lecture, please click on the [Gegenheimer Lecture icon](#) to listen to the remarks. We are certain you will enjoy Dr. Beranek's entertaining and informative lecture.

One of a Kind? Patent Wall Dedicated

On the morning of November 1, 2001, just before the Gegenheimer Lecture, the patent display of the Woodruff School faculty was dedicated by Ward O. Winer, Chair of the School and Mr. Harold Gegenheimer (Class of 1933). The display, which we believe is a unique exhibit for an academic institution, is endowed by the Harold W. Gegenheimer Endowment for Innovation. The patent wall features 137 plaques from the U. S. patents held by current academic and research faculty members of the Woodruff School. The plaques, which represent the first page of each patent application, are arranged in ascending order by date and patent number, so the older patents are located on the bottom row. The display was installed on July 17, 2001 with 130 plaques; by the dedication we had added seven more. As more patents are approved, they will be added to the display. In addition, the twenty patents from Harold Gegenheimer's innovative career are displayed; this includes the prefector press.

Patents holders in the Woodruff School and the number of U.S. patents they hold are: Said Abdel-Khalik (2), Cyrus Aidun (7), Scott Bair (10), Daniel Baldwin (5), Yves Berthelot (2), Wayne Book (4), Jonathan Colton (5), Steven Danyluk (2), Levent Degertekin (6), Steve Dickerson (2), Ari Glezer (12), Itzhak Green (1), Steven Hahn (1), Peter Hesketh (4), Jacek Jarzynski (3), Sheldon Jeter (3), David Ku, (5), Jack Lackey (16), Gregg Larson (1), Kok-Meng Lee (6), Steven Liang (1), Harvey Lipkin (2), John Ranieri (4), Peter Rogers (6), Nader Sadegh (1), Dennis Sadowski (3), Richard Salant (5), Sam Shelton (8), William Singhose (1), Marc Smith (1), Charles Ume (1), John Valentine (2), Raymond Vito (4), and Ben Zinn (9).

A special web site is being developed for our home page that will allow you to view the patents.



A Message from the Chair

WARD O. WINER

The Woodruff School has continued to do well since mega tech was published last summer. The highlight of the year was last fall's Gegenheimer Lecture on Innovation, given by Leo Beranek. Dr. Beranek was an exciting speaker who attracted a number of people from outside Georgia Tech, including several representatives of the Atlanta Symphony who were interested in his discussion of the acoustics of concert halls around the world. Also, due to the generosity of Harold Gegenheimer, we dedicated the Patent Wall in the lobby of MRDC. It was impressive to learn that our current faculty collectively holds almost 140 patents.

Our move into the J. Erskine Love Jr. Building is essentially complete with an Experimental Fluid Mechanics Laboratory, an Acoustics Water Tank, and a clean room for the MEMS group. These are three substantial laboratories for research and instruction in the Woodruff School. In addition, a Fluid Power and Motion Control Laboratory is currently being installed in the Love Building under the direction of Professor Wayne Book.

We are all very pleased that the landscaping in the space between the Manufacturing Related Disciplines Building, the Manufacturing Research Center, and the Love Building will be completed in the next few months. Thanks to the generosity of the class of 1976, this attractive area will be called the George P. Burdell Plaza. If you visit campus, be sure to stop and enjoy Burdell Plaza.

Faculty changes continue as our school grows and evolves. In December 2000, Professor Prasanna Kadaba retired after 32 years of service, and in May 2001, Professor Jacek Jarzynski retired after 15 1/2 years of service. In May 2002, Professors Alan Larson and Prateen Desai will retire after 27 and 36 years of service, respectively. Three new faculty have accepted offers to join our faculty later this year. In addition, Professor Ari Glezer, who has a strong and innovative program in experimental fluid mechanics, was named to the George W. Woodruff Chair in Thermal Systems. Three new Faculty Fellows were named. Professors Bert Bras and David Rosen were named as Woodruff Faculty Fellows and Professor Ken Cunefare was named as our first Joseph Anderer Faculty Fellow. We are also pleased to welcome back David Sanborn as a Senior Academic Professional; he is responsible for our capstone design program. If you were a student in the early 1970s, you might remember David, who was on the faculty from 1969 to 1975. A final note of change among the faculty is the unfortunate news that Mario Goglia died. Professor Goglia served more than 50 years of his career at Georgia Tech.

The highlight of student activities was the performance of *gt motorsports* in the European Rally in Birmingham, England, last July. The team has done an outstanding job competing in the U.S. as well as in England, where they won First Place Overall.

Recently, we provided work space for the student competition groups. Some of you might recall the Tin Building, which is hidden behind the Coon Building and the Space Sciences Building. We moved our last research activity out of that building and into the Love Building last year. We did a modest job of renovation of the building to provide a shop and working space for *gt motorsports*, GT Off-Road, Solar Jackets Car, RoboJackets, Aero Robotics, and Design-Build-Fly; the last two teams are from the School of Aerospace Engineering. David Sanborn is helping to organize this effort. The Tin Building is not beautiful architecturally, actually it is not even attractive, but it does provide badly needed indoor space. We hope the teams interact well with each other and advance the cause of their competitions and of Georgia Tech. We are in need of support for shop equipment and funds to underwrite the facilities. If you are interested in donating to this project, we would certainly welcome your help.

If you believe the accounts in the press you get the impression that the quality of teaching in colleges and universities could be better. You might be interested to know that the Woodruff School offered 200 class sections in the 2001 Spring and Fall terms. The average and median class sizes were 32 and 27, respectively. Over 93 percent of those sections were given by current or retired tenure track faculty and the other seven percent by research faculty, academic professionals, or former Ph.D. graduates of our program. The ratings of the quality of instruction were very good. In more than 96 percent of the sections the students agreed or strongly agreed with such statements as "the instructor was an effective teacher" or "the instructor was well prepared for the class."

