Upcoming program encourages dialogue on divisive issues

Next week Tech students will host Finding Common Ground, a series of talks designed to promote intellectual discussion and civility on campus. Consisting of three workshop sessions and culminating with a public address by poet Maya Angelou on Nov. 15, the series was spearheaded by the Student Government Association (SGA), with support from the administration. The Whistle contributor David Terraso recently spoke with Alison Graab, undergraduate SGA president, and Dean of Students John Stein about the state of public discussion on campus.

What is Finding Common Ground? 
AG: It’s an idea (students) came up with to encourage dialogues on campus. So, we have three small group sessions comprised of 50-75 students each that are supposed to bring students from different facets of the community to the same table, teach them skills on how to dialogue on difficult issues and also help them understand the perspective of other students on campus.

When you say “difficult issues,” what do you mean by that? 
AG: I think it centers on differences in opinions. The war, in particular, is a difficult issue for students to converse about and express their different views civilly. There have been a number of times where students tried to promote dialogue and did so in a controversial way to spark interest, but the reaction from other students was to try to shut the dialogue down — they just wanted to see it go away rather than conversing and learning from it.

Is that the way Georgia Tech might have handled controversial speech in the past? 
JS: I don’t think that’s how Tech handled it in the past. What’s different is that we are having to confront and problem-solve situations that have not occurred on this campus often in the past. It’s a new day for us in terms of dealing with important issues that are playing out both here on our campus and in the larger world. Our students come from all over the world. They bring their culture and their history; they bring their concerns of life back home when they’re on the Georgia Tech campus.

Some choose to express those concerns in more public ways.
AG: I think you’re right, but I do think there’s been a lag time in the learning from administrators on how to react, and I’ll give an example. When an e-mail was sent out by the African American Student Union (in response to changes in the Housing Department’s speech code for residents) stating “did you know it’s OK to use the ‘n-word’ at Georgia Tech?”, the reaction from administrators was very intense. I think the feeling some administrators had was that it had to be stopped.

JS: Like I said, I think we’re in new territory. Today, some students are surprised that we would allow a student organization to send out an e-mail using a controversial word like that, or trigger-word, but others felt like there was nothing wrong with it — they were exercising their right to free speech.

I think it goes back to the fact that there are some students, faculty and staff wondering whether these recent changes in the campus climate are in the best interest of Tech’s future. Beginning to answer that question is what Finding Common Ground is all about — getting the community engaged in a dialogue about important issues pertinent to our campus. Some of this is new for us, but for other colleges and universities, it’s part of the their daily fabric and culture.

Why is it new for Georgia Tech? 
AG: It’s not surprising that students are changing what they do on campus and how much they speak because, specifically, there’s a leadership program now, there’s an international program, an undergraduate research option, and an honors program that specifically makes its students attend speaker series and have conversations with the speaker and engage in intense debate. It’s not surprising to me that they’re continuing those sorts of things outside of the classroom.

Common Ground continued, page 2

Korea conference studies international challenges of the new century

A timely forum on geopolitical partnerships
Elizabeth Campell
Institute Communications and Public Affairs

When the Center for International Strategy, Technology and Policy in the School of International Affairs began planning the Korea Conference several months ago, they had no idea just how timely the subject matter would be. North Korea shocked the world with its successful nuclear test in early October, and the United Nations Security Council responded by unanimously voting for sanctions against North Korea.

Last week, North Korea hit the news again by surprising everyone for agreeing to return to six-party talks on nuclear disarmament. In addition, South Korea has celebrated the recent election of Kim Dae-jung, minister of foreign affairs and trade of the Republic of Korea, to be the next Secretary-General of the United Nations.

These recent events colored the lectures and questions during the two-day conference, which featured an impressive list of diplomats and academics from the Republic of Korea and international affairs experts from a number of universities and think tanks in the United States. Lee Myung-Jae, consul general for South Korea for the southeastern United States, kicked off the conference with his keynote address touching on diplomatic, economic, human rights and military issues.

