

Dr. Peterson

Industry Appreciation Day/National Manufacturing Day Luncheon

11:45 a.m.-1:15 p.m. Friday, Oct. 3, 2014, Mercer University's Douglas County

Regional Academic Center

It's good to be back in Douglas County and always enjoyable to meet with industry and manufacturing leaders. Today is National Manufacturing Day, and we had an enjoyable time this morning touring M.A. Industries. Before we get too deep into today's subject, I always like to get the lay of the land. How many of you are proud Georgia Tech alumni?

Georgia Tech supports National Manufacturing Day through a series of events designed to showcase manufacturing to the future workforce, support the industry's efforts to change the public image of manufacturing, and ensure the ongoing prosperity of manufacturing in Georgia and the U.S.

Georgia Tech has a long history of involvement with manufacturing. In 1885, it was founded to transform the South into an industrial economy. Today we support manufacturing through degree programs, open-enrollment courses, research, technical assistance, and more. We have three main units at Georgia Tech that are involved in this collaboration:

- The Georgia Manufacturing Extension Partnership (GaMEP) is part of the federally funded MEP program (supported by NIST out of the Department of Commerce) and helps manufacturers grow and stay competitive through technical assistance, training, and education.
- The Georgia Tech Manufacturing Institute brings together top researchers and thought leaders from varied disciplines that shape manufacturing.
- CEISMC works with K-12 students in Georgia to receive the best possible preparation in education for science, technology, engineering, and mathematics (STEM).

- GT continues to be a national leader in manufacturing, both in research, innovation and personal assistance to small, medium and large manufacturers around the state (could cite EI2 statewide data and even specific examples near each stop).
- We continue to have influence on important national issues by having Georgia Tech faculty testify before Congress, serve on federal advisory boards and National Academy studies and compete for and win competitive funding from research agencies and our industry partners.

More than ever, we are a go-to place for both students who want a technology-focused education that is in high demand in our modern economy as well as companies who want to stay on the cutting edge.

On our 2014 Summer Tour that took us more than 500 miles through eight middle Georgia cities, we visited Solvay Polymers. Solvay's history dates back more than 150 years when Ernest Solvay and his brother Alfred built their first plant near Brussels, Belgium. We're proud that our Center for Organic Photonics and Electronics and Georgia Tech's Enterprise Innovation Institute, or EI-squared as we call it, have partnered with Solvay. That partnership makes both of us stronger.

Solvay has changed and diversified since the Solvay brothers started it, but I ran across an observation by Ernest Solvay that helped me realize one of the values we have in common. He said, "We have always operated by imposing on our minds a duty of continuous progress," and that's how we at Georgia Tech regard our duty as well.

Also this summer, we toured the King's Hawaiian facility near Gainesville, and it was impressive. King's Hawaiian is a family-owned and -operated company known for its Hawaiian bread. It's based in California, but it saw opportunity here, and it's worked out well. We're building relationships with the company. Our GTRI Food Technology and

Robotics team toured the facility earlier this year to get an idea of how we might help in the production process. We've also connected our Georgia Tech Agricultural Technology Research Program with King's Hawaiian. In addition, King's Hawaiian participated in our Georgia Tech career fair, and we're very grateful for their support. In May, Georgia Tech held its 247th commencement exercise, and I shook the hands of about 2,700 undergraduate and graduate students as they crossed the stage in three ceremonies in McCamish Pavilion on our Atlanta campus. Some have referred to commencement as our largest technology transfer event. These students have worked hard to prepare to be innovators and leaders, ready to tackle some of society's toughest challenges.

Before they leave the Institute, they have had many opportunities to prepare themselves. In addition to classroom experiences, Georgia Tech offers a number of chances for students to become engaged, such as a Capstone Design project, and our Invention Studio, run by students. We partner with business and industry in a number of these projects, including the Spring Convergence Innovation Competition held in April. One of this year's winners was a Google Glass application designed to caption conversations for the deaf or hard of hearing. AT&T, Code42, Cisco and GM sponsored the Spring 2014 CIC. Organizers hosted open houses, tutorial sessions and industry engagement sessions with sponsors and thought leaders. IPaT and the Georgia Tech Research Network Operations Center (GT-RNOC) produce fall and spring editions of the competition each year.

Along those lines, Georgia Tech this past spring held our sixth annual InVenture Prize competition. The competition has drawn 2,400 participants over the six years. The finals are shown on Georgia Public Broadcasting, and the atmosphere is very exciting. The prize encourages undergraduate students' interest in invention, innovation, and entrepreneurship. Some 560 students — the most we've had — signed up for this year's contest. The six finalist teams presented their design and their business plan. The winner received \$20,000, and Georgia Tech provided free licensing. Many winners

have gone on to market their products. Students are an active part of research and discovery, and today more than 60 percent of innovation disclosures at Georgia Tech name one or more students among the inventors.

