NOTES FOR GEORGIA TECH PRESIDENT G. WAYNE CLOUGH
Noro-Moseley Partners Annual Meeting, May 2, 2007

• Honor to serve on NMP Board of Advisors. Privilege to have this opportunity to speak to you.

• Have been president of Georgia Tech for more than 12 years; time has been full of challenges, but, more importantly, opportunities to grow and shape expanded future of the Institute and its contribution to society.

• Fortunate that GT’s challenges to date have not included those that faced Virginia Tech in recent weeks. Last Friday attended civil and environmental engineering memorial service…

• Young people ages 18-21 – which is to say most of our students – are in sort of a legal limbo between childhood and adulthood.
  o Not always clear how much authority or responsibility universities have for students’ personal lives – universities have been successfully sued for intervening and successfully sued for not intervening.
  o Best preventive: create a supportive campus environment that encourages people to be interconnected rather than isolated, and to seek help rather than being stigmatized.

• Important to recognize the interwoven nature of the fabric of life at all levels – for students as individuals, for Georgia Tech as an institution, for nation and for world.
  o Grew up in small town in South Georgia – came to realize early on that in a village you become involved with your neighbors. May wish you could ignore them, but in small town, you can’t. Eventually you will need their help and they will need yours. To your mutual benefit to come to terms with your neighbors even if they are different, do things differently; important to learn to collaborate. College campus community works same way.
  o Same on macro-scale: IT has interconnected world into the “global village” envisioned by Canadian futurist Marshall McLuhan over 40 years ago. Realities of village life apply here, too – we now have international “neighbors” who do things differently, but we need each other’s help, need to work together.

• The United States is facing competitive challenges in global economy:
  o Rich heritage of entrepreneurship and exploration that propelled us to most powerful nation on Earth during 20th century. It was our good fortune that Nazism then the Cold War, plus lack of opportunity in many parts of world drove best talent to our shores.
  o But the 21st century is a new era. Growing number of nations aspire to compete with us in technology space. China, India building world-class research universities; in 21st century will possess both largest technological workforces,
largest technological markets. Creates both new markets and new competition for the United States.

- Used to say, “As General Motors goes, so goes America.” Today: “As Microsoft goes, so goes the world.”
- Multi-national corporations are truly global, not just U.S. companies with foreign branches. Trade has increased dramatically. The global economy never sleeps – work flows around the globe in tandem with time zones.

- United States is not alone in the challenges, opportunities created by this new environment.
  - Participation in G-8 summit events – other nations face same challenges.
  - Nations coming to GT, asking for our help and expertise with same challenges.

- Economic playing field is being leveled, or is it?
  - Tom Friedman: “world is flat” – technology research, skilled workforces, markets now spreading around the globe, not just in United States, Western Europe
  - Richard Florida: “world is spiky” – innovation is a hands-on activity that tends to happen at particular geographic “hot spots,” whether Silicon Valley, Shanghai, or Bangalore.
  - No nation, region, or business can compete against hungrier global competitors using same old status quo approach. The trick is to cultivate the kinds of research, workforce skills, industries, policies, and business climate not offered elsewhere. A region that can do this will become a spike.

- Hot-spots of innovation, which are Richard Florida’s spikes, will have world-class research universities at their heart – outstanding research universities that do three things:
  - Lead the way in new interdisciplinary fields to meet global challenges and to innovate.
  - Collaborate with other universities at home and around globe, connecting the spikes to become important force on leading edge of innovation.
  - Drive economic development by spinning off and attracting leading-edge companies, educating a technologically talented workforce, opening doors to economic development relationships around the world.

- GT striving to become one of these outstanding research universities; improving rapidly:
  - Rankings: top 10 public; top 5 engineering; business school recently entered top 10 publics
  - Educating citizens of the world: 44 percent of undergads do research; a third study abroad; exciting new honors, leadership initiatives. Retention, graduation rates up.
  - Doubled the size of research enterprise in past decade; top 10 university for patents; spun off over 50 companies in past 5 years; ATDC business incubator nationally recognized.

GT working actively on the three tasks that mark a leading global university:
- Lead the way in emerging interdisciplinary fields.
Global challenges:
- Population: Now 7 billion; expected to grow to 12 billion before leveling off.
- Water: 2025 – 5.7 billion people will live in areas of water scarcity. GT – working on fresh water in Angola, Honduras, Bolivia
- Energy and sustainability: World’s energy needs will double in next 50 years. How to meet without driving the environment over the brink from global warming? GT – working on wide variety of alternative energy sources from biofuel to solar cells, from hydrogen cells to nuclear energy.

Emerging interdisciplinary fields: GT interdisciplinary from ground up. New facilities gather faculty, students from various disciplines in “research neighborhoods” around major issues, challenges. Has enabled us to attract world scholars in fields like photonics, systems biology.
- Photonics = manipulating photons in light in ways similar to electricity.
- Nanotechnology = engineering new materials at the nano-level
- Health care:
  - Nanomedicine = diagnostic tools, therapies that work at molecular level, minimizing collateral damage. GT: 3 nanomedicine centers of excellence: cancer, cardiovascular, repair of DNA and RNA.
  - Systems biology = customized preventive health care
  - Electronic information systems for health care

Collaborate with other universities at home and abroad
- Emory: “borrow” their medical school to do biotechnology. Leaped into top tier of universities doing biomedical engineering. Now ranked #2 in nation.
- International collaborations (leveraging other “spikes”):
  - GT Lorraine
  - GT Singapore
  - GT Ireland
  - Dual degrees: Munich Technical University; Monterrey Technical Institute; Shanghai Jiao Tong University, Imperial College
  - More discussions: China (Beijing), Saudi Arabia, India

Driving high-tech economic development
- Top 10 university in U.S. in patents
- VentureLab identifies discoveries, new technologies with commercial potential from GT research labs, provides optimal path to commercialization
- 1995-2005 – spun off 76 new companies; 52 of them 2000-2005
- ATDC: 39 companies in residence; over 100 “graduates” of which 75% are still around.
- Technology Enterprise Park – designed for second stage companies; focus on biotechnology (which is also a focal point for Atlanta Metro Chamber, Georgia Research Alliance)
- Engaged in high-end economic develop in Metz, Singapore, and Ireland, which creates openings, opportunities for Georgia. Work closely with State Dept of
Economic Development to help them make contacts, develop relationships in these places. Goal: weave Georgia into the fabric of global economy.