“Certainly, this conference comes at a crucial juncture as events escalate as a result of North Korea’s nuclear test,” said Lee. “The North Korean nuclear issue is the most serious challenge to Korea and the world, and the urgency of the situation has increased since 2003.”

Korea continued, page 3
ThinkTank seeks challenging problems from campus researchers

Elizabeth Campbell
Institute Communications and Public Affairs

A new, self-described “service group” is offering its resources to Georgia Tech faculty who want to take advantage of the latest developments in algorithm design and modeling to further their own research.

Under the leadership of Santosh Vempala, who joined the faculty in August from the Massachusetts Institute of Technology, the College of Computing’s Algorithms and Randomness Center and ThinkTank will focus on a growing field of research: bringing an algorithmic perspective to questions such as how proteins fold, how the brain learns, or how to predict the spread of a virus. The interdisciplinary center includes faculty members from the College of Computing’s Computing Science and Systems division and the School of Mathematics and invites interested faculty from other related fields to participate as well.

“We see ARC ThinkTank as a service group devoted to this new field of methods, and we are excited at the prospect of collaborating with faculty from across campus to tackle challenges that might benefit from analytics from this group,” said Vempala.

In September, ARC ThinkTank members began weekly lunches to discuss natural problems related to algorithms and randomness: wind and wave patterns, traffic routing in networks, medical data analysis and genetics, to name a few. During these lunches, a researcher is invited to briefly present their favorite research topic, then members ask questions, brainstorm and discuss possible approaches. The members then schedule follow-up meetings to further discuss the issues and provide feedback to the researcher. ARC ThinkTank invites researchers across campus to submit their challenges for consideration.

“The use of randomness in algorithm design and algorithmic modeling of natural phenomena is a powerful problem-solving tool,” said Richard DeMillo, dean of the College of Computing. “We are thrilled that Professor Vempala — one of the leaders in this new field — has formed a think tank to apply this tool to the most important problems in science, engineering and computer science. ARC ThinkTank will strengthen Georgia Tech’s already impressive interdisciplinary capabilities in computational science. With so much data available today from the Web and medical records, for example, with increasing computing power, we seek to develop new techniques and approaches to solve a variety of computational and modeling problems.”

JS: It’s also due to our increased population. We have many more students now than five or 10 years ago. We also have students who are choosing Tech for majors other than engineering. So I think we’re attracting a more diversified student body. I also think it’s a generation of college students who are concerned about what’s going on in the world and want to get involved.

So what is the gain in being able to have these discussions, if it means some will be offended?

AG: I think the gain for students is that the more you can listen to someone else’s perspective and not tune them out, the better you are at making decisions and interacting with other people, and the more successful you can be in the workplace because you have that skill. I’ve heard this from Tech alumni time after time.

Another thing is that engineering is top-ranked and if we want to improve from here we have to bring up every other program we have at our school. And doing that is a lot about having dialogues and focusing on liberal arts and focusing on skills that management students might want. That will provide a more well-rounded educational experience and a more well-rounded student.

JS: My hope is that faculty will get involved, because their voice is currently absent. The student voice is there, the administrative voice is there, but I’m not hearing much from the faculty.

Why should faculty be involved?

JS: Because they are a very important part of the community, and they spend a lot of time with students both in and out of the classroom. I know students respect Tech faculty. I also know some are wondering what the faculty are thinking about regarding these issues. It would be a richer conversation if faculty were actively engaged and involved more. One way is for faculty to partner with students outside of the classroom by creating forums and other learning experiences.

After Finding Common Ground, what’s next?

JS: The Georgia Tech community will have to step up to the challenge to continue to think of creative and educational ways to continue what’s been started. I think we all — students, faculty and staff — have a place and a responsibility in continuing what this program has started. What’s next is for someone to say, “I’m thinking of something that plays very nicely into this, and I’d like others to help me make it happen.”

AG: My hope is that we have a better understanding of our expectations in discussion, that we will come out with a new model that allows for free expression and understanding, and that we will learn how to deal with it when we don’t agree or are offended by what’s being said.

