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THE WHISTLE

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Sam Nunn Forum



Photo by Nicole Cappello

The Global Learning and Conference Center was abuzz last week as academic, governmental and industry leaders gathered for a one-day forum sponsored by the School of International Affairs on "Bioterrorism Preparedness: The Imperative for a Public-Private Partnership."

The challenge of the 2004 Sam Nunn Policy Forum was to consider the adequacy of domestic preparedness in meeting the threat posed by a biological terrorist incident, and to discuss roles and responsibilities of the private sector in the event of a biological incident.

Research study hopes to improve Internet performance

Volunteers needed to collect end-user data

*Elizabeth Campell
Institute Communications
and Public Affairs*

Ever notice your Internet connection seems slow? Ever wonder what's causing it? You are not alone. Millions of users bemoan sluggish downloads and slow e-mail, but rarely know the cause of the delays.

Researchers at Georgia Tech have developed a technology to find out how the Internet is performing from the "regular" end-users' perspectives. With this information, they can design and develop network solutions to relieve the bottlenecks. To do this, they need volunteers for the NETI@home project, which stands for "network intelligence."

Currently industry and academia use data on the Internet's performance measured at various router points out in the Internet, before it reaches the individual user. Georgia Tech researchers think a better approach is to find out how the Internet is performing from the user's point of view — at each personal computer.

"We think a better solution is to measure performance at the individual user level to determine what affects Internet traffic, but currently this data doesn't exist. That's where NETI@home comes in," said George Riley, professor of electrical and computer engineering and adjunct professor in the College of Computing. "We need thousands of computer users to use our free NETI@home software to help us gather this data."

To do this, Riley and graduate student Robby Simpson developed an open source software application that collects network performance statistics such as average response time, connection times and download times. The application reports these statistics to the NETI@home server at Georgia Tech.

NETI@home is designed to be an unobtrusive software system that runs quietly in the background with little or no intervention by the user. The reports sent to Georgia Tech are also stored on the user's computer, so the user can see what statistics are gathered.

NETI@home users select a privacy level that determines what types of data will be gathered, and what will

NETI continued, page 3

Student simulates life on Mars

*David Terraso
Institute Communications
and Public Affairs*

Aerospace engineering student Daniel Hegeman didn't party at the beach this spring break. He went to Mars. Not the actual planet, but the Mars Desert Research Station in the Utah desert as part of an ongoing project studying how humans adapt to remote environments.

The station is run by the Mars Society, a group dedicated to furthering the exploration and settlement of Mars. Every two weeks a group of six volunteers head out to the desert to take part in a simulation of a Mars settlement. The red soil, rocky terrain, remote location and restricted living quarters are similar to the conditions the first astronauts on Mars are expected to experience. While at the station, crew members are asked to do many things that are outside of their field of expertise.

"We have to be amateurs in our

fields, because the astronauts will be doing many tasks on Mars that they aren't experts in," explained Hegeman.

Although NASA isn't officially involved in the project, the Society estimates that 25 percent of the participants are NASA scientists and researchers. The crew spent the week taking rock samples, looking for biological signs in the soil, working with a robotic rover and recording their data so experts at mission control can analyze it.

Hegeman learned about the project from Georgia Tech Research Scientist Jan Osburg, who has spent time at both the desert station and the Society's Flashline Mars Arctic Research Station on Devon Island, Canada.

The extraordinary distance from Mars to Earth means the crew will have less guidance from mission control than other astronauts, said Osburg.

Mars continued, page 3



Photo by Nicole Cappello

Using Internet traffic data collected from volunteers, doctoral student Robby Simpson and Assistant Professor George Riley hope to improve network speed.