We can be very proud of the quality of instruction in the Woodruff School, which is reinforced by the fact that in 2002, the two BP/CETL awards for outstanding young teachers at Georgia Tech were won by Woodruff School faculty -- Andrés Garcia and Bill Singhose. This is the third year in a row that Woodruff School faculty have won this award. The previous winners were Marc Levenston (2001) and Imme Ebert-

Uphoff (2000). As I tell all candidates for faculty positions in the Woodruff School, being a good teacher is a necessary but not sufficient condition to succeed. I hope you enjoy this issue of mega tech and join us in our enthusiasm for the Woodruff School.

FACULTY NEWS

Bert Bras was appointed the Director of the Institute of Sustainable Technology and Development.

Ye-Hwa Chen (with J. Joh and R. Langari) received the Fuzzy Systems Outstanding Paper Award for 2001 from the IEEE Neural Networks Council for a paper titled "On the Stability of Issues of Linear Takagi-Suygeno Fuzzy Models."

John Culp is a Research Engineer I working for Professor Ari Glezer.

Levent Degertekin (with B. T. Khuri-Yakub) received U.S. patent 6,295,247, dated September 25, 2001, for Micromachined Rayleigh Plate and Bulk Wave Ultrasonic Transducers.

Jerry Ginsberg gave the 2001 Rayleigh Lecture at the ASME Congress and Exposition in New York. He was invited to lecture for his pioneering contributions to the science and applications of acoustics by the Noise Control and Acoustics Division of ASME.

Jacek Jarzynski, who retired in May 2001, has been appointed Professor Emeritus. Professor Jarzynski spent fall semester teaching at GTL in Metz, France.

Thomas Kurfess won the 2002 Georgia Tech Outstanding Faculty Leadership for the Development of Graduate Research Assistants Award.

Steven Liang was elected Director of the North American Manufacturing Research Institution for a two-year term beginning in January 2002.

Farrokh Mistree was appointed to the International Advisory Council of the Design Technology Institute of Singapore, which is a joint program between the National University of Singapore and the Technical University of Eindhoven, The Netherlands.

Shreyes Melkote was selected by the Georgia Society of Professional Engineers as the 2002 GSPE Engineer of the Year in Education.

Jianmin Qu was named a Fellow of the ASME.

David Sanborn was appointed Senior Academic Professional. He will be responsible for ME 4182 (capstone design) and the student competition groups housed in the Tin Building.

Bill Stacey received the 2001 Glenn T. Seaborg Medal from the American Nuclear Society. The medal honors excellence in research achievements on the part of an individual which have been especially beneficial to the development of the peaceful uses of nuclear energy.

Mike Stewart, Academic Professional for ME 1770 (Engineering Graphics and Visualization), is chair of the Engineering Design Graphics Division of the ASEE. The EDG Division is the oldest division in the ASEE and has more than 700 members. Members share an interest in engineering graphics, graphical design, freshman engineering, computer-aided design, and graphic education. The division has two major conferences each year where refereed papers are presented and publishes a referred journal.

Charles Ume coordinated the 2001 Georgia Tech Charitable Campaign within the Woodruff School.

Minami Yoda and **Cyrus Aidun** received the TAPPI (Technical Association of Pulp and Paper Institute) Editorial Board's 2001 Best Research Paper Award for work they did under the GT/IPST Seed Grant Program.

WOODRUFF SCHOOL UNDERGRADUATE PROGRAM IS RANKED IN THE TOP FIVE

For the first time, *U.S. News & World Report* has ranked the Woodruff School of Mechanical Engineering number five for its undergraduate program. The College of Engineering was six overall, and number three among state universities. These are the best ever rankings for Georgia Tech's undergraduate programs. The 2002 rankings may be viewed at www.usnews.com.

EXCELLENCE IN TEACHING

Andrés Garcia and **Bill Singhose**, both assistant professors, each won a Georgia Tech CETL/BP Junior Faculty Teaching Excellence Award. This is the third year in a row that young Woodruff School faculty have received this award. Winners in the last two years were Imme Ebert-Uphoff (2000) and Marc Levenston (2001).

PASSING THE TORCH, AGAIN

The Salt Lake City Olympic Games mark the second time mechanical engineering Professor **Sam Shelton** has built an Olympic Torch. He built the torch for the 1996 Atlanta Games, and on December 4, 2001 in Atlanta's Centennial Olympic Park, the new torch began its 13,500-mile journey across the United States with more than 11,500 runners passing it along to Salt Lake City for the 2002 Winter Olympics. The three-pound torch was constructed to withstand weather ranging from minus 40 degrees to 80 degrees, including gusty winds and heavy rain. The Olympic Torch Relay, which traveled more than 400 miles a day and visited eighty cities, came to Georgia Tech, going down Ferst Drive past the Love Building and SAC, and then up Hemphill toward 10th Street. View <http://www.torch.gatech.edu/home/index.php> for more information on Dr. Shelton's contribution to the Olympic Torch.