JS: There are many creative ways to think about this and challenge ourselves to continue this work. The Finding Common Ground series is an excellent first step. I’m excited to hear Maya Angelou. I have been reading her writings — she really is a humanitarian who has wonderful insight into people, regardless of their race, gender or political affiliation. I think that’s part of what this is about: how do we suspend, for a few moments, the labels that we place on each other and come together to find common ground and hopefully in the process appreciate and value each other more.

Maya Angelou’s address will be at 8 p.m. in Alexander Memorial Coliseum. Free tickets for Tech students, faculty and staff are available at the Student Center Box Office.

For more information...

Finding Common Ground
www.commonground.gatech.edu
Dopamine used to prompt nerve tissue regeneration

Megan McRainey
Institute Communications and Public Affairs

When Yadong Wang, a chemist by training, first ventured into nerve regeneration two years ago, he didn’t know that his peers would have considered him crazy.

His idea was simple: because neural circuits use electrical signals often conducted by neurotransmitters, the chemical messengers that communicate between the brain and the rest of the body, he could build neurotransmitters into the material used to repair a broken circuit. The neurotransmitters could coax the neurons in the damaged nerves to regrow and reconnect with their target organ.

Strange though his idea might have seemed to others in his field, Wang, an assistant professor in the Department of Biomedical Engineering at Georgia Tech and Emory University, discovered that he could integrate dopamine, a type of neurotransmitter, into a polymer to stimulate nerve tissues to send out new connections. The discovery was the first step toward the eventual goal of implanting the new polymer into patients suffering from neurological disorders, such as Alzheimer’s, Parkinson’s or epilepsy, to help repair damaged nerves. The findings were recently published in the Proceedings of the National Academy of Sciences (PNAS).

“We showed that you could use a neurotransmitter as a building block of a polymer,” said Wang. “Once integrated into the polymer, the transmitter can still elicit a specific response from nerve tissues.”

The “designer” polymer was recognized by the neurons when used on a small piece of nerve tissue and stimulated extensive neural growth. The implanted polymer didn’t cause any tissue scarring or nerve degeneration, allowing the nerve to grow in a hostile environment post injury.

When ready for clinical use, the polymer would be implanted at the damaged site to promote nerve regeneration. As the nerve tissue reforms, the polymer degrades.

Wang’s team found that dopamine’s structure, which contains two hydroxyl groups, is vital for the material’s neuroactivity. Removing even one group caused a complete loss of the biological activity. They also determined that dopamine was more effective at differentiating nerve cells than the two most popular materials for culturing nerves — polylysine and laminin. This ability means that the material with dopamine may have a better chance to successfully repair damaged nerves.

The success of dopamine has encouraged the team to set its sights on other neurotransmitters.

“Dopamine was a good starting point, but we are looking into other neurotransmitters as well,” Wang said.

The team’s next step is to verify findings that the material stimulates the reformation of synapses in addition to growth.

“A successful nerve regeneration will require the nerve to synapse with the target organ,” Wang said. “Since we’ve written this paper, we’ve also been able to get the nerves to form extensive synapses, which is a step in the right direction.”

For more information...

Yadong Wang laboratory
www.bme.gatech.edu/groups/ywang

IN BRIEF:

Reunion classes give back

The milestone reunion classes presented more than $11.5 million to President Wayne Clough for Georgia Tech projects during Homecoming.

The Class of 1956 raised $5.6 million, including $250,000 for the Fifth Street bridge trellis project, part of the pedestrian-friendly park setting over the Downtown Connector that links the east side of the Georgia Tech campus with Technology Square.

The Class of 1966 raised $4 million, with $200,000 earmarked for the President’s Scholarship Program.

The Class of 1981 raised $1,981,000 for its 25th reunion. The Class of 1981 Public Service Student Endowment will receive $150,000. Specifically benefiting from the endowment will be TEAM Buzz, a community service day conducted by Tech students and alumni across the nation.

Conference introduces high school girls to engineering fields

Last month, the Women in Engineering (WIE) program welcomed female high school students to the Georgia Tech campus to have an “up-close and personal” glimpse into the world of engineering. Professor Mahera Philotheos, director of the WIE program welcomed the girls to its annual Engineering and Computer Career Conference.

