We continue to be excited about the progress on the new home for the School of Biology, the Engineered Biosystems Building, scheduled for occupancy in Spring 2015. The site has been excavated and the foundation will soon be laid. You can keep up with the progress at http://www.oxblue.com/open/mccarthy/ebb where webcams record the changes daily. Have a look at our program to assist biology undergrads to find their career path, and the role of alumni in facilitating this effort. We hope that you enjoy the reminiscing of alums Dr. Robert Gross ’62, the first graduate of the School of Biology, and Dr. Willie Caldwell ’65, chair of the Pharmacology and Toxicology department at Georgia Regents University (formerly Medical College of Georgia). The spotlight on philanthropy illustrates how the generosity of alums Dr. Wayne and Willa Kerr is making a difference in the lives of biology undergrads. Share our pride in the several biology graduate students and faculty who won awards this year. Lastly, all alums are invited to join us April 19 for our Spring Biology tailgate for the GT vs North Carolina State baseball game. It should be fun!

Best wishes,

Terry W. Snell
Professor Terry Snell
Chair
School of Biology
The School of Biology hosted a box for 14 Biology alumni for the Miami football game September 22, 2012. The afternoon began with a tailgate at the usual spot, underneath the big oak tree on the east side of the Environmental Science & Technology building, adjacent to the baseball field. Kickoff was at 3 pm and Tech promptly fell behind 19-0 by the end of the first quarter. Tech’s offense was rejuvenated in the second quarter, scoring 22 unanswered points to take the lead at the half. Tech expanded their lead in the third quarter to 36-22, but they could not hold off Miami who finally won 42-36 in overtime. Despite the loss, it was a great game and we all felt pleased that we witnessed exciting football. The camaraderie in the box was especially enjoyable and a wonderful way to spend a fall afternoon.
The Engineered Biosystems Building represents a tremendous step forward in creating the infrastructure that sustains scientific discovery. Georgia Tech is committed to improving and saving lives by providing facilities that will enable the science to bring new treatments, medical technologies, medications and therapies to patients. The key to innovation lies in collaboration, and the Engineered Biosystems Building (EBB) is designed to facilitate research across disciplinary and institutional boundaries. Its very existence is a testament to the power of the longstanding partnership between Georgia Tech and the state of Georgia.

Partnerships are integral to EBB—between faculty from the Colleges of Sciences, Engineering, Computing, and between Georgia Tech researchers and those from Emory University, Children’s Healthcare of Atlanta, and other institutions. They will distinguish Georgia Tech from its peers as an undisputed leader in biomedicine and biotechnology.

The Engineered Biosystems Building will provide 200,000 square feet of technologically advanced laboratories for faculty, researchers, and students from the Colleges of Sciences and Engineering to pursue Georgia Tech’s growing research agenda in the biological sciences. This infrastructure is vital to fostering cutting-edge research focused on improving human health, and Georgia Tech researchers will have the tools they need to make the discoveries necessary to advance the frontiers of knowledge.

The building will also strengthen the Institute’s ability to attract and retain the best faculty from around the nation and the world. It will allow the College of Sciences to increase the size of its faculty in the School of Biology over the next decade. In turn, these exceptional teacher-scholars will draw the brightest, most talented graduate students to the college. And EBB will significantly enhance Georgia Tech’s commercialization efforts, stimulate job growth in the state and generate new startup companies.
Many Biology faculty are internationally renowned scientists. They often get invitations to speak at leading universities, scientific meetings and government advisory committees. Whenever possible, we have these presentations recorded so that students and alumni can view these lectures online at their leisure. You can find these lectures at http://www.biology.gatech.edu/research/videos/, so have a look at some of the cutting edge research performed at Georgia Tech. You will be astounded by the breadth and accomplishments of our faculty.

A partial list of titles:
The BP Oil Spill and Biological Impacts in the Gulf of Mexico—Professor Joel Kostka
An Integrated Approach to Cancer Research—Professor John McDonald
Yeast Models for Amyloids and Prions—Professor Yury Chernoff
Biologically Inspired Design for Interdisciplinary Education—Professor Jeannette Yen
Dynamics, variance and molecular mechanisms of seaweed-coral interactions—Professor Mark Hay
Computational Structural Biology in Macromolecules—Professor Steve Harvey
Finding the Right Career
Dr. Mirjana Milosevic Brockett

The School of Biology recognizes how challenging it is for our undergraduates to find the right career path. To help our undergrads make these important decisions, we have enlisted our alumni as counselors to take advantage of their broad experience in a wide variety of careers. For example, we host a “First Thursday of the Month” career series luncheon for our students to learn about career paths in education, research, medicine, dentistry, and forensics from practicing professionals. We also host periodic evenings with biology alumni for our undergrads to learn about their personal career experiences and to get tips about how to facilitate launching a career.

In October we had a great dinner with biology alumnus Dr. John Harden ’74, DMD, attended by a number of pre-dental students, as well as others interested in dentistry or anesthesiology. In January we hosted a dinner with another prominent biology alumnus, Dr. Fred Levin ’72, MD. These experiences are very meaningful for our students and we uniformly get positive feedback. We are very grateful to our alumni for participating in these conversations that so impact the lives of our undergrads.

