**Budget issues addressed**

Institute moves to enact furloughs for faculty and staff

**FURLOUGHS** continued on page 3

**Keeping pace**

Tech maintains position in 2009 U.S. News undergraduate rankings

**FLU** continued on page 4

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**Health planning**

Stamps Health Services director details Institute’s plan for fall flu season

Stamps Health Services Director Jonathan Baker, who joined Tech’s staff in July 2007, has an undergraduate degree in science from McMaster University, a nursing school and an MBA from the University of Georgia.

“I have a dual background, both a clinical background and [one in] administration. It’s good — I can speak both languages. I’m able to talk with doctors and know the clinical applications, and I also understand the administrative side.”

The Whistle had an opportunity to talk with Baker about the Institute’s preparations in the event of multiple H1N1 cases on campus as students return for the fall semester.

Have you seen many students coming in with flu-like symptoms?

In the summertime, we don't see many influenza-like illness [ILI] in the summer, which is atypical. We have had 35 cases of suspected H1N1 flu, with several of those confirmed by the state lab to be the novel-type H1N1, which everyone is concerned about.

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**FURLOUGHS**

To minimize the effect on campus, the current plan for Georgia Tech faculty and staff calls for four unpaid days to be taken Dec. 21–24, ahead of Winter Break, with two more days to follow in spring.

Faculty and staff members can opt to have the equivalent of one day’s pay withheld from September, October and November’s paychecks. Those funds will be applied to the December paycheck, which will include the four unpaid days.

Exemptions include GTRI employees, H-1B visa holders, faculty and staff whose salaries are paid by sponsored dollars, and employees making less than $23,751.85.

Budget and furlough updates are available at:

[www.gatech.edu/budgetupdate](http://www.gatech.edu/budgetupdate)

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**NEWS**

Patch takes ouch out of shots

Scientists, led by Mark Prausnitz, a professor of chemical and biomolecular engineering at Georgia Tech, have developed a patch that has five rows of tiny “microneedles.” (Time)

http://tinyurl.com/mccke3

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**PEOPLE**

2009 young innovators under 35

[Assistant Professor] Andrea Thomaz has designed machine learning algorithms based on human learning mechanisms and built them into her robots Junior and Simon. (Technology Review)

http://tinyurl.com/ohsyef

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**EVENTS**

**September 12**

“11th Commandment: Thou Shalt Laugh,” featuring comics Willie Brown and Woody, Small Fire and Marcus D. Wiley, will be at 7 p.m., in the Fert Center for the Arts. Tickets are $27.50 to $40.50. (Tickets purchased in August are 10 percent off.)

www.ferstcenter.gatech.edu

**September 25**

The Ferst Center for the Arts presents jazz keyboardist Keiko Matsui at 8 p.m. Tickets are $36 and $46, $29.00 and $36.00 with a subscription.

www.ferstcenter.gatech.edu

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**RESEARCH**

Software tools improve ID of cancer biomarkers

[The program was] developed by May Dongming Wang and her team in the Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University. (Genetic Engineering News)

http://tinyurl.com/kvaj3w

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**CONFERENCE**

**August 25**

The Center for International Strategy, Technology and Policy (CISTP) presents a lecture by Jonathan M. Stempel, as part of CISTP's series on “National Security in Obama Year One,” at 11 a.m. in room 1116 of the Klaus

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**THE Whistle**

**Budget issues addressed**

Institute moves to enact furloughs for faculty and staff

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www.whistle.gatech.edu

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**Tech News Room**

regularly in the Georgia and stories will be published bi-weekly during the academic year.
Research

Surgery preparation

MRI simulation of blood flow helps plan child’s delicate heart surgery

ABBY VOGEL

RESEARCH NEWS

Tech researchers, collaborating with pediatric cardiologists and surgeons at The Children’s Hospital of Philadelphia, have developed a tool for virtual surgery that allows heart surgeons to view the predicted effects of different surgical approaches.