“QUOTE— UNQUOTE”

“Beijing feels so powerless and humiliated. For the political survival of the Communist Party, and to capture the rising force of nationalism, they’ll have to do something.”
—*Fei-ling Wang, an associate professor in the School of International Affairs, on recent Taiwanese national elections. Re-elected President Chen Shui-bian has said he wants to pass a new constitution, which could declare independence from China.*
(Cox News Service)

“It’s doable, but it will be a challenge. What we would like to do is use the moon as a science lab basically to prove that humans can live and work on another planet.”
—*Robert Braun, associate professor in the School of Aerospace Engineering, on the goal of the presidential Moon to Mars commission.*
(Associated Press)

Teaching high school students a new respect for math

David Terraso
Institute Communications
and Public Affairs

Math is a four-letter word. Intimidated by its perceived complexity or convinced that the subject has no relevance outside the classroom, many students shun math for more literary pursuits. But the universal language is everywhere. The world economy is built on math. From the computing revolution, to advances in medicine and space exploration, to shopping over the Internet, nearly all the major advancements of this and the past century have their foundations in math. Yet despite the subject’s pervasiveness, many students and parents continue to fear math.

Georgia Tech is working to change that perception through educational outreach programs and a new math competition. Earlier this month, the School held its first high school mathematics competition in nearly 50 years. The goal is to attract both students who are experienced in mathematics competitions as well as untapped talent.

“Math opens doors to almost every discipline,” said Math Professor Yang Wang. “It teaches students analytical abilities that are valued in a number of non-math professions.”

Tech alumna Mary Beth Young, who received a master’s degree in math, said that studying math has helped her tremendously in her law practice and during her stint as a law clerk for U.S. Supreme Court Justice Antonin Scalia.

“Math accustoms you to rigorous thinking and following through the implications of an argument. It helps you identify logical problems, which is useful in law and many other disciplines,” she said.

Tech used the competition as a recruiting event with activities for both students and parents. Approximately 250 high school students from Georgia and neighboring states participated in a competition that consisted of two hour-long tests followed by fun activities centered around math. While the students



One of the ways teachers have made math less abstract is by showing how it relates to other disciplines such as music.

were busy with the exams, parents and teachers listened to presentations from Tech’s admissions counselors and mathematics professors. During the afternoon, students, parents and teachers toured the campus.

“There’s a lot of talent that can be cultivated,” said Wang. “The competition is one way we’re hoping to do that.”

Graduate students such as Gail Rosen are another way. Rosen is a fellow in Georgia Tech’s Student and Teacher Enhancement Partnership program (STEP). She spends several days a week teaching trigonometry, pre-calculus and physics at Tri-Cities High School, a visual and performing arts magnet school in Fulton County.

“A lot of students will say they don’t like math, but I think they don’t realize how important it is,” said Rosen. “Even the honors students don’t all understand why they need to know math.”

Rosen said she’s been teaching her students how math comes up in everyday life from simple things such as calculating credit card interest to creating music, a topic that hits home at the magnet school. She’s

bringing eight students from Tri-Cities to the competition.

Music is math you can hear. Rosen demonstrated how computer programs use sine waves to make sounds. “I have the students add two sine waves and they make a dial tone and then I have them add more, and they see they can make other sounds,” she said. The demonstrations, said Rosen, gave the musically inclined a new respect for math.

A new respect is needed. According to an assessment done by the National Center for Educational Statistics (NCES) in 2000, Georgia still lags behind the national average in math performance in grades four and eight. And Georgia had the lowest average math SAT score of any state in the country last year. To boost performance, the Georgia Department of Education is proposing the adoption of a more challenging math curriculum, modeled after Japan’s curriculum.

For more information...

School of Mathematics
www.math.gatech.edu



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photo by Gary Meek

9/11 Memorial designer visits Tech

Michael Arad, a 1999 graduate of the College of Architecture’s master’s degree program, visited campus March 22 for an informal discussion of his “Reflecting Absence: A Memorial at the World Trade Center Site.” The proposed memorial was chosen for construction this past year after the largest design competition in history.

During his visit, Arad discussed early drafts and ideas for the memorial, the trials and tribulations involved in submitting his proposal, and the tumultuous excitement he experienced since it was chosen for construction.

“I was very personally affected by the Sept. 11 attacks, and designing a memorial was a way for me to deal with what happened,” he told students and faculty. But working with some of the world’s leading designers and landscape architects — not to mention the families of victims — hasn’t been easy. “The feelings and emotions of the families are very important to me. These memorials need to serve them more than anyone else. I’ve always felt lucky that I have their respect in this process, and they’ve always been very appreciative of what I’m trying to do,” he said.