To assist the career development of our pre-medical students, our American Medical Student Association (AMSA) hosted local health professionals last November for Networking Night. Students were able to learn about the medical field over dinner and talk to local physicians about their education, work and everyday lives. AMSA also organized the 7th Annual Pre-Health Conference that was held on Saturday, March 2, 2013 and included breakfast, lunch, informative panels about health school admissions and current healthcare issues, hands-on workshops and a huge health school fair. This event was open to the whole campus and to other universities. The School of Biology was one of the proud sponsors of this big event.
Alumni Highlight—R. William Caldwell

R. William Caldwell, B.S., Biology, Georgia Tech ('65), Ph.D., Pharmacology, Emory ('69) is professor and chair of pharmacology and toxicology at Georgia Regents University (formerly, Medical College of Georgia). After completing his doctoral studies at Emory and brief postdoctoral studies there in clinical pharmacology, Caldwell became an Army scientist at the Walter Reed Army Institute of Research. From there, he joined the faculty at University of Tennessee Center for the Health Sciences (Assistant Professor, '72; Associate Professor, '75; Professor, '79). In 1987, he became a Fogarty Senior International Fellow; Centre de Biochimie-CNRS; Nice France. Shortly thereafter, Caldwell assumed the position he currently holds.

We asked Dr. Caldwell to reminisce about his experience in the School of Biology at Tech:

Who were your favorite biology professors and what was special about them?

I particularly remember Dr. Peter Gaffney who was a young faculty member in Applied Biology at that time. He was a very interesting and interactive teacher who made me want to learn more. He taught genetics with a strong quantitative background which allowed one to build a better understanding of the current field. He also taught a great course on microbiology applied to water and waste treatment and use of fermentations for industrial use. We had several field trips to observe and examine the various processes. One I remember well was a day at the Carling Brewing Company on the south side of Atlanta. I also remember Dr. John Dyer in Chemistry who was a great teacher and motivator.

What was one of your most memorable experiences in the School of Biology?

At the time, the school was small, so we as students knew each other and the faculty very well. It was a quiet and formative time as we developed and decided what to do after graduation. The faculty members were very good mentors.

What was the most important lesson learned at Tech that has best served you in your career?

The curriculum was and is tough at Tech. We took many courses simultaneously and the expectations and examinations were rigorous. I learned that I had to study hard and daily to keep up and succeed.

Do you have some career advice for new generations of Tech biology graduates?

Work hard and take advantage of the excellent and varied courses and career options that are available to you through the School of Biology and other schools at Tech. I have visited the campus and School of Biology several times in the last few years. The present faculty members are outstanding and want to help you develop to your potential and succeed in your field.

Editor’s Note: Dr. Peter E. Gaffney was an associate professor at Tech from 1958–1965. Due to the increasing demand by CDC scientists for evening microbiology classes, the Board of Regents created a committee to explore this possibility. Gaffney was asked to serve on this committee, and went on to initiate the Georgia State University's (GSU) microbiology program. Professor Gaffney retired from GSU in 1988. Currently, Dr. Gaffney and his family reside in Atlanta.
Dr. Robert J. Gross, B.S., Biology, Georgia Tech (’62), M.D., Emory (’66) was born in New York City and spent his childhood on Long Island. He moved to Atlanta as a teenager and graduated from Druid Hills High School. After medical school, Gross traveled around the U.S. until his career, family and love of Pinot Noir brought him to Portland. In 1978, capitalizing on Western Oregon’s unique soils and climate, Gross and his wife, Corrine planted the very first pinot noir and chardonnay vines in the area’s unique soils; an area known as Cooper Mountain. In 1987, they opened the Cooper Mountain Winery. Today, his visionary efforts and commitment to sustainability continue, and he is deemed a leader in the pursuit of alternative farming and winemaking practices. In addition to owning the vineyards, Gross is a psychiatrist, homeopath and acupuncturist.

We asked Dr. Gross to reminisce about his experience in the School of Biology at Tech:

Who were your favorite biology professors and what was special about them?

Dr. Peter Gaffney was my most memorable professor. He was very personable, approachable and supportive. He was most encouraging of my ambition to go to medical school and worked to create a great pre-medical program within the newly formed biology department. Unbeknownst to me, he even arranged a scholarship opportunity for me at the Medical College of Georgia.

What was one of your most memorable experiences in the School of Biology?

We had the chance to do summer work for the department which included several field trips all over the state with Dr Gaffney as our preceptor. Seeing him in action in a hands-on way was inspirational. I also remember well our fermentation class which helped launch my career in winemaking. By the way, our fermentation class mostly focused on sauerkraut but we made an attempt at beer—non-alcoholic of course!

What was the most important lesson learned at Tech that has best served you in your career?

Being a pre-medical student and a track athlete at the same time was a challenge forcing me to really buckle down, focus and be efficient with my time for the first time in my life. Also some subjects did not come easily and taught me the traits of perseverance and dedication to reach my goals.