ALUMNUS ENDOWS FACULTY FELLOWS PROGRAM

Joseph H. Anderer endowed the faculty fellow program as part of the Georgia Tech Capital Campaign. He is the retired Chairman and CEO of Warren Corporation in New Canaan, Connecticut. Mr. Anderer earned a BME from Georgia Tech in 1947 and a BIE from another institution in 1948. He then began his career with the Atlanta Refining Corporation. In 1956, Mr. Anderer joined the American Viscose Corporation as head of textile development laboratories. In 1964, he joined Celanese Corporation and became executive vice president of textile marketing in 1966. In 1969, Mr. Anderer joined Revlon Corporation as president of cosmetics and fragrances. In 1972, he became president, COO, and a director of M. Lowenstein. In 1978, Mr. Anderer formed the Grendel Corporation of Greenwood, South Carolina and the Warren Corporation of Stafford Springs, Connecticut. He served as chairman and CEO of both textile corporations until his retirement.

Mr. Anderer served in the U. S. Marine Corps in World War II. He has served as a director of numerous public and private corporations as well as several nonprofit foundations.

Mr. Anderer served on the Georgia Tech Advisory Board for six years and was chairman in 1982. He was 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.

NEW FACULTY FELLOWS NAMED

Dr. Ward O. Winer, Eugene C. Gwaltney, Jr. Chair of the Woodruff School, announced recently the appointment of two new Woodruff Faculty Fellows (**Bert Bras** and **David Rosen**) and the first Joseph H. Anderer Endowed Faculty Fellow (**Ken Cunefare**). Current Woodruff Faculty Fellows (1997-2002) are Steven Liang, Jianmin Qu, and Cheng Zhu. The new appointments span the 2002-2007 academic years.

The Woodruff Faculty Fellows program began in June 1991 to recognize outstanding faculty in the middle years of their professional careers. The Anderer Faculty Fellow recognizes the same period of development. Fellows receive \$15,000 a year in discretionary support for each of the five years of the appointment. They are associate professors who began their careers at Georgia Tech. The total number of faculty fellows in the Woodruff School will be no more than one-third the current number of associate professors on the faculty.

Ken Cunefare received his Ph.D. from Pennsylvania State University in 1990 and began his career at Georgia Tech as an assistant professor in fall 1990. His research has been directed toward controlling and tailoring the sound produced by engineered structures. Dr. Cunefare directs the Integrated Acoustics Lab (anechoic chamber) and is the faculty advisor to *gt motorsports* and GT Off-Road.

David Rosen received his Ph.D. in 1992 from the University of Massachusetts and began his career at Georgia Tech in fall 1992 as an assistant professor. Dr. Rosen's research deals with configuration design,

virtual prototyping, and rapid prototyping. Bert Bras came to Georgia Tech in fall 1992 as an assistant professor after receiving his Ph.D. from the University of Houston. His research focuses on environmentally conscious design and manufacturing, design for de- and remanufacture, life-cycle assessment, sustainable development, and robust design.

View their detailed faculty pages at <http://www.me.gatech.edu/me/people/> or see their pages in the Woodruff School's [Research Brochure](#).

In naming the new faculty fellows, Dr. Winer pointed out that there are a number of recognitions that new faculty might receive, such as NSF's Career Award, and there are special recognitions for senior faculty, such as the appointment to an endowed or distinguished chair in the School, but there are few honors that provide mid-career faculty members with the visibility and recognition they deserve. The faculty fellows programs recognize individuals with burgeoning reputations in the academic arena to give them an incentive to remain at Georgia Tech for their entire academic career.

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

IN MEMORIUM: REGENTS' PROFESSOR EMERITUS, MARIO J. GOGLIA

Professor Mario J. Goglia passed away on October 16th after a long illness. He is survived by his wife of more than fifty years, Juanita, children, and grandchildren.

In June 1998, Regents' Professor Emeritus and life-long educator, Mario J. Goglia celebrated the 50th anniversary of the signing of his first contract to teach at Georgia Tech. He came to campus in September 1948 to become a professor of mechanical engineering.

Over the years, he taught thermo-dynamics, fluid flow, automatic controls, heat transfer, and other mechanical engineering undergraduate and graduate courses. He was always regarded by students as an outstanding educator. Although he retired from full-time teaching and research in 1981, he was still teaching courses in the Woodruff School, usually thermo-dynamics, until the mid-1990's.

In 1953, Professor Goglia was named one of Atlanta's Hundred Leaders of Tomorrow by Time magazine. Later, he was on the Committee on Educational Objectives and Methods, which issued a report titled, "The Aims and Objectives of the Georgia Institute of Technology" (1954). In 1955, he was named one of the Institute's first three Regents' Professors. In 1996, he received the Renaissance Engineering and Science Award from the Stevens Institute of Technology.

Professor Goglia received a B.S. degree in 1937 and an M.S. degree in 1941, both in mechanical engineering, from the Stevens Institute of Technology. In 1948, he graduated from Purdue University with a Ph.D. and came directly to Georgia Tech to join the faculty. He was born and raised in Hoboken, New Jersey.

We have established a memorial fund in Dr. Goglia's honor which will be used for student support. You may send a donation to the Mario Goglia Memorial Fund, c/o Ms. Caroline Wood, Woodruff School of Mechanical Engineering, 801 Ferst Drive, Atlanta, GA 30332-0405. The check should be made out to the Georgia Tech Foundation, Inc. If you have questions about this fund, please call Caroline Wood, Director of Development for the Woodruff School, at (404) 894-0762. Thank you in advance for honoring Mario in this fashion.

GLEZER NAMED TO THE GEORGE W. WOODRUFF CHAIR IN THERMAL SYSTEMS

Dr. Ari Glezer is the first holder of the George W. Woodruff Chair in Thermal Systems. He came to Georgia Tech in 1992 as Associate Professor and in 1995 he was promoted to Professor. Prior, he was Assistant Professor and Associate Professor at the University of Arizona. He received his B.S. at Tel Aviv University in 1974, and both his M.S. and his Ph.D. from the California Institute of Technology in 1975 and 1981, respectively.

