When a Cup of Coffee Leads to Collaboration

When Will Ratcliff and Peter Yunker first met for coffee they had no idea they would eventually collaborate on research that would be published in Nature Communications and Nature Physics.

Ratcliff, an assistant professor in the School of Biological Sciences, arrived at Tech in January 2014. Yunker, an assistant professor in the School of Physics, arrived in January of the following year.

“I met with [Physics Professor] Dan Goldman and told him about my interests in biophysics,” said Yunker. “He told me there’s another young guy who just arrived. You should contact him.”

Yunker reached out to Ratcliff, and the two began meeting weekly for coffee in the basement of the College of Computing.

“Will would talk a little about the physics of multicellularity,” Yunker said.

Though coming from different disciplines — biology and physics — Ratcliff and Yunker quickly recognized some common ground.

“I would say, ‘There’s this thing in biology where this needs to happen,’ and he would say ‘there’s this thing in physics where this needs to happen.’” Ratcliff said. “It would blow my mind because it was a totally different way of thinking about the things that I was already thinking about. It was incredibly exciting because there were these parallels coming from such different places, and they were describing the same overlapping material. I think we both could tell there was a lot of cool stuff to be done.’’

The harder part was figuring out where the overlap was concrete so they could eventually collaborate on research that would be published in Nature Communications and Nature Physics.

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“The Institute’s cybersecurity team worked closely with investigators to gather evidence that led to the extradition of the two men, who were based in Malaysia at the time of their phishing attacks. The two Nigerians were convicted in federal court in Atlanta on a multitude of charges. Georgia Tech’s cybersecurity team, including a former member who is now chief information security officer at the University of Virginia, did a great job bringing these people to justice with their testimony in Washington,” said U.S. Attorney Byung J. ‘BJay’ Pak. “We are grateful for the Institute’s cybersecurity team who protect our network every day.”

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the collaborative work by our national and international law enforcement partners in this case, and we will continue to vigorously prosecute cybercriminals who hide behind the anonymity of the internet to commit these types of crimes.

According to Pak, the charges and other information presented in court conclude that Olaniyi and Ibwoye were behind several “phishing scams” that targeted colleges and universities in the United States, including Georgia Tech and the University of Virginia. While both are Nigerian citizens, they committed their crimes while living in Kuala Lumpur, Malaysia, and were extradited to the United States to face these charges.

A phishing scam is the act of sending fraudulent emails that appear to come from legitimate enterprises for the purpose of tricking the recipients into providing personal information, including usernames and passwords. Olaniyi and Ibwoye directed phishing emails to college and university employees. Once they had possession of employee logins and passwords, they were able to steal payroll deposits by changing the bank account into which the payroll was deposited. Also, while logged into the university system through the stolen logins and passwords, these defendants were able to gain access to employee W2 forms, which they used to file fraudulent tax returns. The attempted theft was more than $56 million. The stolen funds were routed into U.S. bank accounts, and the evidence showed that access to these bank accounts was three years of supervised use of romance scams, where fraudsters pose on dating sites and apps as potential partners to gain the trust of their victim. At some point, the fraudster will make a request to deposit money into their victim’s account and claim to need all of the account information, including their account number, routing number, passwords, and answers to security questions. In this case, all of that information was then used to funnel the proceeds of theft through those accounts and out of the country.

Olaniyi, 34, is scheduled to be sentenced on Oct. 22 at 10 a.m., before U.S. District Judge Steve C. Jones. Ibwoye, 29, was sentenced to three years, three months in prison to be followed by five years of supervised release on Jan. 31. Assistant U.S. Attorney Jeffrey A. Brown, deputy chief of the Complex Frauds Section, and Special Assistant U.S. Attorney Laura D. Pilster prosecuted the case, which was investigated by the Federal Bureau of Investigation.