“You are the future workforce and our future leaders,” she said. “We want you to leave this conference with a resolve to continue the good work you are doing.”

The students, who came from high schools throughout Georgia and the Southeast, spent two days exploring the world of engineering and computing. Faculty members gave animated, interactive presentations on their respective majors. Georgia Tech faculty and staff who participated included: Professor David Sanborn and Kristi Lewis (Mechanical Engineering), Professor Brent Carter (Material Science and Engineering), Professor Lawrence Jacobs (Civil and Environmental Engineering), Leslie Schwartz (Polymer, Textile and Fiber Engineering), Professor Paul Griffin (Industrial and Systems Engineering), Associate Professor Marilyn Smith (Aerospace Engineering), Essy Beharwan (Biomedical Engineering), Professor Pradeep Agrwal (Chemical and Biomolecular Engineering), Associate Professor Ayanna Howard (Electrical and Computer Engineering) and Giselle Martin (College of Computing).

Post-conference assessments have indicated a high return on the ECC program. Depending on the year, between 40 and 60 percent of attendees end up enrolling at Tech.

Telephone system update

The Office of Information Technology has announced that BellSouth and Nortel have successfully certified the digital portion of the carrier grade switch that will operate the new Georgia Tech telephone system. This completes the official certification process; the analog portion of the switch was previously certified in September.

As of Nov. 1, more than 4,100 lines have been transitioned from the Georgia Technology Association (GTA) system to Tech’s new telephony system. Full campus implementation is scheduled for completion by the end of first quarter, 2007.

For conversion schedule details, visit www.oit.gatech.edu/campus_initiatives

November 6, 2006

WWW.WHISTLE.GATECH.EDU

Lee outlined the long history of the United States’ relationship with Korea, which began in 1866. He also underscored the economic partnership — South Korea is the seventh largest trading partner for the U.S. — and described Korean investments in the United States as evidenced by the recent groundbreaking for an automotive plant in West Point, Georgia. He emphasized that because of the great sacrifices the United States made in the Korean War, South Korea enjoys prosperity and democracy, unlike North Korea.

“The Korea-U.S. alliance remains strong. EvenStrange though his idea might have seemed to others in his field, Wang, an assistant professor in the Department of Biomedical Engineering at Georgia Tech and Emory University, discovered that he could integrate dopamine, a type of neurotransmitter, into a polymer to stimulate nerve tissues to send out new connections. The discovery was the first step toward the eventual goal of implanting the new polymer into patients suffering from neurological disorders, such as Alzheimer’s, Parkinson’s or epilepsy, to help repair damaged nerves. The findings were recently published in the Proceedings of the National Academy of Sciences (PNAS).

“We showed that you could use a neurotransmitter as a building block of a polymer,” said Wang. “Once integrated into the polymer, the transmitter can still elicit a specific response from nerve tissues.”

The “designer” polymer was recognized by the neurons when used on a small piece of nerve tissue and stimulated extensive neural growth. The implanted polymer didn’t cause any tissue scarring or nerve degeneration, allowing the nerve to grow in a hostile environment post injury.

When ready for clinical use, the polymer would be implanted at the damaged site to promote nerve regeneration. As the nerve tissue reforms, the polymer degrades.

Wang’s team found that dopamine’s structure, which contains two hydroxyl groups, is vital for the material’s neuroactivity. Removing even one group caused a complete loss of the biological activity. They also determined that dopamine was more effective at differentiating nerve cells than the two most popular materials for culturing nerves — polylysine and laminin. This ability means that the material with dopamine may have a better chance to successfully repair damaged nerves.

The success of dopamine has encouraged the team to set its sights on other neurotransmitters.

“Dopamine was a good starting point, but we are looking into other neurotransmitters as well,” Wang said.

The team’s next step is to verify findings that the material stimulates the reformation of synapses in addition to growth.