Professor Glezer's research focuses on the manipulation and control of shear flows in a broad range of applications, including reacting and nonreacting mixing processes, enhancement of the aerodynamic performance of airborne and underwater vehicles, small-scale combustion-driven power systems, jet noise reduction, fluidic-driven heat transfer processes with emphasis on thermal management of electronic hardware, and the development of novel fluidic actuator technologies.

Professor Glezer holds twelve U.S. patents and is an Associate Fellow of AIAA. In 2000 he shared the Georgia Tech College of Engineering Research Award. He has also received an Alexander von Humboldt Research Fellowship.

About the Woodruff Chairs

George W. Woodruff (Class of 1917) was an alumnus and influential Atlanta businessman, civic leader, and philanthropist. In September 1985, at the age of 90, Mr. Woodruff attended the ceremonies to rename the School of Mechanical Engineering in his honor. Today, the Woodruff benevolence continues to benefit Georgia Tech through the support of two major scholarship funds and a significant, unrestricted endowment. The Woodruff bequest to the School of Mechanical Engineering underwrites two faculty chairs—the George W. Woodruff Chair in Mechanical Systems, held by Dr. Jerry Ginsberg, and the George W. Woodruff Chair in Thermal Systems, held by Dr. Ari Glezer—and activities such as the Woodruff Faculty Fellows Program, the Woodruff Graduate Fellowship Program, the Woodruff Teaching Intern Program, and research and teaching assistantships for graduate students.

PROFILE OF AN ALUMNUS: DEBORAH KILPATRICK

Dr. Deborah Kilpatrick has come a long way, both literally and figuratively, from growing up in the very small central Georgia town of Cochran to her busy life today in California, with a major detour at Georgia Tech. She received her B.S. in Engineering Science and Mechanics (1989) and both her M.S. and Ph.D. degrees in Mechanical Engineering (1994, 1996) from Georgia Tech. With a background in structural mechanics, she spent time in the aerospace industry before returning to graduate school to focus on human arterial mechanical behavior at various states of disease. At Georgia Tech, under the guidance of Professor Raymond Vito, her faculty advisor and mentor, she studied mechanical characterization of atherosclerotic vessels through both experimental and computational techniques, relating biomechanical behavior with histopathology.

According to Dr. Vito, "Debbie's thesis work represents a major step forward in our understanding of plaque rupture, the event that precipitates most heart attacks and strokes. Her work at Guidant builds on this foundation."

Dr. Kilpatrick is currently the Research Advisor for the New Ventures Group at Guidant Corporation in Santa Clara, California, where she investigates arterial mechanics during clinical intervention, lesion-specific device technologies, and coronary plaque vulnerability. Last year, she was asked to be on the faculty for a Stanford University course on cardiovascular biomechanics for the medical device industry.

Dr. Kilpatrick retains ties to Georgia Tech. In 1999 she was inducted into the Council of Outstanding Young Engineering Alumni at Georgia Tech, and in 2001 she was invited to join the Advisory Board of the Woodruff School of Mechanical Engineering. Dr. Kilpatrick was the first ARCS scholar in the Woodruff School (see the related story in this issue), and in late 2001 she was asked to be the keynote speaker at the 10th Anniversary Celebration of the Atlanta Chapter of the ARCS Foundation. She talked about what her ARCS funding enabled her to do, such as authoring peer-reviewed publications based on work supported by the funding, directing research programs for Guidant Corporation, and joint collaborations with major universities and research centers in the U. S.

Dr. Kilpatrick makes sure she spends lots of time outside of work because she is a "firm believer in life balance and health." She loves California, because the entire culture is geared toward being outside, and doing anything in nature, including camping, hiking, and biking. Specifically, she spends a lot of time road cycling, trail running, and doing Hatha yoga. In winter, she spends time at Lake Tahoe cross country skiing, and she is currently in the home stretch of remodeling her house, a project which has been ongoing since June 2001.

At the ARCS luncheon, Dr. Kilpatrick mentioned some things she had learned over the course of her professional life: "Recognize your strengths and your challenges and leverage them both; recognize where you can contribute and don't hesitate to do so; recognize that you can make things happen for your career so don't be afraid to take risks; and recognize that we are all where we are because someone, at some time, gave us something, so make sure to give something back." We think Dr. Kilpatrick exhibits all the qualities she talked about. She may be reached at dkilpatr@guidant.com.

CLASS NEWS

ROBOTICS DEMONSTRATIONS

The first eight weeks of ME 4451 (Robotics) consists of eight laboratory exercises, where the students learn to model and program robots and to use a vision system. Then the students form teams and define their own mini-projects. There, they have to combine individual components to make a more complex project. The students had four weeks to work on the project. The guidelines for the projects were to use Robix Robot Construction kits to build a robot; solve the kinematics of the robot in Matlab; and do all programming in Matlab. Also, the robot must respond in some way to its environment, for example to data entered by a user or to objects detected by a camera; the use of the DVT vision system is optional. Most groups chose a task that involved a DVT vision system coupled with a simple hobby robot arm. All action, such as robot kinematics and camera communication had to be done from Matlab. The class is team-taught by Professors **Harvey Lipkin** and **Imme Ebert-Uphoff**.

