

REMARKS BY GEORGIA TECH PRESIDENT G. WAYNE CLOUGH  
Dunwoody Rotary Club, May 28, 2004

It is a pleasure to be with you today and have this opportunity to tell you a little about Georgia Tech.

When I was a student at Georgia Tech back in the 1960s, this area was considered a far-out ex-urb. But I-85 had just been built, and the earliest outlines of this community were beginning to emerge. Tom Cousins was taking what some considered to be a risk and building Dunwoody North about the time I graduated. When I returned to Georgia Tech as its president in 1994, it was incredible to me to see how the area between I-85 and Georgia 400 had changed. Of course, I knew that while I was gone the northeastern side of Atlanta had emerged as one of the fastest-growing areas in the nation, but to actually see the dramatic change that growth had caused was amazing.

I want to begin by bringing you up to date on some of the exciting things happening at Georgia Tech, and then share a few thoughts about the future. Of course, some of the excitement this year was generated by our basketball team, which sprang unexpectedly into the top 25 when it beat the number one team in the nation at the Pre-season National Invitational Tournament, and then made an amazing run through the NCAA Tournament brackets to become the first team from the state of Georgia to play in the national championship game.

We're also seeing outstanding performances by other Georgia Tech teams. Last January the football team became one of only 11 teams in the nation to play in a bowl game for seven consecutive bowl years. This year our women's volleyball team became the first team from the ACC to play in the NCAA national tournament and finished the season ranked 8<sup>th</sup> in the nation. And our baseball team is doing extremely well despite getting off to a bit of a rocky start.

At Georgia Tech, we believe that this kind of success is proof that it is possible for a university to do all three things well – to offer a rigorous academic program, to sustain a major and growing research enterprise, and to compete with integrity in Division I-A collegiate athletics. Our students at Tech are incredibly bright, and we work them pretty hard. Our athletes are no exception. There is no cushy, calculus-free major that they can take just to get by. We want our student athletes to succeed in the classroom as well as on the courts and playing fields, so we look for young people who combine a solid intellect with their athletic skills.

None of the guys on that basketball team had the kind of raw talent that would have carried them into the NBA. Their accomplishment was based on discipline – on working hard, working smart, and working as a team. That is what will enable them succeed in life. And I am proud to report that all four of the seniors on the basketball team graduated earlier this month – one of them with a 3.5 GPA and a job offer from a major accounting firm.

They are a testament to the core of Georgia Tech's mission, which remains what it was set out to be at our founding in 1885 – to educate an outstanding technological workforce for Georgia. Last

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. If you consider 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. A significant number of them come from right here in DeKalb County – we usually have about between 750 and 800 students from DeKalb.

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, and we continue to set new records in the number of bachelor's degrees at the other end of the process. This is because we keep working to improve the undergraduate experience we offer, and as a result, our retention rate is up. We also have an increasing number of transfer students coming in as juniors. A significant number come through the enormously successful engineering transfer programs we have with 12 universities and colleges around the state and the historically black and female institutions in our state. We also get non-engineering transfers, including about 40 every year who come from Georgia Perimeter College, including some from the Dunwoody campus.

The transfer programs make engineering education more accessible in Georgia. And last fall we took another big step to improve accessibility by opening an innovative new campus in Savannah that offers Georgia Tech engineering degree programs in southeast Georgia.

As a result of improved retention and innovative access programs, we graduated more students with bachelor's degrees last year 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 combined.

One reason our retention rate has been improving is because the qualifications of our student body have been steadily improving. But beyond this, we are working to provide experiences that broaden our students' horizons and promote personal interaction with faculty. One of the exciting things we are doing is involving undergraduates 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 about a third of them now study abroad at least once in the course of their college years. In addition to the typical study abroad programs that most colleges have, we also offer several with a unique Georgia Tech twist. One, for example, combines a semester of study at the Technical University of Munich in Germany with an international internship at the corporate giant Siemens.

We also have our own Georgia Tech campuses in Metz, France, and in Singapore. These are not merely study abroad locations – they are full-fledged educational and research operations that receive financial support from their local governments who value the contribution we can make to their business communities. These international campuses allow our faculty and students to spend time abroad without missing a beat in their careers, while also encouraging 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 busy reshaping our campus to expand its capabilities, improve its livability, and increase its quality. Over the past decade we have built more than \$1 billion worth of new facilities, and last year alone we opened \$500 million worth of new and renovated facilities. Now, some of you might be wondering how we managed that with state funding being so tight these days. The answer is that less than 20 percent of the funding came from the state, and that had already been appropriated before the budget cuts began. Our alumni and friends have 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 to help us ramp up our growing Internet masters degree programs.

The Global Learning and Conference Center is part of Technology Square, Georgia Tech's new complex that takes our campus across Interstate 75/85 and into the Midtown Atlanta business community. This new development also provides an exciting new home for our College of Management, new headquarters for Advanced Technology Development Center and its incubator for start-up companies, a new building for Georgia's Electronic Design Center, and last but not least, the Georgia Tech Hotel. We invite you to use the Hotel or the Global Learning and Conference Center for meetings. Both are certified conference facilities located right in the heart of Midtown on Fifth Street between the Biltmore and Interstate 75/85.

