Research ‘Puts Learning into Practice’ for Student

AMELIA FAYLIK
COMMUNICATIONS & MARKETING

In class, Lin Fan has listened to his professors explain the theory behind mechanical engineering. But his experiences in Todd Sulchek’s lab — both the challenges and successes — have ensured that he actually learned and understood it.

“I wanted to put what I was learning in lecture into practice, and getting involved in research was a way to make this happen,” said Fan, who will receive his bachelor of science in Mechanical Engineering next month.

Fan is one of 165 students who will present at this year’s Undergraduate Research Spring Symposium on April 10 from 1 to 6 p.m. The event is an opportunity for undergraduate students to share their research with students, faculty and staff from across campus.

According to Chris Reaves, director of undergraduate research, about 42 percent of graduating seniors indicate that they had an undergraduate research experience.

Fan began working with Sulchek, an assistant professor in the School of Mechanical Engineering, two years ago. Sulchek’s interest in working with undergraduates stemmed from his own positive experience as a student.

“As an undergraduate, I was able to get involved with research and had a great experience,” Sulchek said. “So it’s important to me to provide students with the same opportunity. I just wish more undergraduates would take advantage of these opportunities while they’re at Tech.”

When Fan began working in Sulchek’s lab, there were some initial challenges. For example, the first project he worked on wasn’t the best fit for him. It was more chemical engineering-based than mechanical, and it was difficult to collaborate with fellow students in the lab because none of them were working on a project similar to Fan’s.

“But I appreciated that Dr. Sulchek let me pursue the project and figure this out for myself,” Fan said.

Before Fan could get frustrated, Sulchek offered him the opportunity to work on another project that was a better fit. One aspect of Sulchek’s research in nanotechnology is using an atomic force microscope. However, for Fan, the first project he worked on wasn’t the best fit for him. It was more chemical engineering-based than mechanical. For example, the first project he worked on was a better fit.

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It was also a volcanic island that had been relatively calm since its last eruption in 1950. Until now.

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On average, admitted students will have taken eight classes that are Advanced Placement, International Baccalaurate or college-level by graduation. Tech’s admission review process and GPA re-calculation values a student’s choice to take more rigorous courses during his or her high school career.

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Campus News

Instructors Wanted for Fall GT1000 Sections

Sandi Bramblett volunteers to teach GT1000 because it provides her with an opportunity to interact with students — something she generally doesn’t get to do as executive director of Institutional Research and Planning and Decision Support Services.

“Teaching GT1000 serves as a reminder that Tech exists to educate the next generation,” said Bramblett, who has been teaching the course since 2002 when it was known as “PSYC 1000.” “I routinely hear from former students, and it’s always gratifying to know that they’re doing well and we had a positive impact on their experience at Tech.”

If you’re interested in teaching a section of GT1000, Freshman Seminar in Fall 2012, now is your chance to become involved. The Center for Academic Success is currently seeking faculty and staff members to teach. The one-credit seminar helps new freshmen adjust to college life, learn about their majors and related careers, and introduces them to campus resources. Each section has between 20 to 25 students, and instructors are assisted by upper-class students known as “Team Leaders,” adds Steven Girardot, director of the Center for Academic Success.

“We welcome people from any department at Georgia Tech, provided they have a minimum of a master’s degree in any field, have been employed at Tech for a year as of this summer and have the support of their department,” he said. “If a staff member has a bachelor’s degree, they may serve as a co-instructor in a section, provided we can find a primary instructor who has a master’s degree.”

The Center for Academic Success provides the course curriculum, resources and training, and the time commitment is usually a minimum of two to three hours per week — an hour of class and one to two hours of administrative work.

During the summer, the Center for the Enhancement of Teaching and Learning and the Center for Academic Success host a training program for all new and returning instructors.

“The first time you teach is the hardest, because you don’t know what to expect,” Bramblett said. “But if you are interested in the students as people, the rest flows pretty well.”

The deadline to apply is April 9, but applications will be accepted on an ongoing basis. For more information, email steven.girardot@gatech.edu.

www.gt1000.gatech.edu

Spring Brings Personnel Change Announcements

Research, continued from page 1

microscope (AFM). The AFM “sees” tiny objects (such as molecules) with the help of a small probe that touches the object’s surfaces and creates an image based on what it feels.

Unfortunately, the probe or the surface often gets damaged during the process. To remedy the problem, Fan created a method to hover the AFM’s probe at a fixed distance above the surface, which decreases the risk of damage to the probe and the surface. Last month, Fan’s research was published for the first time in an academic journal, the Review of Scientific Instruments — which doesn’t happen to most undergraduates, Sulcheck added.

“It’s so amazing to see more than a year’s work finally pay off,” said Fan, who will spend the summer working in Sulcheck’s lab before he moves on to graduate school.

Fortnow’s research spans computational complexity and its applications, most recently to micro-economic theory.