Our Capstone Design Expo this spring drew more than 900 students and 170 teams. The Expo showcases projects from the undergraduate senior design courses in which students work together to design products or tackle real-world problems.

We have close to 700 alumni living in the Gainesville area. This past fall, we had 135 area residents who are Georgia Tech students. Most came from the five public high schools in Hall County, and they are strong students. Their average SAT score was 1341, and their average high school GPA was 3.92. And in the past 10 years, we've awarded 184 degrees to students from your area.

But as good as we are at preparing these students for the future, their education cannot end when they cross the stage. Technology that was state of the art when they were freshmen is often outdated by the time they graduate. Because of the rapid changes and the increasingly global focus of society, individuals must commit to a lifetime of learning.

At Georgia Tech we have some of the world's most outstanding students. We have an enrollment of 21,500 undergraduate and graduate students from 115 countries. During my five years at Georgia Tech, each year we've welcomed a class more outstanding than the year before. For Fall 2014, 23 percent of the applicants are international. We have admitted students from 47 states, 63 countries, 87 Georgia counties, and more than 1,300 high schools.

We had 25,880 applications for 2,800 spaces, a 46 percent increase in one year. The admission decision is based on a combination of academic excellence and leadership activities. To give an idea of how demand has grown, in 2008 we admitted 62 percent

of the almost 10,000 applicants. For the incoming freshmen who will soon be with us, we admitted only 33 percent of almost 26,000 applicants.

During the past five years, we've had a 70 percent increase in applicants. This year alone our applications for early decision were up by 37 percent. The "early admits" that we accepted in January have an average 1485 math and verbal SAT, and hold an "A" average. And, our freshman class is 39 percent women, an all-time high. We recently welcomed those new students onto our Atlanta campus.

Many people think of Georgia Tech as, primarily, an institution that prepares new graduates. But we're not done with you just because you've graduated. The Institute has a vigorous post-graduate learning program called Georgia Tech Professional Education. Twenty-four Hall County residents took part in a GTPE course last year.

In addition to the nearly 21,500 credit-seeing students at Georgia Tech, another 13,525 professionals seek educational credentials from GTPE, representing 111 countries around the world. As employer and employee needs evolve, working adults need to access Georgia Tech's expertise throughout their careers. GTPE supports individuals, as well as industry and community partners with courses, professional certificates, and master's degree programs directed by top faculty and leading industry experts. Because the majority of our students are balancing careers, family, and school, courses and programs are offered face-to-face, online, via videoconference, or customized and delivered directly to individual companies.

People are usually surprised to learn about other aspects of Georgia Tech, including what we are doing to help keep the workforce globally competent, ways we are partnering with business and industry, and our impact in communities throughout the state, including Gainesville and Hall County.

Georgia Tech is invested in Northeast Georgia, and today I would like to talk about some of the exciting things we are doing here. One way we're invested is through our employees. We have 154 Georgia Tech employees who come to us from Northeast Georgia, and they return \$11.1 million in salaries to your area.

The Georgia Manufacturing Extension Partnership, or GaMEP, is a program of Georgia Tech's Enterprise Innovation Institute. GaMEP has worked closely on several initiatives with companies in Hall County and Northeast Georgia. The GaMEP Northeast Region Manager, Bill Nusbaum, is based here in Gainesville. Bill provides technical assistance to area industries and supports Georgia Tech's economic development efforts through training, research and on-site assistance.

The GaMEP Northeast Region is partnering with Lanier Technical College's Manufacturing Development Center. GaMEP is currently working with a startup manufacturing company within Lanier Tech's incubator program, helping it make design improvements before going to market in the U.S.

Just last year, GaMEP helped 21 manufacturing companies in Northeast Georgia reduce operating costs by more than \$2 million and increase sales by \$1 million, creating or saving 23 jobs. Among the companies we assisted were MM Systems, Harris Calorific Inc., and Osborne Wood Products Inc.

After working with GaMEP, the Harris Products Group of Gainesville realized a 75 percent reduction in WIP (work in progress) related to a certain component, by reorganizing their production process. This improvement has led to significant savings for Harris and freed up cash that was previously tied up in inventory.

GaMEP worked with The Sign Company, a custom-sign manufacturing business in Athens that employs 13 people. Through training, we were able to help The Sign Company create a culture of continuous improvement that encouraged workers to

constantly look for ways to improve performance and efficiency. With our help, here are just a few things the company was able to accomplish:

- Reduced projects getting lost or off-track in the queue from 8 percent of all projects to almost zero;
- Streamlined the process to move scrap from inside the building to the dumpster and recycling bin, eliminating pile up;
- Began to break their production lines into two tracks, allowing for smaller and easier signs to move through production more quickly than before and establishing different lead times for each type of job.