Do you have some career advice for new generations of Tech biology graduates?

Georgia Tech has not only great science and engineering departments but also a wealth of liberal arts resources. There is plenty of time in a science career to pursue excellence in these subjects but precious little time to be exposed to non-science subjects. I feel this strong, non-science background at Tech prepares us to be something special among the technical. Don’t pass up these opportunities. Also, take advantage of the extracurricular activities that are offered, they also contribute to long term success.
Generous gifts from Biology alumni and friends provide critical support for activities that promote the professional development of our faculty and students and enrich their experience at Tech. A pair of alums who recently made a difference in the School of Biology are Willa D. Kerr BIOL ’73 and Wayne E. Kerr BIOL ’73, MS BIOL ’74. They generously provided a $50,000 gift designated to establish the Willa D. and Wayne E. Kerr Endowment Fund that will generate support for school activities like awards to recognize outstanding undergraduate research performed in Tech labs. Such awards encourage our students to participate in faculty mentored research and stretch themselves to achieve their full potential as scientists.

For additional opportunities for philanthropy, please see our website at http://www.biology.gatech.edu/contribute/contribute.php.
Several Biology faculty and students won awards this year, including:

**Georgia Institute of Technology, 2013 Sigma Xi Research Awards were:**

- Best Faculty Paper: David Hu, Assistant Professor (Mechanical Engineering/Biology)
- Best PhD. Thesis: Douglas B. Rasher, Biology (Advisor: Mark E. Hay)
- Chengwei (Alex) Luo, Biology (Advisor: Kostas Konstantinidis)

**GT Center for Education, Teaching and Learning Awards**

- Dr. Cara Gormally—Innovation & Excellence in Lab Instruction
- Dr. Chrissy Spencer—Outstanding Undergraduate Academic Advising

**Undergraduate Awards**

**Faculty Award**

A $1000 award given to Alli Gombolay for contributions to the School of Biology in research, through her honor’s thesis and participation in the UROP symposium, and in service as president of the Tri-Beta Honor Society. Alli will attend Emory’s MPH program beginning Fall 2013.

**John H. Ridley Award** (3 awards)

A $3,000 award given to Andrew Warren who plans to apply to Medical Schools in the Southeast. Andrew is an academic star with a perfect 4.0 GPA who his research at the 2011 SERMACS conference.

The second winner was Arjun Meka who plans to pursue a MD/MPH. He is co-author on one 2011 publication, has one in press article, and has one in preparation manuscript. He presented his research at the 2011 AAAS Conference at Washington D.C and on campus at two UROP events. He has served as the School of Biology SGA representative (2 years) and been CFO for an undergrad science policy magazine (The Triple Helix). He is a President’s Scholar and a Stamps Leadership Scholar.

The third winner was Divya Natarajan who plans to pursue a M.D/Ph.D. degree with oncology and cancer drug discovery specializations. She performed summer research in 2012 at Morehouse School of Medicine.

**Williams-Wolls Award**

This $500 award was given to Pamela Sara Head who has applied to Emory, Clemson, and Georgia Tech for a genetics PhD program.

**Cherry L. Emerson Research Award**

This $500 award was given to Agreen Hadadi for his research paper entitled “Membrane Estrogen Signaling Enhances Tumorigenesis and Metastatic Potential of Breast Cancer Cells via Estrogen Receptor-_36 (ER_36)” published in 2012 in The Journal of Biological Chemistry VOL. 287, NO. 10, pp. 7169–7181.

**College of Sciences Undergraduate Award Winners**

**Clanton Award—$250**

Azam Siddiqui

**Phingbodhipakkiya Award—$250**

Michelle Su
Barbara Walker Retires

With nearly 20 years of service, administrative manager Barbara Walker retired at the end of 2012. Her Tech career started in the Office of Human Resources before moving to Modern Languages. In 2004, she joined the School of Biology. Walker was the recipient of numerous awards including the GT Outstanding Staff Performance Award (1999) and the GT Don Bratcher Human Relations Award (2009).

Devoted to her family, Walker looks forward to spending more time with daughter, son-in-law and grandsons, Jake and Ian. “Nana” never misses any of her grandsons’ sporting or school events. She says she now has time to read, watch movies, lunch with friends, travel and sleep in!” In her spare time, she will continue her work as a court appointed special advocate for abused and neglected children as they move through the court system.

“Her service has been characterized by an overwhelming dedication to our school’s faculty, staff and students,” said Dr. Terry Snell. “She will surely be missed.”

Upcoming Events for Biology Alumni

School of Biology Tailgate
Friday, April 19, 2013
2:00–8:00 p.m.
Westside of baseball stadium, under the oak tree
No R.S.V.P. needed

3:00 p.m. Baseball Game
GT vs. North Carolina State
Chandler Stadium
Admission: $4, each
Baseball tickets may be purchased at the stadium.

7:30 p.m. Spring Football Game
Bobby Dodd Stadium
Admission: Free

Take me out to the bollgames!