Annion will become chair of the School of Interactive Computing on July 1. She is currently a professor of computer science at North Carolina State University.

Anion earned three computing degrees from Georgia Tech, completing her bachelor’s in 1990, master’s in 1992 and PhD in 1997.

Her current research focuses on the specification of complete, correct behavior of software systems that must comply with privacy and security regulations. She is founder and director of ThePrivacyPlace.org.

“The School of Interactive Computing — the only school of its kind in the nation — is a unique resource for Georgia Tech and the country,” Annion said. “I am honored to return to Ma Tech” and to partner with Dean Gall and the entire Tech community in aspiring to and achieving new levels of excellence.”

James “Jim” O’Connor, who has served as interim vice president and chief information officer for the past 18 months, has been tapped to lead the Institute’s OIT on a permanent basis.

As vice president, O’Connor will oversee the services, initiatives and policies originating from the seven directorates — including information security, academic and research technologies, telecommunications, architecture and infrastructure, resource management, information technology services and enterprise information systems — that comprise OIT.

“Over the past 17 years, I’ve had the privilege of working alongside many exceptional colleagues, both within OIT and across the Institute,” O’Connor said. “I look forward to continuing those partnerships to provide our campus with technologies that foster education, scholarship, research, administration, communications and community.”
Faculty, Staff Invited to Honors Luncheon

As the semester winds down, it’s time to recognize the efforts of fellow colleagues at this year’s Faculty and Staff Honors Luncheon.

The luncheon will be held on April 12 from noon to 2 p.m. in the Student Center Ballroom. This year, 10-year and 25-year service award winners will be recognized, as well as a myriad of Institute awards winners, culminating in the most prestigious designation, the Class of 1934 Distinguished Professor Award.

This year’s Faculty and Staff Honors Luncheon will be held on Thursday, April 12.

www.yjfc.org

If you’ve ever gazed longingly at a small plane flying overhead and thought, “I'd like to be up there,” there’s a group of fellow yellow jacket enthusiasts eager to help make your dream a reality — the Yellow Jacket Flying Club (YJFC).

Leihong Li, a research engineer in the School of Aerospace Engineering, became involved with the club a year ago because she wanted to have hands-on experience to better understand her research.

“A lot of aircraft designers and engineers never actually fly,” Li said. “It wasn’t until I started flying that I really began to understand the theories behind, for example, aerodynamics and structure. Now, I’m more effective when I explain these concepts to students.”

The YJFC was founded in 1946 by students who served as pilots in World War II. It is the nation’s oldest college-affiliated flying club, said Jud Ready, outgoing faculty advisor to YJFC and a principal research engineer at Georgia Tech Research Institute (GTRI).

Ready became involved with the club as a student in the late 1990s and later rejoined when he accepted the job at GTRI in 2003.

“We’re here to support any member of the Tech community — students, faculty, staff and alumni — who loves flying, whether they are licensed pilots, looking to earn a license or just want to be around planes,” Ready said. “Actually, about 80 percent of new members have never flown a plane.”

The club currently has more than 150 members and owns four planes. YJFC meets Tuesdays at 6:30 p.m. in room 211 of the Instructional Center.

Each meeting kicks off with a half-hour executive committee meeting where new members are admitted and budget, program planning and maintenance issues are discussed. Then, a one-to-two-hour program related to aviation follows that might feature a guest speaker or film.

Beyond the meetings, members can schedule lessons, volunteer to clean and maintain the planes or rent the planes as their schedules permit.

There are costs associated with being a member of YJFC, but Ready points out that they are significantly less than what a person would pay who was not a member.

“For example, people who want to earn a pilot’s license would usually pay about $50 an hour for an instructor, whereas we charge $25,” he said. “And the cost of using a plane is usually around $150 an hour — with fuel and oil included — whereas we charge under $100 for the same.”

Annual dues for nonstudents are $90, and nonstudent members also pay a quarterly scheduling fee of about $100, which covers fixed costs, insurance fees, aircraft parking, flight planning facilities at the club’s home airport, four headsets per place, aeronautical charts, and access to the online plane reservation system. (These costs are on a tiered system, so students pay less for dues.)

Recently, the club moved its home base from the Fulton County Airport to DeKalb Peachtree Airport (PDK). The move will likely save YJFC about $30,000 a year, primarily in fuel costs.

“We have more maintenance options at PDK, and it’s also a more convenient location, given many club members live in the northern suburbs of Atlanta, and there is a MARTA station less than a mile away,” Ready added.

Anyone interested in joining the club is invited to attend one of the Tuesday meetings.

“Don’t let your worries get in the way of giving flying a shot,” Ready said. “Flying a small plane is a liberating experience that everyone should have. Come out and join us.”

For more information, send an email to membership@yjfc.org.

