Georgia Tech Envisions ‘Deliberate Innovation, Lifetime Education’ in Commission Report

SUSIE IVY
INSTITUTE COMMUNICATIONS

On April 25, the Institute’s Commission on Creating the Next in Education released its final report: Deliberate Innovation, Lifetime Education.

Using the year 2040 as a long-term vantage point, the Commission — a group of more than 50 faculty, staff, and students — was asked to explore and evaluate innovative approaches to higher education, address current and future learner needs, and make recommendations on alternative educational models to reduce costs, improve the effectiveness of current methodologies, and increase opportunities and accessibility to serve the needs of the next generation and beyond.

The Commission was convened in late 2015 by Provost Rafael L. Bras and co-chaired by Richard DeMillo, executive director of Georgia Tech’s Center for 21st Century Universities; and Bonnie Ferri, vice provost for Graduate Education and Faculty Development.

“The Georgia Tech of 2040 will need to provide educational services along a continuum and serve the needs of...”

see COMMISSION, page 3

How Regional Development, Economic Incentives Are Changing

ALYSON POWELL
INSTITUTE FOR PEOPLE AND TECHNOLOGY

In a new book, editors of the international journal Regional Studies and authors from universities around the world explore the shift in global power toward economies in the East, the impact of immigration on economies, and the consequences of urbanization.

Jennifer Clark, associate professor in the School of Public Policy, helped edit Transitions in Regional Economic Development, which also looks at hyper-globalization and what it means for regional economies. In light of its release, she talks about the evolution of the field and how the bid for Amazon’s new headquarters highlights an important economic development policy question for cities.

What are some of the changes occurring in the development of cities and regions?

Some of the big questions in regional policy and regional economic development are things like industrial transformation — the shift from manufacturing economies into service-based economies. What does that mean for jobs? What does that mean for wages and income? What does that mean for policy? How do you create economic development policies that support the ability of communities to support themselves? What kind of industries do you invest in?

If you think about something like the competition for the new Amazon headquarters, that sort of policy question is central here. Do you see COMMISSION, page 3

see CITIES, page 3

Some are the first in their families, while others come from long lines of Tech tradition. This weekend, they’ll all don their regalia and accept their degrees from Georgia Tech. Read the stories of some of this semester’s graduates as they look toward Commencement this weekend: c.gatech.edu/gradstories.

Leading Women@Tech Building Next Cohort

The professional development program is open to staff women who are in director-level positions and above. The cohort will begin meeting in October, and the deadline for nominations is Tuesday, May 8. c.gatech.edu/leadingwomen

Campus, Atlanta Events Converge This Weekend

In addition to Commencement ceremonies and Tech’s baseball team hosting a series with Radford, the Shaky Knees music festival will take place at Centennial Olympic Park May 4–6. If you’ll be on or near campus, plan for congestion and traffic to be heavier than usual.

IN THIS ISSUE

Studying LGBTQ Inclusion in Engineering 2
New Process in Place for Nontenure Promotion 4
Celebrating Service Anniversaries 4
Faculty Study LGBTQ Inclusion in Engineering with NSF Grant

GEORGIA FARMELIE
COLLEGE OF ENGINEERING

A paradigm exists within the engineering field, according to recent literature. It’s that engineers think in binary terms, setting aside personal connections in favor of purely technical skills.

Researchers have identified that the field as a whole is particularly masculinist and heteronormative, as well. For an LGBTQ (lesbian, gay, bisexual, transgender, queer, and others) individual, this environment can be daunting and unfriendly, and often keeps them in the margins.

Four Georgia Tech faculty members want to challenge the existing culture in engineering and promote inclusivity and diversity in schools across the country. Chloe Arson (School of Civil and Environmental Engineering), Jennifer Hasler (School of Electrical and Computer Engineering), Manu Platt (Department of Biomedical Engineering), and Anne Pollock (School of Literature, Media and Communication) are trying to understand why LGBTQ people are less visible in engineering disciplines than in other fields, even within STEM. One of the core questions to answer is: Does engineering attract fewer LGBTQ students and employees because of its binary reputation? Or are they present, but just invisible? To answer the question, the four professors received a grant from the National Science Foundation (NSF) with the goal of making LGBTQ individuals more present and visible in the engineering field. The grant provided funds to run a conference in March that brought together faculty from across the country to discuss how to attract more diversity in engineering, as well as collect metrics and data on invisible identities, such as sexual orientation.

“Receiving this grant from the NSF is something very symbolic, and their support enhances our credibility,” Arson said. “Our proposal was peer-reviewed, and people will trust the results. The support from the NSF will put our work in the public domain and encourage other LGBTQ projects to get started.”