By manipulating three-dimensional cardiac magnetic resonance images of a patient’s specific anatomy, physicians can compare alternative approaches to affect blood flow and expected outcomes, and can select the best approach for each patient before entering the operating room.

In the August issue of the Journal of the American College of Cardiology: Cardiovascular Imaging, the researchers describe the surgical planning methodology, detailing how the tool helped them to plan the surgery of a 4-year-old girl who was born with just one functional ventricle instead of two.

Two in every 1,000 babies in the United States are born with this type of defect. These children typically suffer from low levels of oxygen in their tissues because oxygen-rich and oxygen-poor blood mix in their one functional ventricle before being redistributed to their lungs and body.

To correct this, the children undergo a series of three open-heart surgeries—the so-called staged Fontan reconstruction—to reshape the circulation in a way that allows oxygen-poor blood to flow from the limbs directly to the lungs without going through the heart. While these vascular modifications can eliminate blood mixing and restore normal oxygenation levels, surgeons and cardiologists must ensure that the lungs will receive proper amounts of blood and nutrients after the surgery so that normal development occurs.

“Preoperatively determining the Fontan configuration that will achieve balanced blood flow to the lungs is very difficult, and the wide variety and complexity of patients’ anatomies requires an approach that is very specific and personalized,” said Wallace H. Coulter Department of Biomedical Engineering Regents’ Professor Ajit Yoganathan. “With our surgical planning framework, the physicians gain a better understanding of each child’s unique heart defect, thus improving the surgery outcome and recovery time.”

The patient described in this paper, Amanda Mayer, 4, of Staten Island, N.Y., had previously undergone all three stages of the Fontan procedure at The Children’s Hospital of Philadelphia, but developed severe complications. Her oxygen saturation was very low—only 22 percent—compared to normal levels of at least 95 percent—which indicated the possibility of abnormal connections between the veins and arteries in one of her lungs.

To improve the distribution of these hormonal factors to both lungs, the surgeons needed to re-operate and reconfigure the patient’s cardiovascular anatomy. Georgia Tech’s surgical planning framework helped Thomas L. Spray, chief of the Division of Cardiothoracic Surgery at Children’s Hospital, to determine the optimal surgical option.

“This tool helps us to get the best result for each patient,” said co-author Mark A. Fogle, an associate professor of cardiology and radiology, and director of Cardiac MRI at The Children’s Hospital of Philadelphia.

For more information

www.bme.gatech.edu

Go Jackets, Go Green

Game Day Recycling initiative moves into its second year

ROBERT NEMETH

COMMUNICATIONS & MARKETING

Coming off a busy summer, Office of Solid Waste Management and Recycling Manager Cindy Jackson is gearing up for the Institute’s Game Day Recycling

Begun last year, the recycling initiative sought to enlist the help of campus tailgaters and visitors in the stadium’s suites. From the first game of the season, student volunteers on campus gave blue-colored compostable bags to fans to place all of their recyclable waste in—aluminum cans, plastic and glass. Facilities Department employees collected the bags after the games.

Recycling Services collected nearly 12 tons of material from the fans of seven home games last year. In the first game—Tech vs. Jacksonville State University—1.1 tons of waste was collected.

“While this can have a slight financial advantage, we’re helping to take materials out of the waste stream, which in turn reduces landfill costs,” said Jackson, who is also the director of Georgia Tech’s Earth Day celebration.

With one less home game this year, the program has doubled its recycling target from last year. This year, the office seeks to collect 20 tons through six home games. With a few more volunteers and an expanded service area, Jackson says she thinks it’s a workable target. “This is our second year,” she said. “So many more people are aware of the program, and should hopefully be looking for it.”

Although volunteers worked mostly to distribute bags to tailgaters last year, this year sees expanded opportunities. The initiative is now recruiting “recycling ambassadors” to work at the gates helping to direct visitors to place recyclables in blue bins. Roughly 40 volunteers will be needed each game.

