

REMARKS BY GEORGIA TECH PRESIDENT G. WAYNE CLOUGH  
Columbus Rotary Club, September 17, 2003

It is always a pleasure to be in Columbus. I am fortunate to be able to visit your fair city a number of times a year as part of my duties as a board of directors member at TSYS. Columbus is not only an attractive place to visit and live, but its economy is the envy of almost any mid-sized city in the nation. A few years back, I chaired the U.S. Council on Competitiveness cluster study on the greater Atlanta metro region, which we broadened to include Columbus. This was done not because you are part of the metro area, but because of the importance of your economy to the metro area. The study documented this and illustrated the interdependence of the two economies. Another common factor in this inter-city mix is my own institution, Georgia Tech, and I am delighted to have this opportunity to speak to you. I would like to first bring you up to date on some of the exciting things happening at Georgia Tech, and then share a few thoughts about the future.

Let me begin by noting that we are proud to be a part of your community, being represented in Columbus every day by John Mills, the very able director of our economic development office, and his staff. John personifies our intent to be a partner with this community and with your institutions of higher education in helping Columbus educate its bright young people and achieve its economic potential.

We're also pleased to be a partner in the Columbus Regional Technology Center through our Advanced Technology Development Center. We are looking forward to the opening of that new facility on the campus of Columbus State University, and to moving John Mills and his staff out there as well as bringing a new ATDC staff online.

Fall is always a great time at Georgia Tech, with the start of a new academic year. This fall is especially exciting, and it goes beyond the fact that our football team is doing a little better than most folks expected – although that certainly contributes to the enthusiasm.

The core of our mission remains what it was set out to be at our founding in 1995, that is, to educate an outstanding technological workforce for Georgia. This fall, our incoming freshmen scored an average of 1336 on the SAT, which is one of the highest scores at any public university in the United States. Add to that the fact that two-thirds of our students come from Georgia, you can see that we are educating many of the brightest young minds in the state. Some of them come from right here in Columbus –

we usually have 100 or more students on campus from Muscogee County alone, and another 20 or more from the adjacent counties.

We have been holding the size of our freshman class constant at 2,200 students for several years, but our undergraduate enrollment continues to grow. We are doing a better job of serving our students and making their educational experience meaningful, and as a result, our retention rate is up. And we are placing increased emphasis on effective transfer programs such as those we have with 12 universities and colleges around the state and the historically black and female institutions in our state. These have proven enormously successful.

We even are in the process of building an innovative new campus in Savannah which offers engineering degree programs in southeast Georgia. The campus is now cleared and developed, and Governor Perdue will help us dedicate three new buildings on October 31<sup>st</sup>.

Through improved retention and innovative access programs, last year we graduated more students with bachelor's degrees than ever before in our history. We now lead the nation in number of engineering degree graduates, and along the way we graduate the largest numbers of women engineers, and the largest numbers of African Americans with engineering degrees at all three degree levels.

Speaking of retention, how does one go about improving it? One way is to have a student body with steadily improving qualifications, something we have done well. But beyond this, we are working to provide experiences that broaden their horizons and bring them into contact with faculty on a personal level. One of the exciting things we are doing with our undergraduates is involving them in the dynamic research enterprise of Georgia Tech. Last year more than 1,350 undergraduate students were engaged in structured research projects either for academic credit or pay. Research is an important learning experience for our students. The problems are open-ended – there are no pat answers that you can look up in the back of a textbook. When your experiments yield results, it is up to you to figure out what those results mean and what to do next.

Another important experience for our students is studying abroad. Current events make it obvious that we need more people who have a better understanding of other cultures and a better perspective on how the world works. So we expanded the opportunities for our students, and a third of them now study abroad at least once in the course of their college years. We have the usual study abroad programs that most colleges have, but we also offer several unique programs with a Georgia Tech twist. For

example, I visited Munich in April of this year to sign an agreement with the Technical University of Munich and the corporate giant SIEMENS to send students to Germany for a year, including a semester at the university and an internship at SIEMENS. With our visit, we were able to plow some ground for Governor Perdue, who came to Munich a few weeks later.