The Inclusivity in Engineering conference included engineering faculty, as well as professors from the humanities and social sciences with expertise on inclusion in engineering. The multidisciplinary model of the conference created an environment where many perspectives were brought to the table.

Although it was discussed at length, there was no definitive answer as to why engineering attracts fewer LGBTQ students and employees, or if they are in fact present, but invisible. More work will have to be done to make that determination.

“LGBTQ individuals’ lives do not fit neatly into an engineering department,” Pollock said. “It makes it difficult to negotiate being out because personal life and the technical aspects of the job are generally thought to be completely separate.”

A few conclusions did come out of the conference. There was common agreement that other aspects of identity also affect how LGBTQ faculty navigate the workplace, including gender, race and partnership status. Also, some longitudinal data was presented that indicated that over the course of students’ engineering education, they become less aware of and interested in making a social impact. The grant’s principal investigators recognize that this is crucial work that is important to study and address going forward.

Arson, Hasler, Platt, and Pollock hope that the NSF grant will bring more attention to LGBTQ issues in engineering and help to develop an unbiased culture. They plan to develop a methodology for collecting data and to create benchmarks for how the engineering field can be more inclusive. The exploration and research fostered by the conference is the first step in creating an environment that celebrates differences and ensures everyone feels welcome.

Muhammad Bakir, professor in the School of Electrical and Computer Engineering, was named the recipient of the 2018 IEEE Electronics Packaging Society Exceptional Technical Achievement Award.

School of Electrical and Computer Engineering Professor Robert J. Busa has been named as a Distinguished Lecturer for the IEEE Engineering in Medicine and Biology Society for a two-year term through December 2019.

Archie Ervin, vice president for Institute Diversity, was recently re-elected as president of the National Association of Diversity Officers in Higher Education for a second two-year term from 2018 to 2020.

Kim Harrington, associate vice president for Human Resources, earned the Ruth-Whiting Award from ACUI. The award recognizes outstanding leaders who have made significant contributions to the college union and student activities movement.

Felix Herrmann, professor in the School of Earth and Atmospheric Sciences, has been named as a 2019 Distinguished Lecturer for the Society for Exploration Geophysicists for January-June 2019.

Omer Inan, assistant professor in the School of Electrical and Computer Engineering, received a National Science Foundation CAREER Award.

George W. Woodruff School of Mechanical Engineering Professor Surya Kalidindi has been named a recipient of the 2018 Department of Defense Vannevar Bush Faculty Fellowship.

Joseph H. Saleh, associate professor in the Daniel Guggenheim School of Aerospace Engineering, was named 2018 Outstanding Faculty Member of the Year by Sigma Gamma Tau, the honor society for aerospace engineers.

Brendan D. Saltafemaggio, assistant professor in the School of Electrical and Computer Engineering, received the CSIE Research Initiation Initiative Award from the National Science Foundation.

School of Electrical and Computer Engineering Assistant Professor Fatih Sarioglu received a National Science Foundation CAREER Award for his project entitled Feedback-Controlled Microfluidic Chips with Integrated Sensor Networks for Blood Analysis.

Robin Thomas, professor in the School of Mathematics, has been named to the Society for Industrial and Applied Mathematics Class of 2018 Fellows.

Hua Wang, assistant professor in the School of Electrical and Computer Engineering, has been named as a distinguished lecturer for the IEEE Solid-State Circuits Society for a two-year term through December 2019.
In Memoriam
Rochelle Williams

Rochelle Williams, a financial administrator in the School of Electrical and Computer Engineering (ECE)’s accounting office, died Sunday, April 15.

Williams started her career at Georgia Tech in 1988. She joined ECE in 1991, where she was a trusted, respected, and beloved colleague and friend.

“The faculty that Rochelle supported relied heavily on her to ensure all aspects of their financial grants were properly observed, and she always ensured that things were done accurately and on time,” said Raheem Beyah, Interim Steve W. Chaddick School Chair and Motorola Foundation Professor in the School of Electrical and Computer Engineering. “She was a very positive and supportive person to everyone who crossed paths with her, and she will be missed by all of us very much.”

Services for Williams will be held Friday, May 4, at 3 p.m. at Willie A. Watkins Funeral Home in the Riverside Chapel, 6580 Church Street, Riverdale, Georgia 30274.

CITIES, from page 1
create subsidies to attract firms, or do you invest in your people as the attraction. More you did is you invested in your universities for put it into your universities for instead of putting it in a tax transportation system? What if you just take $500 million, and invested it in your K-12 schools, or in your say, $500 million, and invested it in a tax subsidy to an individual firm, you put it into your universities for more Hope Scholarships? Would the companies come here because they want the talent? And what you did is you invested in your people as the attraction. More and more, what we’re seeing is that investments in human capital pay off more than invest- ments in individual firms.