“We’re going to reach out to student organizations and offer an ‘adopt-a-game’ initiative,” she said. “We want to make it a tradition for students here, starting with the freshmen, to help the games go green. We’re hoping people take these behaviors learned from the games and incorporate them into their daily lives.”

During game days, recyclable materials do not need to be sorted. Glass, aluminum and plastic can be placed in the same bins and bags. Jackson said she hopes this can be the start of a waste-minimization effort across campus—and beyond.

For more information

www.recycle.gatech.edu

Ajit Yoganathan

Robert Nemeth
The symposium, scheduled from 11 a.m. to 2 p.m., was conceived as a first effort in the new academic year for the office to engage the Tech community in a dialogue regarding the Institute’s vision and strategy for academic diversity within Tech faculty and leadership. Experts from other post-secondary institutions as well as campus leadership will speak and lead discussions on their experiences with expanding diversity in various academic settings.

“Your approach to academic diversity is the same as that to my academic field,” said Barabino, who also is the associate chair for Graduate Studies in the Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University. “It’s a research-driven, literature-based scholarly approach.”

Barabino said she wants the symposium to focus on university administration and faculty and what efforts they can undertake to assist with institutional change. “There have been several links shown between faculty diversity and increased student diversity and achievement,” she said. She also references University of Michigan Professor Scott E. Page’s research, published in “The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies,” on evidence that diverse groups deliver better results in solving complex problems than a comparable homogeneous group.

“When addressing disparities in post-secondary education— in STEM [Science, Technology, Engineering and Mathematics] fields in particular—there’s a tendency to focus on ‘priming the pipeline’ and not give sufficient attention to the leaks that occur at the transition points,” Barabino said, referring to pulling underrepresented students into an institution, but not strategically providing for their success throughout the academic and professional career path. She says her office seeks to provide faculty and those in leadership positions with resources and assistance to enhance faculty and student diversity and ensure equity and inclusion in all research and educational pursuits.

“We need to have more collective responsibility with the Institute to lead by example in creating a culture and environment that allows all members of our community to excel and realize their full potential,” she said. “In this regard, collective and personal responsibility is the same. Everyone has the ability to be a leader in their own sphere of influence.”

President Bud Peterson will provide opening remarks for the Diversity Symposium, followed by Provost and Vice President for Academic Affairs Gary B. Schuster. After brief introductions and talks, guest speakers will participate in a panel discussion, followed by a jump-start campus dialogue. These experts have demonstrated leadership in their respective institutions, showcasing the link between faculty and student diversity.

Barabino said.

Gertrude Fraser is vice provost for Faculty Advancement at the University of Virginia. She reports to and assists the provost on promotion and tenure, recruitment and retention, faculty policy and procedures, and searches and training.

Prior to her appointment, she was a program officer in higher education at the Ford Foundation, where she spearheaded initiatives on diversity in higher education and interdisciplinary programming in women’s and African-American studies. According to Barabino, she brings a unique perspective to the gathering, as her office is on the institutional level.

Richard Tapia is a computational and applied mathematician, professor and the director of the Center for Excellence and Equity in Education at Rice University. He is nationally recognized for his educational research and applied mathematics.

Rice’s Computational and Applied Mathematics professor and the director of the Center for Excellence and Equity in Education at Rice University. He is nationally recognized for his educational research and applied mathematics.

The symposium will conclude with a discussion on diversity in higher education and interdisciplinary programming in women’s and African-American studies. According to Barabino, she brings a unique perspective to the gathering, as her office is on the institutional level.