FACULTY AND STAFF ACHIEVEMENTS

Brian Hammer, associate professor in the School of Biological Sciences, and Joel Kostka, professor in the School of Biological Sciences and the School of Earth and Atmospheric Sciences, have been named American Society for Microbiology Distinguished Lecturers.

The Center for Minorities and People with Disabilities in Information Technology announced School of Interactive Computing Chair Ayanna Howard as the winner of the Richard A. Tapa Achievement Award for Scientific Scholarship, Civic Science, and Diversifying Computing.

Seth Marder, Regents Professor in the School of Chemistry and Biochemistry and Georgia Power Chair in Energy Efficiency, has been selected to receive the Humboldt Research Award from the Alexander von Humboldt Foundation. The award recognizes a researcher whose fundamental discoveries, theories, or insights have had a significant impact on their own discipline and who are expected to continue producing cutting-edge work in the future.

Alexander Shapiro, professor in the H. Milton Stewart School of Industrial and Systems Engineering, has received the 2018 George Alexander Shapiro Award for Scientific Scholarship, Civic Science, and Diversifying Computing.

Plan Ahead for 2018–19 Events

As the next academic year begins, mark your calendar for these annual events.

New Student Convocation
Sunday, Aug. 19, 2018
5 to 6 p.m.
McCamish Pavilion

Graduate Convocation
Wednesday, Aug. 29, 2018
4:30 to 5:30 p.m.
McCamish Pavilion

President’s Institute Address
Thursday, Aug. 30, 2018
11 a.m. to noon
Room 152, Clough Commons

Ivan Allen Prize for Social Courage
Thursday, Sept. 13, 2018
9:30 a.m. to 1:15 p.m.
The Biltmore Ballrooms

Retirement Dinner
Thursday, Sept. 27, 2018
6 to 8:30 p.m.
Bill Moore Student Success Center

Fall Commencement
Ph.D. Ceremony
Friday, Dec. 14, 2018
9 to 10:30 a.m.
McCamish Pavilion

President’s Graduation Celebration
Friday, Dec. 14, 2018
11 a.m. to 1 p.m.
Student Center Ballroom

Spring Commencement
Ph.D. Ceremony
Friday, May 3, 2019
9 to 10:30 a.m.
McCamish Pavilion

President’s Graduation Celebration
Friday, May 3, 2019
11 a.m. to 1 p.m.
Tech Tower Lawn

Master’s Ceremony
Friday, May 3, 2019
3 to 5:30 p.m.
McCamish Pavilion

Note: Some events will be ticketed.

For more information and final event schedules, visit specialevents.gatech.edu or commencement.gatech.edu.

To keep up with everything happening at Georgia Tech, visit calendar.gatech.edu.

Submit calendar entries to editor@comm.gatech.edu at least 10 days prior to desired publication date.

For more information, call 404-385-7061.

Archives are posted at whistle.gatech.edu.

Georgia Tech is a unit of the University System of Georgia.
5 Faculty Members Get Regents Recognition

SUSIE IVY
INSTITUTE COMMUNICATIONS

The University System of Georgia (USG)'s Board of Regents has appointed four Georgia Tech faculty members as Regents Professor, and one as Regents Researcher. The titles represent the highest academic and research recognition bestowed by the USG, and demonstrate distinction and achievement in teaching and scholarly research.

The four Regents Professors are:

- Ajay Kohli, professor and Gary T. and Elizabeth R. Jones Chair in Management in the Scheller College of Business.
- Timothy Lieuwen, professor and David S. Lewis Jr. Chair in the School of Aerospace Engineering, and the executive director of the Strategic Energy Institute.
- Catherine L. Ross, professor and Harry West Chair for Quality Growth and Regional Development in the School of City and Regional Planning, director of the Center for Quality Growth and Regional Development, and deputy director of the National Center for Transportation Systems Productivity and Management.
- John Stasko, professor in the School of Interactive Computing and director of the Information Interfaces Research Group.

The Regents Researcher is Michael D. Rodgers, principal research scientist in the School of Civil and Environmental Engineering and director of the Georgia Tech Air Quality Laboratory.