We also have our own campuses in Metz, France, and in Singapore. These are not the typical study abroad locations – they are full-fledged educational and research operations largely paid for by the local governments who value the way we do business. These international campuses allow our faculty and students to spend time abroad without missing a beat in their careers, while also providing for students from the host nations to come to our campus in Atlanta. I am proud to say that the national engineering magazine, *Prism*, recently cited Georgia Tech for pioneering new models for international studies for science and engineering students.

Back home in Atlanta, we are making campus life better for our students. We just opened Phase I of a new Campus Recreation Center that incorporates the Olympic swimming and diving facility. And when Phase II is completed next year, we will offer more square footage of recreational space per student than any other university in the nation. We also recently opened a new and modern bookstore that is open to the public which goes by the name Barnes & Noble @ Georgia Tech, the largest campus-based Barnes & Noble in the South.

The new Campus Rec Center and Barnes & Noble @ Georgia Tech are just two of the \$500 million worth of new and renovated facilities we have opened just within the past year. Now, some of you might be wondering how we managed that with state funding being so tight these days. The answer is that only about 20 percent of the funding came from the state. Our alumni and friends contributed significantly to this endeavor, and we have used bonds judiciously for facilities that generate revenue to help pay off their own costs.

The new facilities include classrooms and lecture halls with the latest educational technology incorporated seamlessly into their design. They include research labs that gather faculty and students from various schools and colleges around emerging interdisciplinary research fields and issues. They include a Global Learning and Conference Center with the latest Internet and satellite resources connecting Georgia Tech with every part of the world. The GLC will allow us to ramp up our growing Internet masters degree programs.

Also part of this development is an exciting new home for our College of Management, new headquarters for ATDC and its incubator, a new building for Georgia's Electronic Design Center, and last but not least, the Georgia Tech Hotel. We encourage you to stay with us when you are in Atlanta overnight, or to use the Global Learning and Conference Center for meetings. It is right in the heart of Midtown on Fifth Street between the Biltmore and Interstate 75/85.

These developments are paralleled by the growth of our research programs, which have doubled over the past decade. During the past year our research expenditures totaled \$375 million, which places us in the top 30 in the nation. Our research funding comes largely from external sources and we compete with other universities to win those funds.

What is exciting about this new generation of research is that we are moving forward very aggressively in new interdisciplinary research fields that are emerging in between the traditional academic disciplines. They have exotic-sounding names like biomedical engineering, nanotechnology, mechatronics, and bioinformatics. But their names are often combinations of the disciplines that are interacting. Biomedical engineering, for example, brings together biology, medicine, and engineering. Mechatronics combines mechanical engineering with electrical and computer engineering to develop mechanical systems that have electronic and computer components incorporated in them.

In the case of nanotechnology, "nano" means very tiny, just like it did in that old TV series "Mork and Mindy" that starred Robin Williams. A nanometer is equivalent to one-billionth of a meter. Nanotechnology involves the creation of materials, devices, and systems at the atomic and molecular level, and the possibilities that lie ahead are staggering. Small, lightweight energy sources, super materials, cures for many genetic diseases, self-cleaning surfaces, and sugar-cube-sized memory devices that will store the Library of Congress. These breakthroughs will help form the economy of the future, and Georgia Tech plans to be one of the universities where that future emerges.

We are already a recognized world leader in nanotechnology. Our faculty includes one of the top five scientists in the world by number of scientific papers he has published on the subject of nanotechnology. We also have two professors who have won the Feynman Prize in Nanotechnology, which is the highest award in the world in this field. We are becoming one of the top places for creation of technology to allow manufacturing of products at the nano-scale. In the near future, we plan to build a new \$80 million generation facility that will be the first of its kind in the southeast and will

allow research to be done in the kind of ultra-clean environments needed when working at the molecular level.