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“Novel-type” H1N1—what is that?
There are other H1N1 viruses besides the novel H1N1, which was first identified as “swine flu.” The novel type is the one that we are all immunologically susceptible to, because we, as a population, have had no prior experience with that virus. This virus has recombined itself and drifted from the previously known genetic basis for viruses, which is how epidemiologists predict the seasonal flu every year. We can do a rapid test that tells us influenza A or influenza B is present. H1N1 falls under influenza A. To determine if novel H1N1 is present, a nasal sample has to be sent to the state lab for subtyping.

Some universities are taking a real ramped-up approach to this flu, while others are toning it down for the fall. What is your opinion on this?
Tech has found a happy medium on not creating panic. We’ve worked pretty hard on that. When we identified our first case on campus, we locked ourselves in a room and were working in crisis-management mode; discussions and actions proceeded from there. We have a very logical, systematic approach.

What is Tech’s procedure for students if ILI?
When students identify to Health Services and are having ILI, they will put on a mask. The mask identifies him and also protects anybody in the environment. Because they’re identified pretty quickly, they will be taken to a room that is assessed by a registered nurse or physician. If they meet the criteria for ILI, we will likely perform a rapid test on them.

How long does that take?
It’s pretty quick, about 20 minutes maximum. It’s 70 percent effective, which is a bit of a challenge, but that doesn’t mean we won’t rule them out for having suspected H1N1.
At that point, it becomes more of a logistical issue of where does the student go to next. Our preference is for students to go home and self-isolate. “Home” means if they are a residential student and they live within three hours of campus, they can go home or for their parents to come and retrieve them.
We ask them—and this has changed in the last year because of CDC guidelines and recommendations, to isolate until they are fever-free for 24 hours, without taking any fever-reducing medication.

If going home off-campus is not an option, they will stay on campus where they will be fever-free for 24 hours, without taking any fever-reducing medication. The mask identifies him and also protects anybody in the environment. Because they’re identified pretty quickly, they will be taken to a room that is assessed by a registered nurse or physician. If they meet the criteria for ILI, we will likely perform a rapid test on them.

What about steps for prevention?
Faculty members can remind their classes—and follow themselves—excellent hygiene practices: washing hands, covering coughs and sneezes. Nothing beats a good old fashioned hand washing—20 seconds with soap and water. Hand sanitizer is great, too. [The Institute] has made some changes to put hand sanitizer in key locations around campus. There are a lot of other bugs out there besides H1N1. The virus is not the only bug we will be with, and that will be different this year.
I learned from an Emory epidemiologist that our hands have so much chemical on them just from the environment that the virus doesn’t live very well on our hands. It typically lives on surfaces, and that’s where people need to make the connection. People hear “wash hands and cover your cough.” But the risk they have is from the cough or the sneeze ending up on my desk. It’s going to live there for a couple of days.

Wiping hard surfaces, good hygiene in the dorm rooms, or in faculty and staff offices, working with the environmental services teams will help cut down on the spread of illness. And if someone is exhibiting flu-like symptoms, encourage them to go home. And then sanitize that person’s work station really well.

What is the plan with vaccines?
Well, let’s start with seasonal flu. We’re going to have a robust vaccination program like we always have every year. We’re going to attempt to distribute them early. Tentatively—depending on when suppliers provide us with the vaccine—have scheduled the first date to be Sept. 23, which is about three weeks earlier than normal.
We want to get that vaccine out so there’s no potential for overlap with the H1N1 vaccine. We encourage people to get their shots as early as possible. It’s included in the health fee for students, and it will be $25 for faculty and staff. The majority of sites will be in the Student Center, but we’ll also be in Tech Square. It will be more dates than last year, in which we distributed 2,700 flu shots—which was double the year before. We were very aggressive last year in getting out on campus, trying to make it more convenient. We’re hopefulling to deliver more shots this year, but that depends upon the availability of the vaccine.
What about an H1N1 vaccine?
It’s been reported that the vaccine could be ready as early as September, but it’s more likely to be October. The vaccine will come from the federal government through the national stockpile for emergency medications. Fortunately, we have a good relationship with the Fulton County Health Department, and we are a sentinel site for the CDC in tracking flu or influenza-like symptoms. We have requested a large amount of vaccine from the National Stockpile. We’re hoping to deliver more shots this year, but that depends upon the availability of the vaccine.