MECHATRONICS

In ME 6405 (Introduction to Mechatronics) graduate students design and build electromechanical systems and products, which might have industrial applications. **AMPS** (Automated Mirror Position System) automates the position of all three car mirrors to adapt to a driver's changing position. **HoverBall** is a fast-paced game where the goal is to score as many baskets as possible before time runs out. Other projects were **WISE**: Where Is the Stinger Bus Exactly, **IC Engine Control**, **Automated Parking Attendant**, and **Genpichong**. View http://www.me.gatech.edu/mechatronics_lab/ for more information on the projects in Professor Ume's class.

STUDENT NEWS

Christyn Magill was named the Georgia Tech Engineering Student of the Year for 2002 at the Metro Atlanta Engineering Awards banquet celebrating Engineering Week.

Carolyn Conner Seepersad participated in the Engineering Education Scholars Summer 2001 Workshop held at the Xerox Document University in Leesburg, Virginia. This workshop is for advanced graduate students and new faculty members.

Douglas Spearot received the American Electroplaters and Surface Finishers Society (ASEF) Fellowship. The award is to encourage students to consider the surface finishing field.

Shannon Stott received a 2002 ASME Teaching Fellowship. Dr. Gang Bao is her advisor.

Omar Wooten was an award winner in the technical paper area at the Los Alamos National Laboratory's 2001 Symposium for his paper titled, "Calculation of Dose Conversion Factors for Inhalation and Ingestion from Radioisotopes Produced in Spallation Neutron Sources." Nolan Hertel is his advisor.

The 2002 edition of *Who's Who Among Students in American Universities and Colleges* includes the names of 61 graduate students from the Woodruff School. Selection is based on academic achievement, service to the community, leadership in extracurricular activities, and potential for continued success. **This year's students are:** Matthew Abercrombie, Anne Marie Albanese, Melissa Bargmann, Jonathan Barletta, Kyle Berkowitz, Scott Bondi, Andrea Burgess, Jonathan Butcher, Maria-Isabel Carnasciali, Matthew Chamberlain, Robert Chedester, Matthew Christopher, Rhima Coleman, Christopher Conrad, Nathan Cook, Brian Corbett, Matthew Cornwell, Marnico Deladisma, Benjamin Dempsey, Beth Douglas, Scott Duncan, Douglas Fenneman, Joel Fortgang, Scott Froom, Michael Haberman, Timothy Hartigan, Jorge Hernandez, Mihaly Horvath, Turner Howard, Richard Howe, Ryan Johnson, Susan Knueven, Michael Kohl, Peter Kottke, Kris

Kozak, Jason Lawrence, John Malluck, Courtney Marrett, Jeffrey McLean, Michael Mears, Kristin Michael, Srinidhi Nagaraja, James Nicholas, William Oates, Cynthia Phillips, Katherine Praus, Anand Raghu, John Reap, Catherine Reyes, Erick Rios, Katharine Shilling, Chris Shumway, John Slanina, Daniel Stinemates, Priya, Philip Voglewede, Paul Wickersham, Christopher Williams, Omar Wooten, Bassem Zaki, and Tracie Zoeller.

STUDENTS RECEIVE AWARDS FROM PHILANTHROPIC GROUP

Shannon Stott will invent answers to the scientific challenges that puzzle the human race. A group of philanthropic Atlantans is so sure of it, they're putting their money on her and several other graduate students in the area. Stott, a Ph.D. candidate in bioengineering, and nine other Tech graduate students earned \$5,000 scholarships from the Atlanta Chapter of the ARCS Foundation (Achievement Rewards for College Scientists).

The awards were given at the 10th anniversary celebration of ARCS's Atlanta Chapter, which has granted financial awards to students majoring in the fields of science and engineering in the Atlanta area since 1999. ARCS, founded as an all-female organization in 1958, has a total of 1,500 members in 12 chapters nationwide. Since its inception, the organization has given more than \$37 million to almost 8,000 students at 43 colleges and universities. The Atlanta Chapter handed out a total of 33 financial awards to graduate students at Tech, Emory, Morehouse College and the University of Georgia.

Woodruff School ARCS scholars are Brent Bailey (Minami Yoda, advisor), Rebecca Covert (David Ku, advisor), Chad Duty (Jack Lackey, advisor), Peter Kottke (Ward Winer, advisor), Susan Stewart (Sam Shelton, advisor), Shannon Stott (Gang Bao, advisor), and Michael Swinson (Nader Sadegh, advisor). In addition, ARCS awards scholarships to five students in the School of ISyE. For more details, ask for the brochure on the [ARCS program](#).

NRE SCHOLARSHIP AWARDS RECEPTION

The 2001 scholarship awards reception for nuclear and radiological engineering undergraduate students was held on October 4, 2001. Dr. Winer introduced the sponsors and Dr. John Valentine, coordinator of the NRE Scholarship Program, welcomed the participants. **Scholarship sponsors are:** NAC International, Duke Power Company, McCallum-Turner, Southern Nuclear Operating Company, Department of Energy/Industry Matching Grant, CH2M-Hill, National Academy for Nuclear Training, Women in NRE Scholarships, and Woodruff School NRE Scholarships. **Students receiving scholarships are:** Anthony Achudume, Teresa Canty, Jesse Chestham, Dale Cotton, Larissa Cottrill, Stefanye DeMarcus, Jesse Dukes, Justin Edwards, Christopher Fong, Justin Garrison, Nicholas Giglio, Lindsay Goree, Thomas Goree, Jesson Hutchinson, Adam Jones, Robert Jones, Robert Kelm, Gregory Kessler, Chris Lafakis, David Lassiter, Ryan Lorio, Michael Mason, William Murphy, Joshua Parker, Victor Popp, Justin Pounders, Jessica Rooney, Horace Smith, Matthew Terry, John Williams, and Brian White.