The book also examines immigration from a European perspective and whether, according to the book’s description, immigrants “displace local workers and depress wages, or bring benefits in the form of know-how, new technology, and investment.”

Just like in the U.S., in the broader debate about cities and regions, immigration is a huge hot-button issue. In the U.K. there’s Brexit, in addition to the recession and what that means for the industrial composition of cities and regions. The question of who’s doing the work and who’s living in the cities and regions is a big question, as well as how you think about immigration policy from an economic perspective rather than a social, hot-button-issue perspective.

In our research here in the U.S., we are consistently finding that 25 percent of the economy is people who are working in the formal economy and are working in jobs that don’t have specific certifications or degrees. It’s cooks. It’s janitors. It’s people who are part of what we are calling the “essential economy.” These are the kinds of jobs that people who are immigrants and migrants often get, certainly when they first come because they usually don’t have certifications, or whatever certifications they have are not recognized. If you do the economic analysis, it’s a labor supply, labor demand question. If you decrease the labor supply by having more restrictive immigration policies, you have to be interested in paying a lot more for the work performed in that 25 percent in the essential economy as well as in specialized high-skilled occupations where immigrants are well represented. This is that businesses and consumers are already experiencing in the U.K.

A Georgia Tech student participates in the #GT2040 installation activity, as part of the Commission on Creating the Next in Education.

COMMISSION, from page 1
all ages of learners throughout their lifetimes,” said Bras. We will remain committed to our core mission, but we must ready ourselves now to meet new demands and adapt to address the larger forces impacting higher education.

The report is organized into three sections:

The Georgia Tech Commitment to a Lifetime Education

The overarching recommendation of the Commission is a proposal called the Georgia Tech Commitment to a Lifetime Education. The proposed commitment is a promise to students to provide an educational experience that is highly individualized and sustainable for a lifetime.

“The university of the future will not merely be confined to a physical campus where one spends a few years, earns a degree, and leaves,” said DeMillo. “To be responsive to changing demographics and transformed workplaces, the university’s experience will begin earlier in life and continue long after graduation. Most people will benefit from technology-enhanced advances in learning science to blend in-person and digital experiences that allow students to start, stop, and start again as personal and professional needs change. The Commission’s challenge was to find ways to achieve this vision.”

The Five Initiatives

The Commission recommends five initiatives aimed at closing knowledge gaps, prototyping new products and services, and building critical technological infrastructure to achieve the vision of a lifetime education. These initiatives will result in new models of teaching and advising, new curricular models that support episodic educational experiences attuned to the needs of 21st century workplaces; a data backbone to enable predic- tive analytics that improve educational decisions and outcomes; and the integration of technology-enhanced coaches, mentors, and guides to help students navigate more complex educational pathways.

The Culture of a Deliberately Innovative Organization

The Commission recommends a systems approach to growing Georgia Tech’s capacity for educational innovation, as all ideas imagined in the report are predicated on a culture change across the institution. This reshaping would fuse research and educational cultures into a single, immersive culture of innovation.

“Georgia Tech is already known as a top-tier academic institution, but this revolution won’t be enough to grow and support the global Georgia Tech community of the future,” said Ferri. “Taking immediate and lasting steps to ensure that the Institute establishes a culture of deliberate innovation will set Georgia Tech apart and bolster the lifelong academic and career success of our learners.”

Next steps include formation of policy groups and working groups on topics such as business models for new educational products and services, building a deliberately innovative culture, realizing the Georgia Tech Commitment to a Lifetime Education, and initiating execution.

“Georgia Tech has a rich history of innovation, but we must challenge ourselves to make educational innovation an integral part of our overall institutional ethos,” said Bras. “We are encouraged by the current and ongoing projects and are making strides with a new advising initiative, new credentials, exploration of mini-mesters, and other efforts around the K-12 partnerships. The momentum is building, and we look forward to engaging our colleagues in future efforts.”

Read the report at gatech.edu/ ed-innovation.

EVENTS

May 9
The School of Physics hosts a public talk on Darkness and Light: 13 Months at the South Pole from 7 to 9 p.m. in Room 152, Clough Commons.

HEALTH AND WELLNESS

May 8
Human Resources hosts a Be Well session on Using Your Leave for Maternity from noon to 1 p.m. in the Piedmont Room, Student Center.

MISCELLANEOUS

Through May 3
Final Exams take place.

May 4
Georgia Tech Baseball hosts Radford University at 6 p.m. at Russ Chandler Stadium. The series continues May 5 at 4 p.m. and May 6 at 1 p.m.