EARTHQUAKE, continued from page 1

Atmospheric Sciences, cannot be certain whether an eruption is imminent since observations of such activity on these types of volcanoes are limited. In fact, similar calderas around the globe have shown comparable activity without erupting. However, Newman said the chamber has expanded by 14 million cubic meters since last January; enough magma has been pumped into the chamber to fill a sphere three foot wide.

Should Santorini erupt, Newman said it will likely be comparable to what the island has seen in the last 450 years.

“That could be dangerous,” Newman added. “If the caldera erupts underwater, it could cause local tsunamis and affect boat traffic, and critically disrupt the ecosystem of the island.”

But a large eruption is not certain to be anytime soon, Newman said.

“Perhaps, in another 100 years,” he added.

www.coe.gatech.edu

ACCEPTED, continued from page 1

competition for admission to Georgia Tech is increasing, and every class raises the quality of our campus.”

The class also continued the trend of being more diverse, with 86 countries and 49 states represented in the admitted class. Tech accepted more women and Hispanic students this year compared to last year. Clark clarifies, however, that admittance statistics don’t necessarily predict ultimate enrollment numbers.

“We’ll see these numbers fluctuate between admittance and matriculation,” Clark said.

Approximately 14,700 students applied for acceptance to Tech, an increase of 14% from 2011, according to Clark. For Georgia Tech, the Class of 2016 has a record 28% Asian-American enrollment, the highest percentage in the school’s history.

For more information, visit www.admission.gatech.edu.

www.coe.gatech.edu
Shepler Draws from Experience to Guide Students

When a distraught student who is having second thoughts about majoring in chemistry comes to Carrie Shepler, she’s able to provide him with meaningful advice — because she’s been there herself.

“I had a plan and ended up no where close to following it,” said Shepler, who is director of freshman chemistry. “But this change of plans has helped me to better relate to many of the students that I’ve worked with.”

Before her self-described “mid-college crisis,” Shepler wanted to become a nuclear medical technician, a job she’d learned about after her father had a heart attack and had to undergo regular stress tests to check for heart problems. “But this huge part of this job. So I accepted and eventually moved to my current position, which allows me to offer more teaching. I’ve been in my dream job ever since.

What does your job entail?

I teach Tech’s freshman chemistry courses each semester, but really I only spend about 10 percent of my time in the classroom. A lot of my days are spent in office hours, advising, writing recommendation letters and taking care of the logistics to ensure that everything goes smoothly for other instructors teaching this course.

What have you learned from your students?

Students often remind me to follow my own advice. For example, sometimes it takes me a few years to realize I wasn’t interested in doing lab research for the rest of her life. Years later, as a teacher and academic advisor, Shepler has found her “dream job.”

“Many mentors listened to me when I wasn’t sure of where to go next,” she said. “And I’m thankful that my job allows me to do the same for students who are in the position that I was in.”

Read on to learn more about Shepler and her time at Georgia Tech.

How did you end up at Georgia Tech?

About four years ago, I was working as a postdoctoral fellow at the University of Georgia, teaching and doing research in chemistry education, when I was invited to interview for a position as chemistry and biochemistry undergraduate program coordinator at Tech. I didn’t think I would be offered the job, and I didn’t think I’d take it if I was because there wasn’t enough teaching involved. But after being offered the job, my mom convinced me that what I loved most was interacting with students — which was a huge part of this job. So I accepted and eventually moved to my current position, which allows me to offer more teaching. I’ve been in my dream job ever since.

What was the biggest risk you’ve ever taken, and did it pay off?

Taking the job here at Tech, since I wasn’t sure if it was right for me. But it certainly did pay off!

If you could have dinner with one person, dead or alive, who would it be?

President Obama, because I’d love to gain him some better understanding of the pressures of his job.

If you were stranded on an island, what is the one book you would want with you?

“To Kill a Mockingbird” (by Harper Lee), because it’s my all-time favorite book.

Tell us something about yourself that others might not know.

The one thing of technology that I need to do the same.

There is nothing that can replace the joy that a loved one or cherished friend brings to our lives. Each year the Georgia Tech community is deeply saddened by the loss of members of our own community. This spring, our school will honor the memory of these student, faculty, and staff members who have died in the past year. Join us as we pay tribute to those individuals who have touched our lives and contributed to our community.

When the Whistle Blows

Blow on, stern Monarch of Tech’s mighty crew, Be always firm and staid: To your compelling call we’ll be true Till each his part has played. ~ A.D.A.

Taken from “A Tribute to the Whistle,” as printed in the 1914 Blueprint, Georgia Tech’s yearbook.

Date: Tuesday, April 10, 2012 • 5:15 p.m.
Location: Harrison Square
Welcome: Mr. and Ms. Georgia Tech
Speaker: President G. P.”Bud” Peterson
Honored Guests: Family and Friends of the Deceased
Rain Location: Bill Moore Student Success Center

CLASSIFIEDS

MISSCELLANEOUS

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Community News

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