Remembering Ivan Allen Jr.



photo by Nicole Cappello

As part of Ivan Allen College's Founders Day celebration last week, a morning panel discussion sought to provide history and context for the years (1962-1970) that Ivan Allen Jr. was mayor of Atlanta. Allen died in July 2003 at the age of 92.

As the only Southern elected official to support the Civil Rights Act of 1964, Allen stands out as a progressive, realistic and peaceful voice during a turbulent period. Much of the discussion centered around the racial tensions of the time, noting how Allen, according to Public Policy Professor Georgia Persons, "stood against a strong tide of bigotry, amending the socio-political soil so that deep social change could take place without bloodshed."

From left, George Washington University Professor Clarence Stone; History, Technology and Society Professor Ronald Baylor; author Paul Hemphill; and Professor Persons participated in the panel.

Mars, cont'd from page 1

"Unlike on the International Space Station where there is a one- or two-second delay, on Mars there will be a 20-40 minute delay. The crew will have to do so many things themselves," said Osburg. "Mission control will turn into mission support."

As an aerospace engineer, Hegeman said he was glad the work he was doing could one day help NASA put a crew on Mars. As a student he had a slightly different feeling. "It was a lot of fun," he said. "It was spring break on Mars."



Daniel Hegeman wanted an experience similar to a Martian explorer. On Mars, taking a space helmet off is a bad idea.

NETI, cont'd from page 1

specifically not be reported. The application currently offers three privacy levels, allowing the user to choose the level of detail of the information collected, such as "fully reports IP addresses," "reports only the network portion of the IP address" or "does not record any IP addresses."

The researchers will collect the data and make it available to other network researchers.

They expect the data will show trends of Internet performance or indicate security problems such as a huge spike of activity that might be caused by worms.

"Among the other things we anticipate this data will help us with is to give a reasonable picture of what Internet users demand of the network during normal activities. This will lead to better simulation models of Internet users' behavior, leading to more accurate simulations," said Riley.

Computer users around the

world are encouraged to download the free application to their computer, to help researchers in the quest for improved Internet performance.

For more information...

NETI@home

www.neti.gatech.edu

Internet Weather Report

weather.uci.edu

IN BRIEF:

EDI to run development center for minority business

The Economic Development Institute (EDI) has been awarded a cooperative agreement from the U.S. Department of Commerce's Minority Business Development Agency (MBDA) to manage the Georgia Minority Business Development Center (GMBDC).

The new center will provide business and technical assistance to minority entrepreneurs in Georgia, helping them gain access to capital and markets, improve their business operations, and grow both revenue and jobs.

The center is part of MBDA's new strategic direction that will focus resources on the 16 to 20 percent of minority firms responsible for more than 90 percent of the revenue and jobs generated by minority-owned companies in the United States. Thus, the GMBDC will concentrate its efforts on those firms that have annual sales in excess of \$500,000, have rapid growth potential, or the capability to generate significant employment and long-term economic growth.

Donna Ennis, manager of product marketing and program services with EDI, has been named project director of the GMBDC. Ennis' past experience has involved directing marketing programs, providing training and program advice to customers, and developing special programs.

"Strategic alliances and partnerships with key individuals at lending institutions, government agencies and corporations will be our top priority," said Ennis. "We are committed to knowing where the capital and markets are, and more importantly, how to get access to them for our clients."

Bracket busters

For those who follow men's college basketball, Joel Sokol, an assistant professor in the School of Industrial and Systems Engineering, has done some research.

"With so many NCAA tournament games coming down to a last-second shot," he said, "one might wonder what the chances are that the better team will win a close game."

The answer, it seems, is not much more than 50 percent.

By compiling home-and-home data from the 1999-2000 through 2002-2003 seasons, he has learned that a team that wins by one point is only 4 percent more likely to win the rematch than a team that loses by one point. If the better team generally won close games, that number would be significantly higher.

"So, the next time your bracket is busted on a made or missed last-second shot, don't blame the teams," he said, "blame bad luck instead."



GMBDC staff from left to right: Maria Hill, Vivian Edwards, Michael Smith and Donna Ennis.