Technology Square also enhances the quality of life for our students and the neighborhood. It includes Barnes & Noble @ Georgia Tech – the largest campus-based Barnes & Noble bookstore in the South – plus other shops and restaurants where our students mingle with neighborhood residents.

Another improvement to the quality of life on campus is our new Campus Recreation Center, built around the Olympic swimming and diving facility. We opened Phase I last fall, and when Phase II opens next fall, we will have one of the best recreation facilities of any university in the nation.

These facility improvements are paralleled by the growth of our research programs, which have doubled over the past decade. This year we expect our research awards to total about \$320

million and our research expenditures to reach \$400 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 makes this new generation of research exciting 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 with electronic and computer components.

In the case of nanotechnology, “nano” means very tiny. A nanometer is equivalent to one-billionth of a meter. The width of a human hair, for example, ranges from 50,000 to 150,000 nanometers. Nanotechnology involves the creation of materials, devices, and systems at the level of individual molecules and atoms, 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 can store the Library of Congress. These breakthroughs will help to 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 had published on the subject of nanotechnology. Two of our professors 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 the manufacturing of products at the nano-scale. In the near future, we will build a \$80 million Nanotechnology Research Center that will be the first of its kind in the southeast and will offer the kind of ultra-clean environments required by work at the molecular level. This facility will be a public-private endeavor, funded jointly by the state and private funds.

Another fascinating area of research at Georgia Tech is photonics, which means controlling the photons in light in ways that are similar to the electronics in electrical products. However, because photons have different properties than electrons, the potential to manipulate them is much greater. The applications for photonics are widespread, ranging from flexible digital displays – imagine a wall-sized television screen that rolls up like a windowshade – to medical tools that probe deep within the body to provide clear images or fix problems without surgical incisions.

Georgia Tech is very fortunate to have four of the world’s leading experts in organic photonics, who moved to Tech from the University of Arizona. They told me they came because of our excellent faculty and students and because they see Georgia Tech as a university that is on the move, and they want to be part of it. They brought with them a National Science Foundation Center of Excellence in Science and Technology. With the addition of this new center, Georgia Tech is now one of the nation’s leaders in national research centers of excellence.

I hope these few examples illustrate why we feel these are exciting times at Georgia Tech. There is much more I could tell you, such as our growing role in public policy at the state and national level, our record levels of patents and invention disclosures, and the increasing work we are undertaking to spin off new start-up companies and serve existing companies on behalf of economic development for the state.

We are pleased to see from the latest *US News and World Report* rankings that others are noticing our efforts. Tech has been ranked as one of the top ten public universities in the nation since 1999, and our academic peer reputation puts us among the top 25 of all universities. Our College of Engineering is among the top five in the nation, and our business school was among the top 40, with several of its programs were named in the top twenty of their specialties. Our rankings are reinforced by our high rate of alumni giving and our tradition of having almost all of our classes taught by full-time faculty.

This type of recognition is not only good for Georgia Tech, but it also brings national visibility to the state and her citizens and businesses for all of the right reasons. The question is, what lies ahead? Our high rankings and positive visibility are based on the hard work and careful investments of the past. But can we hold onto them in the future? I believe we can, but that 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 next fiscal year will cut right into muscle and bone. Georgia Tech's high *US News and World Report* ranking was obtained in spite of the fact that we are well below the top 50 in the level of faculty resources we are able to provide. It was achieved in spite of having more large classes than most of our competitors. We are already stretched too thin on these measures, and they are the very same places where state funding is focused in our operations. The cuts we are now experience are driving these parameters in the wrong direction.

With the budget that was passed earlier this month for next fiscal year, which begins on July 1, Georgia Tech will have experienced a total cut in state funds of \$40 million. Many programs have been de-emphasized or discontinued to free up funds that we redirected to other areas that are more important. Significant numbers of faculty and staff positions are going unfilled. We have laid off staff and more lay-offs are coming.

These cuts amount to a 20 percent reduction in our state funding over three years, which puts us back to about the same level of state funding we had seven years ago. However, over the past seven years, our enrollment has increased by 20 percent since then and our research enterprise has grown by about 45 percent. We are stretched very thin.

Our sister institutions of higher education, including Perimeter College here in Dunwoody and elsewhere, have similar stories to tell. They are experiencing growing enrollments and working hard to improve, but they are also being hit hard by budget cuts.

Now I am not here to whine or say that we are the only state where universities are taking budget cuts. We understand that for many years we had it better than most states and we appreciate it. We also appreciate that our Governor is in a very tight spot and that the legislature has had hard

decisions to make. What I want to communicate is that there is no longer any way for University System institutions to finesse the cuts. We have already done all of the things that were “easy,” and the cuts that are coming next fiscal year will have a larger impact than those that went before. 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 what is critical to our future and what will remain when all of the cutting has been done.

I am naturally an optimist, and I also believe that Georgia’s economy is resilient. So I am looking for things to get better in the not too distant future. 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 will also be important that we still have universities that are 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. With your help, we can make our state an example for the nation.