CoS machine shop
a one-man operation

Robert Nesmith
Communications & Marketing

A self-professed “gear head” and former machinist for a major airline, Sam Mize has been working in the College of Sciences machine shop for close to 10 years. For little more than a year, he’s been a shop of one.

While my friends were working at hamburger joints or service stations, I found jobs in shops,” Mize said. “I took shop in school to serve some of my own interests, things I wanted to do. While my friends were working at hamburger joints or service stations, I found jobs in shops.”

Mize was originally hired on a part-time basis to assist a Physics Professor Ed Conrad with a machine manipulator for high-intensity x-ray applications, a project that took two years. Conrad had designed the instrument, and Mize became involved in bringing the design from paper to reality. “I worked with him to refine the designs,” he said. “The rotating axes are accurate to within a couple of degrees overall.” Some of the aluminum and stainless steel pieces were so precise, they were contracted out because the shop did not have the proper equipment to grind a finite radius. After six months, Mize was offered a full-time position.

"It’s one job where you utilize all your senses at one time: sight, hearing and touch." — Sam Mize

Mize continued, page 2

Tech senior named co-op of the year

Richard “Reeve” Ingle, a Georgia Tech Division of Professional Practice (DoPP) co-op student, was recently named 2007 Student of the Year by the Cooperative Education Division of the American Society of Engineering Education (ASEE). Ingle is a senior electrical engineering major with a minor in Spanish, and has a 4.0 cumulative GPA. He has completed four co-op work terms with NASA at the Johnson Space Center in Houston and an internship with the U.S. Department of Defense in Ft. Meade, Maryland.

At NASA, Ingle worked on a variety of projects, including the design of a dashboard display unit, developing an RF spectrum map for the SCOUT Project (NASA’s “moon buggie” robot rover), developing electrical systems drawings for the International Space Station Japanese Experiment Module, and investigating methods of cleaning clothing in space. He also trained to be a part of the crew.

Co-op continued, page 3

Milling about

Shop foreman Sam Mize works on a project in the College of Sciences machine shop, located in the Howey Physics Building.

"It’s one job where you utilize all your senses at one time: sight, hearing and touch." — Sam Mize

Mize continued, page 2

Robot fetches objects with a point and a click

Megan McRainey
Communications & Marketing

Robots are fluent in their native language of 0 and 1 absolutes, but they struggle to grasp the nuances and imprecise nature of human language. While scientists are making slow, incremental progress in their quest to create a robot that responds to speech, gestures and body language, a more straightforward method of communication may help robots find their way into homes sooner. A team of researchers led by Charlie Kemp, director of the Center for Healthcare Robotics in the College of Engineering and Applied Sciences, have found a solution.

Robot UI-E presents a pill bottle to its operator, who directs it via a laser pointer interface.

Robot continued, page 2

Loewy to step down as AE chair

Robert Nesmith
Communications & Marketing

Even though Aerospace Engineering Professor Robert Loewy plans to step down as school chair in June, he says he isn’t quite ready to retire. School chair since fall 1993, Loewy has had an influential career in industry, government and academia for more than 60 years.

"Over the past year, I’ve been talking with both the dean and the provost about how, at the close of my 15 years as chair, I might be useful to Georgia Tech in some other way," he said.

Loewy, who also spent 15 years in the aircraft industry, considers rotary wing aircraft his specialty—as evidenced by the many models of helicopters in his office, among planes and rockets. "I’m really a structural dynamicist and an aero-elastician," he says, adding that he has conducted research in these disciplines on fixed-wing aircraft, space launch vehicles, and satellites.

He has worked for Glenn L. Martin—now Martin Marietta—and for what was at the time called Cornell Aeronautical Laboratory in Buffalo, New York, (now Calspan). At Boeing Helicopter division, Loewy was the chief technical engineer, where he was deeply involved in the development of the company’s rotary wing aircraft, including the Chinook, a double-rotor helicopter often seen on TV.

The self-proclaimed history buff was a faculty member at the University of Rochester from 1962 to ’74, where he was eventually named dean of the College of Engineering and Applied Sciences. “I found it [academia] was a good fit for me,” he said. “The fit between a person’s spectrum of abilities and the spectrum of requirements for the job will usually play an important role in that person’s job satisfaction.” In 1974, he was named provost and vice president of academic affairs at Rensselaer Polytechnic Institute (RPI), where as a student he had...
Non-essential lighting to go dark for Earth Hour

Tech will join hundreds of businesses and public spaces in the city of Atlanta in acknowledgement of the second annual Earth Hour, part of a global push to reduce its carbon footprint an hour at a time.