The world's best and brightest scholars and researchers can be found at Georgia Tech, and this recognition is evidence of their relentless pursuit of excellence in teaching, research, and scholarship," said Rafael L. Bras, provost and executive vice president for Academic Affairs and the K. Harrison Brown Family Chair.

Each year, the college deans may nominate two academic faculty members for the Regents Professor title and one research faculty member for the Regents Researcher title. The Georgia Tech Research Institute may nominate two research faculty members for Regents Researcher. The titles are awarded upon approval by the USG chancellor and its Committee on Academic Affairs only with unanimous recommendation by the university's president, the executive vice president for research, the chief academic officer, the appropriate academic dean, and three other faculty members.

The nominations were approved by the Board of Regents of the University System of Georgia at its Aug. 14 meeting. During the meeting, the Board also approved the renewal of the title of Regents Professor for Sudhakar Yalamanchili, Joseph M. Pettit Professor in the School of Electrical and Computer Engineering. See more Board of Regents updates on Page 4.

COFFEE, from page 1

could actually conduct experiments or write models.

“A lot of our conversations are brainstorming style,” Yunker said. “They’re less about knocking down ideas and more about: ‘Let’s get a lot of information out there so we can find where that concrete idea emerges.’

The collaboration also eased the pressure of being a new faculty member.

“It’s nice to work with other people who are at a similar level, to bounce ideas off each other, talk about critical review, and vent about frustrations,” Yunker said. “The whole time I’ve been here I have always heard Georgia Tech is very supportive of collaboration. I’ve heard of other places where that support isn’t there when you’re still at the assistant professor level. I haven’t worried at all about if there will be trouble down the line if we collaborate. Instead, I see it as we’re doing the best science, and that’s what Georgia Tech wants.”

Ratcliff said, “That’s one of Georgia Tech’s real strengths. People really appreciate our collaboration. I hear from people in both communities — biology and physics. They appreciate not just the research, but also the strengthening of the bridge between the departments and the sense of community among faculty.

In addition to their research collaborations, Ratcliff and Yunker co-advised a Ph.D. student and a postdoc.

Collaboration Advice to New Faculty

Yunker and Ratcliff make collaboration look deceivingly easy.

“Collaboration takes effort. It takes sustained interaction,” Ratcliff said. “There’s got to be a reason to do that because as new professors we’re super busy trying to get everything off the ground: get your lab running, hire people, write papers, design classes, do service work. We’re spread really thin. So, to have sustained interactions that are needed for a good collaboration, you have to prioritize it and want to do it.”

Peter Yunker and William Ratcliff at work in the lab in the Boggs Chemistry Building in 2016.

Yunker added, “One of the best approaches when starting a new collaboration is to either let it grow or die on its own. If the idea isn’t there or if you just don’t mesh, then forcing it is going to be difficult for everyone.”

Ratcliff has advice for new faculty who are interested in collaborating.

“It’s really exciting and valuable to have a close collaborator from a different discipline or with a different skillset,” he said. “To get that, I suggest forming collaborations with other professors who are about your age. Key reasons are you’re both at the same stage in your careers. You’re equals. Also, a new professor is likely to have time to form new collaborations. Lastly, new professors have startup funds and a large degree of flexibility. This is great for trying things that are risky.”

He also suggests attending receptions for new faculty.

“Talk to people outside of your discipline. Don’t spend all of your time at the mixer talking to your departmental colleagues,” Ratcliff said.

Developing a good collaboration can be transformational.

“Our collaboration has fundamentally reshaped the way I think about key problems in my field,” Ratcliff said. “I know how to think about the things I was trained to think about, but I had no idea how to think about things I wasn’t trained to think about.”

Yunker said, “Together we’re able to ask and answer more interesting questions. I was not versed at all on questions about evolutionary transitions and individuality. I wasn’t aware of all the open questions and problems there, and they’re fascinating. By coming together, we end up asking even more interesting questions and, hopefully, coming up with new approaches.”