GT MOTORSPORTS PLACES FIRST IN ENGLAND

The *gt motorsports* team took the Overall Winner prize at the Formula Student competition in Birmingham, England. The competition, for which the students must design, build, defend and race an open-wheel formula race car, pitted 25 university teams against each other, with six of them from the United States, one from Canada, one each from Germany, France, the Netherlands, and Ireland, and the balance from the United Kingdom.

The competition features a number of individual events, with the combined score from them used to determine the overall winner. In the static events, *gt motorsports* placed 6th in presentation, 3rd in cost, and 1st in design. In the dynamic events, the team placed 2nd in skid pad and autocross, and 4th in acceleration and the combined endurance and fuel economy event. In the dynamic events, mere tenths of seconds separated the top performing teams. As *gt motorsports* had the most consistent high-placing performance across both static and dynamic events, it accumulated the most points (912 out of a possible

1000) to claim the crown.

Unlike past competitions in the U. S. and the U. K., where one team clearly dominates the events, it was uncertain to the very end who would take the Overall Winner crown. No one knew who had taken the prize until the announcement was actually made at the awards banquet.

gt motorsports team members who participated at the Formula Student competition were Chris Richburg (team leader), Brandon Taylor, Ira Bragg, Heidi Alexa, Geoff Toon, Shamus Yandle, Mark Gibbs, Scott Flanagan, Allan Teague, J. P. McConnell, Philip Echelman, and Alper Akanser. Ken Cunefare is the faculty advisor to the group.

FALL SEMESTER UNDERGRADUATE ACTIVITIES

Fall is typically a busy semester for undergraduate activities. First, the Woodruff School Student Advisory Committee (WSSAC) hosted the yearly Undergraduate Research Fair, which provides a forum for undergraduate students interested in doing research with a faculty member to learn about the opportunities available in the School. A representative from each of the research area groups presents the highlights of work going on and the possibilities open to undergraduate students. If you are interested in doing research as an undergraduate and did not have the chance to be paired with a faculty mentor, then contact Dr. Raymond Vito, Associate Chair for Undergraduate Studies, with your request at raymond.vito@me.gatech.edu.

Next came Family Weekend, a chance for 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, a chance to meet and ask questions of Ms. Kimberly Blue, Undergraduate Academic Advisor, to see displays by some of our student competition groups, and to meet other student leaders. A few weeks later we held another open house for Homecoming Weekend.

GT OFF-ROAD COMPETES ON LAND AND WATER

GT Off-Road (The Georgia Tech Mini-Baja Team) had a very successful and exciting year, and was one of only six teams to successfully compete in all three U.S. competitions. The SAE Mini Baja West was held in Manhattan, Kansas with 120 teams competing. This was the first competition of the year and contained the roughest terrain. The team finished 50th overall, highlighted by 15th place in engineering and design, a 19th place in cost analysis, and 21st in maneuverability.

The SAE Mini Baja East was held in Columbia, South Carolina with 50 teams competing. This event adds the extra aspect of water floatation and maneuverability. The team finished 25th overall with five top-15 event finishes, including suspension and traction, acceleration, top speed, braking, and design.

The SAE Mini Baja Midwest was held in Troy, Ohio with 127 teams competing. The team finished 50th overall with a 13th place finish in design, 27th in top speed, and 33rd in acceleration.

The team's membership grew by twenty percent. Solid design and engineering skills and continued support from sponsors, the faculty, and the administration of Georgia Tech will help the team succeed as they enter their third year of competition.

ROBOJACKETS AND THE FIRST COMPETITION: A SPORTING CHANCE

Students from Roswell High School and Georgia Tech engineering students, who serve as their mentors, recently put the finishing touches on a remote-controlled, sporting robot that slam-dunks soccer balls. The robot took the students six weeks to design and build. It will compete with robots built by students from Canada, Brazil, United Kingdom, and almost every state in the U.S. in regional and national competitions in Florida during the 2002 FIRST Robotics Competition. The 17 regional competitions will host 600 teams of

more than 20,000 students. The Georgia Tech/Roswell High School team is the only team from Georgia competing in the games.

The competitions are sponsored by FIRST (For Inspiration and Recognition of Science and Technology), a nonprofit organization devoted to increasing interest in science and technology among youth. Ninth through 12th graders pair up with college engineering students or engineering companies to design and build a robot.

The robots are built to pick up soccer balls and place into a hoop. Some robots scoop up the ball, some suck it up with a vacuum device, and others pick up the ball using a gripping mechanism. Teams of two robots work together against another team in two-minute matches. The goal is to score as many points as possible by shooting the balls into a hoop. The team with the highest score wins the match. Teams are then ranked based on their qualifying points to determine who will go on to the finals.

Last year, Robojackets worked with students from George Washington Carver High School to build a sporting robot. In their first year of competition, the robot placed in the top half of its division during the national competition and won a Judge's Award at a regional competition that recognized that most of the Georgia Tech students participated in FIRST competitions as high school students.

STATE OF THE INSTITUTE

In his annual State of the Institute Address, President Wayne Clough said Georgia Tech is fulfilling its goal to build an acclaimed faculty, attract a diverse student body, enhance research, expand its outreach, and excel in its student-focused educational thrust -- vital components in a drive to become the model technological university of the 21st century. View <http://www.gatech.edu/2001/address/index.html>.

WOODRUFF SCHOOL STUDENTS WIN ASME GRADUATE TEACHING FELLOWSHIPS

Two Woodruff School graduate students, Shannon Stott and Phillip Voglewede received ASME Graduate Teaching Fellowships. Their advisors are, respectively, Gang Bao and Imme Ebert-Uphoff.