"The leadership at Georgia Tech has a keen interest in many of these issues," said Howard Wertheimer, director of Capital Planning and Space Management at Georgia Tech. "Last year, President [Wayne] Clough signed the American College & University Presidents Climate Commitment that pledges Tech will work to eliminate its greenhouse emissions over time. And many student groups, particularly Students Organizing for Sustainability, are working closely with campus administrators to bring more focus on a wide range of environmental issues. Longer term, we are looking to use Earth Hour as an springboard for similar events and policies that continue to reduce our carbon footprint."

No lights affecting public safety will be out; however, the Tech Police Department is expect- ed to have extra patrols during this time.

position, which he accepted.

For a time, there were three perma- nent, along with some occasional part-time employees. In 2006, College administration considered discontinuing machining services and closing the shop. "There was some talk that it was a space issue, as space is a premium and we had five areas for the shop," he said, adding there was a bit of concern among researchers, who would then be required to outsource the projects they needed—advice and nuts-and-bolts, to very minor "can you bend this, cut this" requests.

After the College’s machine servic- es were ruled essential, Nize—at one time part of a three-man opera- tion—became the one-man opera- tion. The shop’s five separate loca- tions shut down in October 2006, and reopened as one shop in its cur- rent location in February 2007. The College of Sciences machine shop is located in the Howey Physics Building basement. Many of the machines are World War II-era, retro- fitted with electronic measurement guides.

For this "new" shop, the process works several different ways. Nize is not only involved with the construc- tion of a specific project, but also with the consultation and design aspects. In some cases, a professor or student presenting the design, requesting pieces and parts be made to specifications.

"About 65 or 70 percent of my time is in the shop, actually doing work," Mize said. "And 10 to 15 per- cent of my time (is) handling the books, paperwork (and) filling out my Pcard report. I spend another 20 per- cent of my time just answering ques- tions, which sometimes becomes consulting—which I spend 5 percent on consulting. I know what [people would say]—‘That’s 120 percent.’ I do what needs to be done to keep the customer base satisfied.”

Mize left the military after joining in 1965 and continued what he started in high school shop and some junior college classes. After completing an apprenticeship and four years of schooling, he became a certified journeyman machinist by the International Association of Machinists and Aerospace Workers. He left the airline after nearly 25 years to join a start-up company which eventually was sold. While the efficiency expert for the board of directors with American Machine Services, an old co-worker called from the College of Sciences shop, asking if Mize knew of anyone who wanted part-time work. "I told him I just might,” he said.

Being a staff of one, Mize said he follows the guideline of taking jobs that allow for eight hours of machine time or less—no more two-year proj- ects for this shop. “Everything that goes beyond that, I refer out to..."
received his bachelor's degree in aerospace engineering. When he stepped down, he was named the first Institute Professor in RPI's history.

In 1982, he formed the Rotorcraft Technology Center at RPI, one of the three that were first established. "In that capacity, I was competing with Georgia Tech, because (Tech) had the first and the biggest of the rotorcraft centers," he said. "The centers were originally established to provide students with sufficient coverage of the rotary wing disciplines so that they would graduate with a full grasp of what the problems are and how to solve them in rotary wing aircraft development."

Loewy never stopped consulting with industry, except for 1965 to 1966, when he was named chief scientist for the U.S. Air Force. When he came to Tech, it was his current position. Aspects of the chair's responsibilities that he described include lecturing and teaching ("I've always taught a course a year."), working with faculty and staff (he calls "co-op listening" and interacting with "extremely bright" students. "The students are active in generating contact," Loewy said.

Co-op, cont'd from page 1

a back-room flight controller in Mission Control Center, wrote a technical report on space exploration research (which he presented at the American Institute of Aeronautics and Astronautics Banquet in Spring 2005), and was the only co-op student selected to support NASA robotics field testing at Meteor Crater, Arizona, in fall 2006.

Ingle has been appointed to a global leadership position. He is vice president of the American Institute for Professional and Technical Practices, and he is involved with several U.S. and international educational associations.

Ingle is also one of the research directors for the Georgia Tech Experimental Aircraft Program and the Tennessee Valley Authority Experimental Power Plant. He is a member of the National Aeronautics and Space Administration's Aeronautics Advisory Board and is a member of the National Academy of Sciences.