The poultry industry has a strong presence in the Gainesville area, so we like to highlight agricultural technology research. Our Georgia Tech Research Institute has worked on a technology transfer with a Gainesville company, Gainco, whose expertise is in solving food-processing challenges by delivering equipment, systems, and solutions that enhance yields. Gainco has begun commercial testing of GTRI's Poultry Deboning Line Screening System. If it works in coordination with technology Gainco already has, it has great potential to improve poultry processors' bottom lines by increasing the yield from each bird.

If you're looking for assistance identifying, competing for, and winning government contracts, we can help in that effort. The Georgia Tech Procurement Assistance Center (GTPAC) has an office in Gainesville. Joe Beaulieu (pron. BEW-low; accent on first syllable) is our program director and counselor for your area, and he's got more than 30 years of experience in this field. During the past three years, GTPAC has helped companies in Northeast Georgia win more than \$98 million in new contracts, and it has 133 active clients in the Gainesville/Northeast Georgia area.

Both GaMEP and GTPAC are programs based at Georgia Tech's Enterprise Innovation Institute, or EI-squared, as we call it. EI₂ is Georgia Tech's primary business outreach organization. It works with the Georgia Academy for Economic Development,

training local officials on the basics of economic development. Each year, Georgia Tech speaks with local leaders and elected officials of the Northeast Georgia region on the importance of understanding the fiscal impacts of development.

In our public schools, we encourage early introduction to STEM education — that's Science, Technology, Engineering, and Mathematics. A local business called Engineering for Kids has that mission, and although it's not officially affiliated with Georgia Tech, it is owned and directed by a Georgia Tech graduate, and it serves Hall County and other parts of Northeast Georgia. We applaud that type of endeavor.

I spoke earlier about the InVenture Prize. The Georgia High School InVenture Challenge was inspired by the Georgia Tech InVenture Prize. Eight high schools from seven counties participated this year, and we'd like to see more. Our goal is to extend the success of InVenture to high school students and inspire them toward invention, innovation and entrepreneurship.

Collaborations like that are vital. It's important to lay the educational groundwork for STEM fields in the early years because expectations for higher education are changing. We can't wait until students are college-aged. Today, institutions of higher learning are expected to:

- Ensure that graduates are both employable and prepared to adapt and lead in an ever-changing world that many times requires an interdisciplinary approach to developing solutions to grand challenges.
- Move research from the bench top to the consumer quickly to enhance economic development and create more jobs.
- Be global in nature and provide lifelong learning opportunities to people around the world using advanced technology.

I'll share briefly how Georgia Tech is working to meet these changing expectations, and then we'll have time to take some of your questions.

At Georgia Tech, we talk about taking students from education to employment. Actually, it goes beyond that. We are preparing innovators and leaders to help solve some of society's biggest challenges, now and in the future. To do that requires long-range thinking. When I became Georgia Tech's president five years ago, we engaged the entire university community in the development of a 25-year strategic plan entitled "Designing the Future." We launched the plan in the fall of 2010 with five goals. It was designed to be fluid, responsive to changes in technology and society's needs. We have made solid progress in all five areas. The five main strategic goals are:

- Be among the most highly respected technology-focused learning institutions in the world.
- Sustain and enhance excellence in scholarship and research.
- Ensure that innovation, entrepreneurship, and public service are fundamental characteristics of our graduates.
- Expand our global footprint and influence to ensure that we are graduating good global citizens.
- Relentlessly pursue institutional effectiveness.

If we're to reach those goals, we have to collaborate effectively with vibrant communities like yours. In Hall County, we are committed to boosting the continuum of learning, keeping your workforce globally competent, and partnering with you to create a brighter future for individuals, companies, and your community.

In closing, I want to tell you about a scholarship program that has come to mean a great deal to me. The G. Wayne Clough Tech Promise Program provides financial support for Georgia residents whose family income falls below 150 percent of the federal poverty level. We currently have about 200 students in the program. One is a young man who graduated from Chestatee High School in Hall County. Kristofer Krauth is a junior in aerospace engineering who's well on his way toward graduating with a degree. Tech Promise recipients can attend tuition-free — that's tuition, books,

room and board. I cannot tell you how important this program is to the institution, to our state, and to the young people whose lives it touches.

Through programs like the Tech Promise and many others, we're preparing the next generation of leaders and innovators. Georgia Tech is about changing lives. We're curing diseases. We're revolutionizing manufacturing processes, designing global solutions, and developing and implementing breakthroughs in dozens of areas. We're influencing thinking in science, technology, and policy. Our 140,000 living alumni are serving as ambassadors in their communities and on their jobs. We have a great story to tell, and we're grateful for the part that Hall County plays in it. Thank you for allowing me to share with you some of the exciting things going on at Georgia Tech.