ASME began this program in 1992 to encourage outstanding graduate students, especially women and minorities, to pursue doctoral work in mechanical engineering and to encourage engineering education as a profession. Awards are for a maximum of two years. An applicant must demonstrate an interest in an academic career. As part of the award, Shannon and Phillip will each teach a lecture course in the Woodruff School.

In the first ten years, seven of the 23 awards went to GWW students. ASME usually awards a total of four or five awards each year. To date, we now have nine Woodruff School winners out of all the awards. According to Bill Wepfer, Associate Chair for Graduate Studies, this might be the first time that ASME has made awards to more than one student in a program in a single year.

Past winners in the Woodruff School are Patsy Brackin (Ph.D. 1997), Stacey Dixon (Ph.D. 2000), Wayne Johnson (Ph.D. candidate), John♦ Parker (Ph.D. 1996), Christopher Pascual (Ph.D. 1999), and Laura Schaefer (Ph.D. 2000). For more details, see the brochure titled *The ASME Graduate Teaching Fellowship Program at the Woodruff School*.

GRADUATE STUDENT COOKOUT IS A BIG SUCCESS

The annual Woodruff School cookout is held at the start of the fall semester so that new graduate students can meet returning graduate students, faculty, and staff in an informal atmosphere. Our new tee-shirt featuring a CAD design of Buzz and titled, *Drawing the Best* to describe our typical students, was handed out. Because it was a very warm afternoon the most popular feature was the ice cream bar. This annual event is organized by Dr. Bill Wepfer with the help of Trudy Allen and Cosetta Williams of the Woodruff School Graduate Office.

STAFF NEWS

Trudy Allen was named the Woodruff School Outstanding Employee for fall semester 2001.

Pete Dawkins left the Woodruff School to accept the position of Financial Manager in the College of Engineering. Pete had been with the Woodruff School since 1987.

Angela Hicks was promoted to Financial Manager I in the position recently vacated by David Stone.

Nancy Hutton works in the Finance Office as an Accountant II. Prior she worked as an accountant in Chemical Engineering.

Vivian Johnson received the Woodruff School Outstanding Achievement Award for Classified Employees for summer semester 2001.

Amina Sadiq is working in the Finance Office as an Accountant II, where she is handling sponsored and state accounting. Amina has worked at Georgia Tech for six years, most recently in Continuing Education.

David Stone is the School's new Director of Finance. He has been with the Woodruff School since 1997 and beginning in 1994 he was a Buyer/Accountant in Printing and Copying Services.

Stephanie Wheeler, Administrative Assistant I, helped coordinate the 2001 Georgia Tech Charitable Campaign within the Woodruff School.

John Witzel, Electrical Engineer II, left the Woodruff School to accept the position of Senior Mechatronic Engineer with a company in Washington, D. C.

NEW YORK, GROUND ZERO, AND THE ASME

Though we were all still recovering from the aftermath of September 11th, the ASME Congress and Exposition went on as scheduled in New York City in November. This meeting was the sixth one at which the Woodruff School had a booth on the exposition floor. This provides us with a wonderful opportunity to speak with potential graduate students, meet our alumni, and discuss mechanical engineering education with conference attendees from academia and industry. Eighteen ASME student chapter members from the Woodruff School attended the conference. We also hosted a hospitality evening for any of our alumni who were in town. The conference was well attended and the booth was busy, but we still had an opportunity to visit Ground Zero, go to some museums, and attend some Broadway shows. If we missed you in New York, we hope to see you at this November's ASME meeting in New Orleans.

ALUMNI NEWS

Chukwumaobi J. Adiele (BSME 1974, MS Cornell) is the author of Technology, Development and

Productivity: A Holistic Approach. He is the Managing Consultant of Jaconsult, a group of engineering and technology consultants. Previously, he worked for Texaco Overseas Nigeria Petroleum Company managing the design, fabrication, installation and operation of many offshore production stations, tanker terminals, and pipelines. He remembers Dr. Kezios and Dr. Winer from the time he was a student at Georgia Tech.

Bruce Antolovich (BME 1988, MSME 1990, Ph.D. MSE 1993), Manager, Numeric Process Modeling, Special Metals Corporation of New Hartford, New York, was 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.

Bryan Bezold (BME 1993) accepted a position as Chief Economist and Director of Research at the St. Louis Regional Chamber and Growth Association.

William W. Bolton (BME 1994, PE) is president of Beaufort Engineering Services. BES, in its 25th year, is a complete AE firm with offices in Charleston and Beaufort. Walt is also the Vice Chairman of the South Carolina Committee of the Design Build Institute of America and is an Intelligence Officer in the U.S. Army Reserves. He may be reached at wbolton@besbeaufort.com.

Gerald Cabak (BME 1972, MS ESM 1976, PE) recently took a new position as a senior development engineer with the Lick Observatory. Lick is an organization of the University of California with facilities and offices on the UC Santa Cruz campus that provides engineering support to the Lick Observatory on Mount Hamilton in San Jose, California and the twin Keck Observatories on Mauna Kea, Hawaii. He may be contacted at cabak@ucolick.org.

David Copeland (MSME 2002) works for Waveguide Consulting, Inc. in Decatur, Georgia. The company consults in acoustics, A/V, videoconferencing, and the design thereof. You might contact David at DCopeland@waveguide.com.

Roy Crawford (BME 1974) is a Fellow of the National Academy of Forensic Engineers and a Member of the American Academy of Forensic Sciences. He works in Kentucky and may be reached at capthook@kymail.com.