He is also the technical director for the Georgia Tech Transportation Research Institute and the Georgia Tech Aerospace Engineering Research Institute. He is a member of the National Academy of Engineering and the American Academy of Arts and Sciences.

Ingle is also one of the research directors for the Georgia Tech Experimental Aircraft Program and the Tennessee Valley Authority Experimental Power Plant. He is a member of the National Aeronautics and Space Administration's Aeronautics Advisory Board and is a member of the National Academy of Sciences.

He is also the technical director for the Georgia Tech Transportation Research Institute and the Georgia Tech Aerospace Engineering Research Institute. He is a member of the National Academy of Engineering and the American Academy of Arts and Sciences.

Ingle is also the technical director for the Georgia Tech Experimental Aircraft Program and the Tennessee Valley Authority Experimental Power Plant. He is a member of the National Aeronautics and Space Administration's Aeronautics Advisory Board and is a member of the National Academy of Sciences.

He is also the technical director for the Georgia Tech Transportation Research Institute and the Georgia Tech Aerospace Engineering Research Institute. He is a member of the National Academy of Engineering and the American Academy of Arts and Sciences.

Ingle is also the technical director for the Georgia Tech Experimental Aircraft Program and the Tennessee Valley Authority Experimental Power Plant. He is a member of the National Aeronautics and Space Administration's Aeronautics Advisory Board and is a member of the National Academy of Sciences.

He is also the technical director for the Georgia Tech Transportation Research Institute and the Georgia Tech Aerospace Engineering Research Institute. He is a member of the National Academy of Engineering and the American Academy of Arts and Sciences.
March 25
Literature, Communication and Culture, along with Modern Languages and the Consulate General of Japan, present “Ugetsu” (1954), the first film in the Japanese Film Series, from 7 to 9 p.m. in the Student Success Center. Other films include “Kwaidan, Parts 1 and 2” (1964) on March 27; “Pulp Fiction 3 and 4” on March 28, and “Sairo” (2001) on March 31. For more information, visit www.cinema.gatech.edu.

The Science Fiction Film Series continues, with Ridley Scott’s “Blade Runner” (1982), from 7 to 9 p.m. in the Century East Commons area. For more information, visit www.lcc.gatech.edu.

March 28
Paula Poundstone brings her stand-up comic routine to the Ferst Center for the Arts at 8 p.m. Tickets are $27 and $37, $21.60 and $29.60 with a subscription. For more information, visit www.ferstcenter.gatech.edu.

March 29
Tony Award-winning singer Audra McDonald performs at the Ferst Center for the Arts at 5 p.m. Tickets are $40 and $50; $32 and $40 with a subscription. For more information, visit www.ferstcenter.gatech.edu.

Conferences & Lectures

March 25
University of Colorado at Boulder Professor Emeritus Dennis S. Milleti presents “Levee Failures in New Orleans: Root Causes, Solutions and Implications for the Engineering Community,” at 4 p.m. in the Student Success Center Clay A. Healey. The lecture is part of the George H. and Faye C. Sparks Forum in Ethics and Engineering. For more information, visit www.iac.gatech.edu.

Westhinghouse Electric Co. Senior Vice President and Chief Technology Officer Regis A. Matzie presents “Westinghouse Advanced Reactors—Fueling the Nuclear Renaissance;” at 11 a.m. in the Manufacturing Research Center Auditorium. For more information, visit www.me.gatech.edu.

March 26
Pan@Tech hosts Stockton LLP associate Clint Wimbish, who presents “Technology Transfers and Aspects of Patentability—Commercializing Nanotechnology,” at noon in rooms 102A and 102B of the Microelectronics Research Center.

March 27
Members of the Solar Decathlon Team will present “Solar Decathlon: Lessons Learned and House Tour” at the next Research Forum, from 11 a.m. to noon in the Architecture Library. For more information, visit www.coa.gatech.edu.

University of North Carolina-Charlotte Professor Scott Smith presents “Machining Revolution in Large Aerospace Components” as part of the Woodruff Colloquium, from 11 a.m. to noon, in the Manufacturing Resource Center auditorium. For more information, visit www.mech.gatech.edu.

March 28
Taiwan Representative to the U.S. Jaushieh Joseph Wu presents “Taiwan, the U.S. and Presidential Elections,” from 11:45 a.m. to 1 p.m. in the Gordy Room of the Warldaw Center.