CAMPUS EVENTS

Arts & Culture

Mar. 31

The Georgia Tech Orchestra and Jazz Ensemble will perform a concert in honor of the 60th anniversary of D-Day, at 8 p.m. in the Ferst Center for the Arts. The evening will be a benefit for the families of U.S. troops killed in Afghanistan and Iraq. For tickets, call 894-9600.

Apr. 1

The School of Literature, Communication and Culture hosts a McEver Poetry Reading featuring former U.S. Poet Laureate Billy Collins at 7:30 p.m. in the LeCraw Auditorium. For more information, visit www.iac.gatech.edu/poetry.html.

Apr. 13

The Georgia Tech Concert Band and Percussion Ensemble will present their annual spring concert at 8 p.m. in the Ferst Center for the Arts. For tickets, call 894-9600.

Brown Bags/Conferences/Lectures

Apr. 5

The School of Mechanical Engineering's Woodruff Colloquium Series continues with Marc Madou, professor of mechanical and aerospace engineering at the University of California at Irvine, on "Nanotechnology: Icarus Revisited?" at 11 a.m. in the MaRC Auditorium. For more information, e-mail peter.hesketh@me.gatech.edu.

Apr. 6

The School of Materials Science and Engineering's Institute-wide Seminar Series welcomes Julia Weertman, professor emerita in the Department of Materials Science and Engineering at Northwestern University, on "Mechanical Behavior of Nanocrystalline Metals," at 3 p.m. in room 183, Love Building. For more information, call 385-2472.

Apr. 7

The School of Psychology's Colloquium Series welcomes Christopher Newland, professor of behavioral toxicology and pharmacology at Auburn University, on "Aging Begins in the Womb: Environmental Contaminants, Nutrition and Development across the Lifespan," at 3:30 p.m. in room 250, Coon Building. For more information, e-mail christopher.herzog@psych.gatech.edu.

Apr. 7

The College of Management's IMPACT Speaker Series welcomes Don Chapman, chairman of Tug Investment Corporation, at 4:30 p.m. in the LeCraw Auditorium.

Faculty/Staff Development

Apr. 6

The Center for the Enhancement of Teaching and Learning's IT Tuesday series hosts "Establishing an Online Presence in Your Course," at 11 a.m. Sessions are 30-45 minutes in length and can be accessed from a personal computer. For more information or to register, visit www.cetl.gatech.edu.

Apr. 13

The Office of Sponsored Programs hosts an informal workshop on "Conflict of Interest," with Associate Vice Provost for Research Jilda Garton, at noon in the Research Administration Building. To register, call 894-6945.

Miscellaneous

Apr. 1

The deadline for students to apply for the President's Undergraduate Research Award. Application is available online. For more information, visit www.undergradresearch.gatech.edu/institute-wide.htm.

Apr. 6

The Student Involvement Office offers monthly orientations for student organization advisors and officers, consisting of basic information about how to do business at Tech. These sessions are not required; however, all advisors are invited to attend. Orientation will take place at 5 p.m. in room 203, Student Services Building. E-mail danielle.mcdonald@vpss.gatech.edu for more information.

Apr. 6

The Georgia Tech Business Network sponsors "Analyzing the Retail Industry," featuring Wal-Mart CEO Michael Duke and Dollar General CEO David Perdue, at 6 p.m. in the Management Building's LeCraw Auditorium. For more information, visit www.gtbn.org.

CLASSIFIEDS

APPLIANCES

Microwave, full size, stainless steel, Emerson, less than 2 years old, \$50. E-mail Louis at gtg515k@mail.gatech.edu.

White Amana cooktop, gas. Kenmore digital built-in oven, white. Both in good condition. \$100 for both. Call 770-844-0852.

White Jenn-Air downdraft cooktop. Two fixed burners, swappable burner module/grill/griddle. \$200 OBO. E-mail bleahy@cc.gatech.edu.