Ratcliff said what made the collaboration work is that he and Yunker became friends.

“We enjoy hanging out. I look forward to having coffee,” Ratcliff said. “We have these exciting scientific discussions where it was obvious that there’s something there, but we had to make the ideas touch down to reality.”

EVENTS

Aug. 24

Women’s Volleyball hosts a free staff appreciation lunch from 11:30 a.m. to 1 p.m. in the O’Keefe Gynasium. Stay for the team’s match against Idaho State at noon. ramblinwreck.com

Aug. 29

Graduate Student Welcome will include a convocation ceremony from 4:30 to 5:30 p.m. at McCamish Pavilion, followed by the Graduate Student Picnic from 5:30 to 8:30 p.m. on Tech Green. specialevents.gatech.edu/graduate-student-welcome

Aug. 30

The annual Institute Address will take place from 11 a.m. to noon in Room 152, Clough Commons. specialevents.gatech.edu

Sept. 1

Georgia Tech Football hosts its home opener against Alcorn State at 12:30 p.m. at Bobby Dodd Stadium. ramblinwreck.com

Sept. 4

The Student and Community Life cluster for A Path Forward — Together will discuss their progress and welcome feedback from 11 to 11:45 a.m. in Room 102, Clough Commons. president.gatech.edu/path-forward-together

Sept. 6

The Health and Well-being cluster for A Path Forward — Together will discuss their progress and welcome feedback from 11 to 11:45 a.m. in the Student Center Theater. president.gatech.edu/path-forward-together

Sept. 11

The Academics cluster for A Path Forward — Together will discuss their progress and welcome feedback from 11 to 11:45 a.m. in Room 102, Clough Commons. president.gatech.edu/path-forward-together

Sept. 3

Campus is closed in observance of Labor Day.

Sept. 5

The 10th Annual Diversity Symposium takes place from 7:30 a.m. to 2:30 p.m. at the Global Learning Center and Georgia Tech Hotel and Conference Center. diversity.gatech.edu

Sept. 13

The Ivan Allen Prize for Social Courage symposium and award reception will take place from 9:30 a.m. to 2:30 p.m. at the Biltmore. ivannellenprize.gatech.edu

For a more comprehensive listing of events, or to add your own, visit calendar.gatech.edu.

The Whistle • whistle.gatech.edu

August 20, 2018 • PAGE 3
When Grit and Grace Prevail: Meet Sadie Marshall

KATHLEEN MOORE
AEROSPACE ENGINEERING

If you work at Georgia Tech, you work with some top-notch talent. If you are really lucky, you get to work with Sadie Marshall.

A financial administrator in the Daniel Guggenheim School of Aerospace Engineering, Marshall has worked alongside some of the most celebrated minds of her generation — actual rocket scientists — for 12 years. She holds her own, calmly processing purchase orders and pay stubs.

Marshall, a mother of eight children, grandmother of 15, and great-grandmother of four, is rarely ruffled. She has seen too much to trifle with the small stuff. But don’t mistake that calm for complacency. “I don’t want to get old and say ‘Oh, I wish I’d done this, or I wish I’d done that,’” she explains. “If I want to do something, I have to make it happen.”

On July 7, Sadie Marshall added a graduate degree to her list of accomplishments, earning a master’s in human resource management from St. Leo University. Her daughter, LaShonya W. Heard, was by her side — literally.

 “[LaShonya] had 12 classes to finish for her master’s, and I had 10,” Marshall said. “So about a year ago, I started begging her, telling her that if she doubled up on some of her classes, we could walk together. She dragged her feet a little, but I wouldn’t let up.”

It worked. The two graduated the same day. It wasn’t the first time Marshall combined charm and determination to get the job done, and it probably won’t be the last. The grace she attributes to her maker; the grit is something she’s picked up over a lifetime that has seen more than a few injustices.