“A successful nerve regeneration will require the nerve to synapse with the target organ,” Wang said. “Since we’ve written this paper, we’ve also been able to get the nerves to form extensive synapses, which is a step in the right direction.”

For more information...

Yadong Wang laboratory
www.bme.gatech.edu/groups/ywang

IN BRIEF:

Reunion classes give back

The milestone reunion classes presented more than $11.5 million to President Wayne Clough for Georgia Tech projects during Homecoming.

The Class of 1956 raised $5.6 million, including $250,000 for the Fifth Street bridge trellis project, part of the pedestrian-friendly park setting over the Downtown Connector that links the east side of the Georgia Tech campus with Technology Square.

The Class of 1966 raised $4 million, with $200,000 earmarked for the President’s Scholarship Program.

The Class of 1981 raised $1,981,000 for its 25th reunion. The Class of 1981 Public Service Student Endowment will receive $150,000. Specifically benefiting from the endowment will be TEAM Buzz, a community service day conducted by Tech students and alumni across the nation.

Conference introduces high school girls to engineering fields

Last month, the Women in Engineering (WIE) program welcomed female high school students to the Georgia Tech campus to have an “up-close and personal” glimpse into the world of engineering. Professor Mahera Philotheos, director of the WIE program welcomed the girls to its annual Engineering and Computer Career Conference.

“You are the future workforce and our future leaders,” she said. “We want you to leave this conference with a resolve to continue the good work you are doing.”

The students, who came from high schools throughout Georgia and the Southeast, spent two days exploring the world of engineering and computing. Faculty members gave animated, interactive presentations on their respective majors. Georgia Tech faculty and staff who participated included: Professor David Sanborn and Kristi Lewis (Mechanical Engineering), Professor Brent Carter (Material Science and Engineering), Professor Lawrence Jacobs (Civil and Environmental Engineering), Leslie Schwartz (Polymer, Textile and Fiber Engineering), Professor Paul Griffin (Industrial and Systems Engineering), Associate Professor Marilyn Smith (Aerospace Engineering), Essy Beharwan (Biomedical Engineering), Professor Pradeep Agrwal (Chemical and Biomolecular Engineering), Associate Professor Ayanna Howard (Electrical and Computer Engineering) and Giselle Martin (College of Computing).

Post-conference assessments have indicated a high return on the ECC program. Depending on the year, between 40 and 60 percent of attendees end up enrolling at Tech.

Telephone system update

The Office of Information Technology has announced that BellSouth and Nortel have successfully certified the digital portion of the carrier grade switch that will operate the new Georgia Tech telephone system. This completes the official certification process; the analog portion of the switch was previously certified in September.

As of Nov. 1, more than 4,100 lines have been transitioned from the Georgia Technology Association (GTA) system to Tech’s new telephony system. Full campus implementation is scheduled for completion by the end of first quarter, 2007.

For conversion schedule details, visit www.oit.gatech.edu/campus_initiatives

November 6, 2006

WWW.WHISTLE.GATECH.EDU

Lee outlined the long history of the United States’ relationship with Korea, which began in 1866. He alsounderscored the economic partnership — South Korea is the seventh largest trading partner for the U.S. — and described Korean investments in the United States as evidenced by the recent groundbreaking for an automotive plant in West Point, Georgia. He emphasized that because of the great sacrifices the United States made in the Korean War, South Korea enjoys prosperity and democracy, unlike North Korea.

“The Korea-U.S. alliance remains strong. Even though our military partnership is a key component of our alliance, I think the economic area is where the most dramatic change will take place,” said Lee.

Lee went on to explain the complicated relationship between the two Koreas and referred to the North Koreans as “our brothers.” He explained that South Korea’s policy of engagement is designed to reduce tensions and prevent armed conflict on the Korean peninsula.

The highlight of the second day of the conference was the lecture by H.E. Cho Hyun, deputy permanent representative of South Korea to the United Nations. A recurring point in the various talks was looking to Europe and the European Union as a model for peace and stability in Northeast Asia. Some speakers said the Asia could follow this model, but others pointed out the historical, cultural and geopolitical reasons this was unlikely to happen in Northeast Asia.