March 31
Ted Turner will deliver an address and receive the 2008 Ivan Allen Jr. Prize for Progress and Service at the Ivan Allen College of Liberal Arts Founder’s Day Luncheon, 11:30 a.m., in the ballroom of the Georgia Tech Hotel and Conference Center. For more information, visit www.iat.gatech.edu.

Celebrating its 10th anniversary, the Sam Nunn Bank of America Policy Forum presents “Ponomroligization and the Global Nuclear Renaissance: Bridging the Gap,” from 8 a.m. to 5 p.m. in the Global Learning Center. For more information, visit www.inta.gatech.edu.

Biologist Professor Jeannette Yen presents “Biologically Inspired Design at Georgia Tech: Tapping into Sustainability Models” as part of the Spring Greening lecture series by Students Organizing for Sustainability, from 4:45 to 6 p.m. in room 105 of D.R. Smith. For more information, visit www.chbd.gatech.edu.

Faculty/Staff Development

Ongoing
The Office of Organizational Development offers a Web-based tutorial on the basics of using a state purchasing card (P-card). To register, visit www.trainingsweb.gatech.edu.

The Office of Organizational Development offers an Emergency Preparedness Certificate, which consists of several smaller courses, including “Fire Safety,” “Facilities Hazard Training” and “Basic First Aid/Adult CPR/AED.” For more information on scheduling, visit www.orgdev.gatech.edu.

The “Defining Customer Service” certificate program provides campus groups and employees with the foundation for delivering exemplary service, to those both on and off the campus. Four required courses and two electives are offered. For more information, visit www.training.gatech.edu.

Miscellaneous

March 26
The Susan Buikey Butler Institute for the Development of Women Leaders founder and CEO Susan Butler presents “Become the CEO of You, Inc.” from 6 to 8:30 p.m. at the 103 West Restaurant. The event is part of Women on Wednesdays. For more information, visit www.gtalumni.org.

April 10
Faculty and staff volunteers are needed for Sting Break. A Sting Break Volunteer Luncheon and information session will be held April 10 for those who sign up. For more information, visit www.gtalumni.org/site/MallForm/StingBreak.

Classifieds

Automobiles & Motorcycles


2005 Toyota Camry LE. 59k miles, leather, gray interior/exterio, clean. All power, $10,250. 678-231-3678, or e-mail mc1919@mail .gatech.edu.


Real Estate/Roommates

For rent: Studio condo in historic building near Tech, GSI, Aquarium, Centennial Park, Full kitchen and baths, $800/month. Incl. utilities. E-mail lynette.wilson@ buzzcard.gatech.edu or call 404-771-6952.

For rent: New 1BR condo, walking distance of Civic Center. Incl. hardwood floors, maple cabinetry, on-site swimming, workout areas and secure covered parking. From both GSI and Tech, $1,000/month. Gas, basic cable and internet included. Darrel Nason, 678-637-9353.

For rent: 2BR/2BA home in 1815. $1,000/month. Gas, basic cable, internet, pool membership included. E-mail jswann@pinterest.com or call 404-539-2385.

For rent: New 1BR condo, walking distance of Civic Center. Incl. hardwood floors, maple cabinetry, on-site swimming, workout areas and secure covered parking. From both GSI and Tech, $1,000/month. Gas, basic cable and internet included. Darrel Nason, 678-637-9353.

For rent: Studio condo in historic building near Tech, GSI, Aquarium, Centennial Park, Full kitchen and baths, $800/month. Incl. utilities. E-mail lynette.wilson@buzzcard.gatech.edu or call 404-771-6952.

For rent: New 1BR condo, walking distance of Civic Center. Incl. hardwood floors, maple cabinetry, on-site swimming, workout areas and secure covered parking. From both GSI and Tech, $1,000/month. Gas, basic cable and internet included. Darrel Nason, 678-637-9353.

For rent: 2BR/2BA home in 1815. $1,000/month. Gas, basic cable, internet, pool membership included. E-mail jswann@pinterest.com or call 404-539-2385.

Furniture/Appliances

Antique sofa (probably Art Deco) w/elegant swan neck accents. Re-covered in off-white silk, pick up available. $450–$500. OBO (similar on eBay start at $200). E-mail javan@ gatech.edu or call 365-3054.

Unfinished oak dining table, 4 x 6’, and six Windsor chairs, $325 OBO. Pick up available. E-mail kathy504@yahoo.com or call 404-932-9396.

Ads appear and run for three weeks in the order in which they are received. E-mail submissions to editor@comm.gatech.edu.