“I ran into bullies when I was young, and I wasn’t eating right, and barely sleeping. But if I stopped, I’d have given up, it would not have changed anything,” she said. “And if I kept going, I knew I could control the future. All things are possible through Christ, so I kept going.”

She also kept going to her full-time job at Children’s Healthcare of Atlanta and Georgia Tech’s Regents Professors and Researcher in Atlanta. In addition to approving the appointments of Tech’s Regents Professors and Researcher (Page 3), the following items pertaining to Georgia Tech were addressed.

The Board also approved:

The establishment of the Shary and Matt Marshall fund, including $6.5 million to Georgia Tech. The Board also authorized the fee structure for the Online Master of Science in Cybersecurity. The Board also approved the establishment of the Shary and Matt Marshall fund, including $6.5 million to Georgia Tech. The Board also authorized the fee structure for the Online Master of Science in Cybersecurity by Distance Learning. The Board also approved the following items pertaining to Georgia Tech’s Regents Professors and Researchers.

Marshall went on to earn her undergraduate degree while she and her husband Harold were raising six kids and serving in the Army. She says she ’took 20 years off before going back for her graduate degree, but it wasn’t much of a break.

“My husband and I had always wanted to help children, the ones who didn’t have a safe place in their lives, because we both thought it was important,” she said. “So when our own were older, we started taking classes so we could foster children. We learned a lot in the Army about having someone’s back, because your military family is really there for you. We felt we’d have something to give these kids.”

The Board added funds, including $6.5 million to Georgia Tech. The Board also authorized the fee structure for the Online Master of Science in Cybersecurity by Distance Learning. The Board also approved the following items pertaining to Georgia Tech’s Regents Professors and Researchers.

The Board also approved:

• The establishment of the Elaine M. Hubbard Chair in the School of Mathematics in the College of Sciences.
• The appointment of the Stary and Matt Price Chair for Pediatric Research at Children’s Healthcare of Atlanta and Georgia Tech.
• Health care plan changes and premiums for 2020.
• The appointment of Barge Design Solutions, Inc. as the Design Professional Firm for the Eco-Commons Living Building Sector.

Remaining Board of Regents meetings for 2018 will take place Sept. 11 in Atlanta, Oct. 9–10 at Augusta University, and Nov. 13 in Atlanta.

Marshall also always seems to have had another layer of resilience underneath each challenge she’s endured. Another testimony to her faith.

“I don’t want to get old and say ‘Oh, I wish I’d done that,’” she said. “I prayed to God, asked Him to teach me to not become one.

And God just answered my prayers, to where I don’t let other people make me act differently. I will not be bullied.”

That resolution served her well in fifth grade, when Sadie entered her first integrated classroom. Always an ‘A’ student, she immediately noticed something was off.

“All the books the black students had been using — all hand-me-downs — were a year behind the ones the white students had been using,” she said. “So it was hard, but it was not because we were stupid. It was because we were not given the same books. We were expected to work twice as hard just to be considered average.”

Marshall was not willing to be average.

“And I was not getting stuck in the lower classes,” she said. “I worked extra hard, stayed up late studying, and I found some smart friends to study with me.”

Faculty/Staff Dining Options Available

Georgia Tech employees can use options from Dining Services to save on the meals they eat on campus. Benefits include $5 Friday meals at the North Avenue and Britain dining locations and a 20 percent bonus for every $20 deposit. Employees have two options for depositing funds.

BuzzCard Deposit: Deposit funds (minimum of $20 initial deposit) directly to your BuzzCard to pay for meals at campus dining locations. You can reload funds at any time and do not have to maintain a minimum balance. You’ll receive a 20 percent dining bonus with every $20 deposit.

Payroll Deposit: Georgia Tech Employees may now use payroll deduction for their campus dining. Money is deducted every pay period, with a minimum of $20 to receive the 20 percent bonus with each deduction.

Learn more at gatechdining.com/facstaff.