Another fascinating area of research at Georgia Tech is photonics, which involves creating and using new and different materials to generate and harness light and other forms of radiant energy. Photonics has all kinds of interesting applications, from lighted displays on ordinary electronic products like shavers and cell phones, to creating sophisticated digital displays on flexible plastics. Georgia Tech is very fortunate to have recruited four of the world's leading experts in photonics from the University of Arizona. Members of this group told me they came to be part of what they see as an exciting campus with an excellent faculty and students – one which is on the move. They brought with them a National Science Foundation Center of Excellence in Science and Technology. With the addition of this new center, Georgia Tech now has more national research centers of excellence than any other university in the nation except MIT, and we are tied with them.

Hopefully these few examples I have used illustrate why we feel these are exciting times at Georgia Tech. There is much more I could say, including our growing role in public policy at the state and national level, the record levels of patents and invention disclosures, and the increasing work we are undertaking on behalf of economic development for the state.

We are pleased to see from the latest *US News & World Report* rankings that others are noticing our efforts. Tech was ranked as one of the top ten public universities in the nation, and our academic peer reputation was listed among the top 25 of all universities. All of our engineering programs are now among the top ten with only one exception, and it is ranked 12<sup>th</sup>. Additionally, our business school was among the top 40 and a number of its programs were named in the top twenty of their specialties. We were proud our rankings were reinforced by our high rate of alumni giving and our tradition of having almost all of our classes taught by full-time faculty.

I believe that this type of recognition is good not just for Georgia Tech, but also for the state and her citizens and businesses. It brings national visibility to the state for all of the right reasons. The question is, what lies ahead? Can we hold onto the rankings and positive visibility we have attained based on the hard work and careful investments of the past? I believe we can, but the answer is not a given by any means. The budget cuts experienced by the University System to date are significant and those projected for the remainder of this year and for FY 05 will cut right into the muscle as well as bone. While we are pleased by our *US News & World Report* ranking, it was obtained with a faculty resources rank well below the top 50. It was achieved in spite of having a higher

proportion of large classes than most of our competitors. The cuts being discussed for the future will drive these parameters in the wrong direction. To date, we have experienced \$28 million in cuts (12% of our budget), and we have made significant adjustments to accommodate them. Many programs have been de-emphasized while we redirected funding to others that were more important. Significant numbers of faculty and staff positions are going unfilled. We are now told that we should prepare for more cuts, up to \$20 million more. This amounts to a reduction of over 20% of our state funding in three years. I know that many of your businesses have seen tough financial times as well, but ours are coming at a time when our core business of student enrollment and research is way up. Enrollment over the past five years has grown by 3,500 students, and our research volume is up 25 percent over the same period. We are stretched very thin.

Our sister institutions of higher education, like the University of Georgia and Columbus State also have similar stories to tell. They are improving and growing, but being hit hard by budget cuts.

Now I am not here to whine or say that we are the only university taking budget cuts. We understand that for many years we had it better than most and we appreciate it. We also appreciate that our Governor is in a very tight spot and that the legislature has hard decisions in front of them. What I would say is that the next round of budget cuts in the University System will be different. There is no way to finesse them. They will have a larger impact than those that went before, because we have done all of the things that were "easy." So I would encourage you to be active in the debate about where this state is going. We all need to think very carefully about the future and what will remain when all of the cutting is done.

I am naturally an optimist. Because of this and because I believe this state is resilient, things will get better in the not too distant future. It is my opinion that when this day arrives, it will be important that our universities are still in good shape and can provide the access that is needed for the growing numbers of college bound students that are in the pipeline. It is important that we still have universities recognized as among the nation's best. At Georgia Tech we are going to do everything we can to pull our weight, leverage every state dollar, and keep our momentum strong. We look forward to working with you to make our state an example for the nation. We need your help.