Steven Daneman (BME 1988, MSME 1990) accepted a position as Production Operations Manager with Broadband Storage of Irvine, California. Broadband is developing next-generation network storage devices; Steven will establish a manufacturing operations department. He may be reached at gatech88@yahoo.com.

Dolan P. Falconer, Jr. (BNE 1979), Executive Vice President and Co-Founder Parallax, Inc. of Atlanta, Georgia, was selected for the Academy of Distinguished Engineering Alumni. The Academy 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.

Ray Foster (BME 1982) was promoted to Director of Government Accounts at Convergent Media Systems, a leading provider of business television and high quality IP streaming and on-demand video. Ray's office is in Buckhead, and he, his wife Janet, and new daughter Emily Catherine live in Roswell, Georgia.

Joseph T. Hamrick (BME 1946, MSME 1948), President, Aerospace Research Corporation of Roanoke, Virginia, was inducted into the COE Hall of Fame. This is the highest honor that can be bestowed on alumni in the College of Engineering. Hall of Fame membership is reserved for alumni who have made sustained and meritorious engineering and/or managerial contributions during their careers.

John Kluber (BME 1984, PE), Vice President of Kluber Engineering & Architecture, Inc. in Willowbrook, Illinois was selected for the Georgia Tech Council of Outstanding Young Engineering Alumni.

Nicholas Leach (BME 1982) is Chief Patent Counsel-International at Kimberly Clark Corporation in Roswell, Georgia. He may be reached at nleach@kcc.com.

Juan Antonio Michelena (BME 1962), Chairman of the Board of Mantex S.A. of Key Biscayne, Florida, was selected for the Academy of Distinguished Engineering Alumni.

Saghir Munir (Ph.D. ME 2001) is a Processor Engineer at Intel Corporation in Santa Clara, California.

Terry O'Bannon (BME 1987, MSME 1989) is Principal Engineer, Biomechanics and Robotics Product Life Simulation for the Lear Corporation, a supplier of automotive interiors. He designs new ways to test car seats, etc. in Southfield, Michigan. Recently he received three patents that came as a result of his project work for the company. These are: U.S. Patent 6,206,703, Biofidelic human seating surrogate apparatus, U.S. patent 6,131,436, method and system for wear testing a seat by simulating human seating activity and robotic human body simulator for use therein (with others), and U.S. patent 6,220,089, vibration dummy apparatus. The last two are both with other inventors.

Lauren Hobbs Pellegrino (BME 1994) is a Manufacturing Engineer at Telephonics Corporation in Huntington, New York. She may be reached at pellegrino@telephonics.com.

E. Preston Rahe, Jr. (BME 1963, MSNE 1964) was recently appointed Executive Vice President of Washington Group Government. He was previously President of Westinghouse Government Environmental

Services, Inc.

Ronald P. Roth (MSME 1990, Ph.D. ME 1992), Vice President of Engineering at HV Technologies in Trenton, Georgia, was selected for the Georgia Tech Council of Outstanding Young Engineering Alumni.

John M. Siegel, Jr. (BME 1990, MSME 1992, Ph.D. ME 1994), Director of Commercial Bioinformatics at Research Genetics, Inc. in Huntsville, Alabama, was selected for the Georgia Tech Council of Outstanding Young Engineering Alumni.

Tim Simpson (Ph.D. ME 1998) won a 2002 NSF Career Award. Tim is an assistant professor at Pennsylvania State University.

Earl B. Smith, Ph.D. (BME 1988) has been appointed to the position of lecturer on the faculty of the Department of Mechanical Engineering at Texas A&M University. He may be reached at ebsmith29@yahoo.com.

Michael P. Valenzano (MSHP 1998) works as a Project Engineer for NAC International. He has traveled to the Congo and North Korea.

Serge Tchikanda (Ph.D. ME 2001) is a Postdoctoral Research Associate at Sandia National Laboratories in Livermore, California.

John G. Voeller (BME 1971), Senior Vice President, Chief Knowledge Officer, and Chief Technology Officer of Black & Veatch in Kansas City, Kansas, was selected for the Academy of Distinguished Engineering Alumni.

Sean F. Wu (Ph.D. ME 1987), Professor of Mechanical Engineering at Wayne State University in Detroit, has been named a Fellow of the ASME.

Claudia Zettner (Ph.D. ME 2001) is a Research Engineer at ExxonMobil Upstream Research Company in Houston, Texas.

Nicole Zirkleback (Ph.D. ME 2001) is an aeronautical engineer working at Lockheed Martin in Marietta, Georgia.

mega tech - Alumni News Form

Let us hear from you! If you've received an award, changed jobs, or have other professional news you'd like to share, please complete this [form](#) and submit it, or send an email to rona.ginsberg@me.gatech.edu.

GEORGIA TECH NAMES NEW ENGINEERING DEAN

Georgia Tech Names New Engineering Dean Don P. Giddens, one of the nation's leading pioneers in biomedical engineering, has been named dean of the College of Engineering at the Georgia Institute of Technology. He will assume his new post July 1, pending approval from the Board of Regents of the University System of Georgia.

Giddens, who has been associated with Georgia Tech for over 30 years, is credited with developing Georgia Tech's bioengineering program, enhancing its research, commercialization, and faculty and student recruitment efforts, as well as catapulting the bioengineering program to national stature.

Giddens also made strong contributions to Georgia Tech's aerospace engineering program and served as chair of the department from 1988 to 1992.

"I am pleased that Don Giddens has accepted this position and I am confident that he is the right person to continue the remarkable progress that the College of Engineering has made in the past decade," said President G. Wayne Clough. "Everything he does, he does well."

See http://www.news-info.gatech.edu/news_releases/giddens.html for the complete press release.

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