May 8
The Georgia Tech Library hosts Patent Tuesdays, a two-part class on patent searching and filing, from noon to 2 p.m. in the Homer Rice Center. The course will also be offered June 12, July 10, and Aug. 14.

May 9
The Georgia Tech Library hosts webinars on patent searching and filing, from noon to 2 p.m. in the Homer Rice Center. The course will also be offered June 12, July 10, and Aug. 14.

May 14
First day of class for full and early summer sessions.

For a more comprehensive listing of events, or to add your own, visit calendar.gatech.edu.
Students select succulents and decorate planters at the 2018 Earth Day Festival on Friday, April 20, on Tech Walk.

CELEBRATING SERVICE
Congratulations to the following staff and faculty members who celebrated 25 years of service to the institute this year.

Employees and guests visit during the Service Recognition Luncheon on April 19 at the Georgi Terrace. The luncheon honored those who had reached 10 and 25 years of service. See more photos from the event at c.gatech.edu/servicelunch.

DIGGING EARTH DAY

Employees and guests visit during the Service Recognition Luncheon on April 19 at the Georgi Terrace. The luncheon honored those who had reached 10 and 25 years of service. See more photos from the event at c.gatech.edu/servicelunch.

REAL ESTATE/ROOMMATES
For Sale: 5BR/3BA 2.8 sq. ft. home in Sandy Springs. 4-sided brick traditional situated on level cul-de-sac lot in sought-after neighborhood. Contact 678-285-1532. View listing at news.gatech.edu/whistle/ classifieds.

For Rent: 2BR/1BA apartment in Johns Creek, North Fulton County. Exceptional neighborhood, close to GA-400, I-285, $950/mo. rent only, or $1,100/mo. rent and utilities (except AT&T internet). Contact jatarnes3@gatech.edu.

One or two rooms for rent in East Cobb. Each w/ its own bathroom. Shared kitchen facilities, $450 for one room or $600 for both. Email bdespy@hotmail.com.

For rent: 1BR/1BA apartment in Home Park, duplex residence. Amenities include: washer/dryer, off-street parking, security system, A/C, ample storage, $675/mo. Contact 404-512-4618.

For rent: 3BR/2BA house in Home Park. Located near Georgia Tech. Close to food markets, restaurants, entertainment, shopping, public transit. $2,250/mo. Includes off-street parking for up to four cars. Contact 770-713-1122 or paul_fortson@yahoo.com. View listing at http://byjz2blue4 holster.com.

Don’t wait any longer to plan your beach vacation, or use the designed beach house in beautiful Seagrove Beach, Florida, along Scenic 30A. Sleeps 8; no pets; no smoking; convenient to everything, Georgia Tech discount. See listing at: www. VRBO.com/581501.

Vehicles

For sale: 2010 Lincoln MKZ. Silver w/ leather interior. 90k miles, excellent condition inside and out. Well-maintained. Includes both keys, brand new spare tire. Lots of upgrades. $9,500. Call 706-878-6730.

MISCELLANEOUS
For sale: Simmons Beautyrest “Firm” full mattress and Tempur-Ergo Premier Adjustable Frame (frame w/ warranty), 18 months old. Orig. $3,600, selling for $1,800 OBO. Contact pamcut@hotmail.com.

Looking for a carpool partner for the daily commute from East Cobb to Tech campus. Email bdespy@hotmail.com.

Researchers in the School of Interactive Computing and Institute for People and Technology seeking parents of children ages 1 to 5 years old for a study about e-book to track development. Learn more at c.gatech.edu/ bookstudy.

Few yellow jacket nest removal. Needs to be used for research in the School of Biology. Call 404-385-6311 or e-mail nament@browniam.edu.

For Sale: 2BR/1BA basement apartment in Johns Creek, North Fulton County. Exceptional neighborhood, close to GA-400, I-285, $950/mo. rent only, or $1,100/mo. rent and utilities (except AT&T internet). Contact jatarnes3@gatech.edu.

For Rent: 2BR/1BA apartment in Home Park, duplex residence. Amenities include: washer/dryer, off-street parking, security system, A/C, ample storage, $675/mo. Contact 404-512-4618.

For Rent: 3BR/2BA house in Home Park. Located near Georgia Tech. Close to food markets, restaurants, entertainment, shopping, public transit. $2,250/mo. Includes off-street parking for up to four cars. Contact 770-713-1122 or paul_fortson@yahoo.com. View listing at http://byjz2blue4 holster.com.

Don’t wait any longer to plan your beach vacation, or use the designed beach house in beautiful Seagrove Beach, Florida, along Scenic 30A. Sleeps 8; no pets; no smoking; convenient to everything, Georgia Tech discount. See listing at: www. VRBO.com/581501.