In the future, I know I can’t know how much will be very much a formal process for who will receive the vaccine by category. First will be health care providers, then you would prioritize according to the more susceptible populations. The prioritization will be defined by the federal government—it will not be defined by Georgia Tech. We will do our best to acquire as much as possible and distribute them as effectively as possible.
What else can people do?
Well, that makes the point that vaccination is not the primary tool for mitigating consequences of the virus. You get back to the basics: Again, you have hand-washing, social distancing and better hygiene. And let’s face it, we can all practice a little better hygiene.

For more information on flu symptoms and shot schedules, visit www.health.gatech.edu. For more of this interview, visit The Whistle online.

For more information on DIVERSITY symposium, visit www.diversitysymposium.gatech.edu.

For more about this, visit The Whistle online.

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DIVERSITY, continued from page 3
in producing women and under- represented minority mathematici- science doctoral recipients. “I’ve followed him for years,” Barabino said. “He’s an interna tionally renowned mathematician, who is also has devoted his career to boosting STEM populations and developing programs for minority populations.” Cathy Trower is director of the Collaborative on Academic Careers in Higher Education (COACHE) at the Harvard University Graduate School of Education. The collaborative was conceived to create a comprehensive competition among U.S. universities to create a “great place to work.” Trower has pioneered a significant amount of research, such as women in science, fac-ulty recruitment and retention strategies, issues facing faculty, and tenure policy and practice.
Her perspective is unique. Barabino says, because not only has Trower written about diversity among student and faculty popula- tions, but also has conducted research.
After the panel discussion, attendees will break for lunch, where questions at each table will encourage discussion within the group. “You’ll never succeed if you can’t have open dialogue in an academic setting,” she said.
Throughout the academic year, she says the VPAD office will hold follow-up activities. “The ability of institutions to achieve success and greatness is severely hampered if we ignore untapped talent and fail to pro vide educational and research opportunities to all sectors of our population,” Barabino said. “Register online at Sept. 1 for either the panel or both the panel and luncheon.”

For more information on DIVERSITY symposium, visit www.diversitysymposium.gatech.edu.

FLU, continued from page 1

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We ask them—and this has changed in the last year because of CDC guidelines and recommendations, to isolate until they are fever-free for 24 hours, without taking any fever-reducing medication.

If going home off-campus is not an option, they will stay on campus where they will be isolated under the same precautions. In all cases, we give them a care kit with instruc tions and also take an inventory of their previous contacts within the last couple of days.

Through this process, we can get a better idea if we’re building to something larger. If we have three cases come in, and they’re all from the same residence hall, or on the same floor, that will hopefully draw that information out.
It seems like the planning has been fairly comprehensive.
Even with the student’s living situation is a little bit different. When we first started planning this, at first we had some very hard and fast rules. But we have a more flexible and reasonable approach, and that’s handled by the process of moving into Housing this year. It is the novel H1N1 virus—so far—is present, to be no more severe than a seasonal flu. The risk is if the virus mutates any further and becomes more virulent. This is why we take this very seriously.

How can faculty or staff assist students?
First off, if they notice someone who is appearing ill, they can direct them to Stamps Health Center. We’re set up to help the students, and we’re an excellent resource for students to get back in action as quickly as possible.
If a student does have suspected H1N1 faculty should be accommodating in allow ing that students may need some extra time for assignments and projects. This may be a different year, where there will be more stu dents that have that type of a situation.
Every Thursday I’m aware of on the academic side of Georgia Tech, they have held discussions and are ready for that.

For more information on DIVERSITY symposium, visit www.diversitysymposium.gatech.edu.

Community

www.whistle.gatech.edu