AUTOMOBILES

1985 S10 Blazer. V6, 5-speed, 4WD, \$2,700 OBO. E-mail rob.muzio@gtri.gatech.edu or call 770-528-7108.

1991 Isuzu Trooper. 132K miles. 4WD, maroon w/ gray interior. \$2,000. Call Rick at 404-550-6011.

1993 Mercury Cougar XR7. Burgundy with gray interior, 155K miles, good condition, 2 door, automatic, 3.8L V6, power everything, keyless entry, tinted windows, cruise, airbag, very clean. \$1,900. Call 770-649-1819.

1994 Lincoln Towncar, signature series. Completely loaded. Excellent condition. 143K miles, \$3,500. Call Theresa Lummus, 706-663-2306.

1996 Ford Contour. 140K miles, \$1,000 as is. Call Robin, 894-1953.

1999 Suzuki Grand Vitara. Excellent condition and maintenance record, 2004 inspection, 4WD, \$8,950. Call 404-814-9154.

FURNITURE

Bedroom set, maple finish, queen headboard, 7-drawer dresser w/large mirror, 2 night stands w/2 drawers each. Lots of storage. Good condition. \$300. Call 385-4901.

Moving sale: kitchen table with 4 chairs, \$130. Queen-size futon with solid wood frame, \$130. Solid wood TV stand, \$140. See www.prism.gatech.edu/~gte689e for pictures. Call 404-423-0917 or e-mail jh341@mail.gatech.edu.

Steel-bunked futon, couch/bed on bottom, twin mattress capable on top. Red, sturdy, great condition, wonderful design. \$130. Call 404-894-2753.

Queen-size oak waterbed frame, headboard, and mattress with matching chest and dresser with mirror, \$500. Call 385-0042 or e-mail chris.hamlin@oit.gatech.edu.

White solid maple baby bed and mattress by Simmons, \$145. White chest of 4 drawers, contemporary style, \$75. White tubular twin bed, no

mattress, \$45. Solid wood port-a-crib with mattress, \$45. Call 770-923-1048.

Teen bedroom set, white/yellow, queen size headboard/footboard w/railings, 2 dressers with lots of storage, vanity with mirror, matching chair and hutch. \$300. Call 770-825-0087 or e-mail kemp6735@aol.com.

REAL ESTATE/ROOMMATES

For rent: duplex in Home Park, adjacent to campus, 2BR/1BA, hardwoods throughout, fireplace, central heat and air, \$875/month. Available April 15. Call Kathy, 404-876-3062.

4BR/3.5BA home for sale in Morningside. 15 minutes to Tech, 4.5 years old. Fourth bedroom/bath: perfect teen, au pair or home office suite. \$489,900. Call 404-333-9329.

Fully furnished downtown 1BR condo for sale. www.thewilliamoliver.com. All utilities (cable, DSL, gas, electric) paid with association fee. 10-year tax abatement. Contact Mark Camp, 404-786-5400. FMLS# 858944.

House for Sale/Vinings: approx. 5,500 sq. ft. finished living space. 6BR/4.5BA. Bright, open floor plan. Wooded back yard. 20 mins. to campus. \$600,000. See: <http://homescenesusa.com>, use ID# 892684.

For rent: 1BR apartment at 1219 Francis St. Downstairs of charming, light-filled home w/deep lot on quiet street. W/D; ample closets. \$900. Call 404-816-8370.

For sale, 1035 Curran Street, \$249,900: Totally renovated 3BR/2BA bungalow in Home Park. Gorgeous hardwoods, new Berber, new kitchen, new bathrooms. Call 404-664-2471 or virtual tour at www.showing247.com/1035curran.

3BR/2.5BA home for sale in Conyers. 2-story, LR, DR, den, fenced, great schools. \$126,900. Do MLS Home Search for ID # 1455486 at www.rae-sellsatlanta.com or call Maria at 678-207-7316.

MISCELLANEOUS

1977 Kawasaki KE100 motorcycle. Only 953 miles, trail and street legal bike. It has high fender flaps but also lights, blinkers, etc. \$400. Call 894-7185 or e-mail aist26gt@earthlink.net.

Five-stone diamond ring, 1 carat total, 14kt. yellow gold, \$500. Call 894-0870 or e-mail marie.mcvay@icpa.gatech.edu.

Ads will run for a maximum of three issues. The Whistle reserves the right to edit ads longer than 30 words.