Maximizing the opportunities
Mitigating the risks

President G. Wayne Clough

Administrative Retreat
August 14, 2006
Incoming freshmen

- Record freshman class of 2,800 +
- 248 began in a special summer term
- 60% from Georgia; 40% from outside the state
- Big gainers:
  - College of Sciences up 22%
  - Ivan Allen College up 11%
  - Women make up 31% of the class
Outstanding students

Michael Haynes:
Marshall Scholar
Cambridge University

Jarret Lefleur:
USA Today Academic All Star
Astronaut Scholarship
Foundation Scholar

Isaac Penny:
Astronaut Scholarship
Foundation Scholar

A.J. Friend
Jonathan Diaz
Andrew Marin

Goldwater Scholars:

Anita Borg Memorial
Scholars:
Gillian Hayes
Delphine Nain
Laura Rouse
Tracy Westeyn
Students go global

Architecture team won international sustainable design competition to revitalize historic section of downtown Dubai.

MBA students traveled to Argentina to analyze market, risks, chances for success of 3 Georgia businesses with interest in beginning operation there.

Interdisciplinary student team is one of 20 international teams chosen to develop an 800-sq-ft solar house. The house will be built on campus from this model, then reassembled on the National Mall in Washington, D.C. for the competition.
Arts blossom at Tech

LCC Assistant Professor Michael Mateas won the top prize in the Slamdance Grand Jury Guerilla Gamemaker competition at the Sundance Film Film Festival.

Poet Steve Kowit

Tech has one of the nation’s most aggressive poetry programs.

The Georgia Tech Woodwind Ensemble performed at the Shanghai International Arts Festival.
Tech offers first music degree

Tech will begin offering an M.S. degree in music technology, with emphasis on computer music research and engineering. Will develop additional areas of emphasis.

Jamming with Haile, the robotic percussionist.
Spring sports

Baseball team played in the College World Series for 3rd time in Tech history. Golf team won the ACC title.

Women’s tennis team made it to the NCAA quarter-finals, farthest in Tech history. Kristi Miller named 1st Team Academic All American, top collegiate tennis athlete. Softball team won ACC Sportsmanship Award.

Men’s lightweight 8+ crew team won gold, varsity open 4+ took silver at Dad Vail Regatta, largest in nation.
Faculty win awards

CAREER Awards:
- Victor Laurens Breedveld, ChE
- Nirin Murthy, BME
- Alexandra Boldyreva, Comp
- Gregory Durgin, ECE
- Elliott Moore, GT Savannah, ECE
- Jeffrey Todd Streelman, Biology
- Frank Rothaermel, Management
- Sung-Kyu Lim, ECE

Fulbright Scholars:
- David Goldsman, ISyE, to Turkey
- Stuart Goldberg, Mod Lang, to Russia
- Fei-Ling Wang, Int Affairs, to S Korea

AAAS Fellows:
- Barry Bozeman, Public Policy
- Charles Liotta, ChE, Chemistry
- James Foley, Computing
- James Gale, Physics
- Willie Pearson, Jr., HTS
- Peter Webster, CEE
Faculty honored

Jim Meindl, ECE, received the 2006 IEEE Medal of Honor for pioneering contributions to micro-electronics, will direct Nanotech Research Center.

Carol Colatrella, LCC, named Fulbright New Century Scholar; collaborates with international colleagues on “Higher Education in the 21st Century: Global Challenge and National Response.”

Robert Loewy, AE won Daniel Guggenheim Medal.
Nanotechnology opens new doors

Gold nanorods engineered to bond to cancer cells not only reflect light, allowing cancer to be detected, but also absorb laser light, enabling cancer cells to be destroyed with half the energy required to kill healthy cells.

Thin layers of graphite – eventually as thin as 10 atoms – could be the foundation for nanoscale electronic devices that manipulate electrons as waves, much like light, to be energy efficient.
Leading the way in energy

- Multidisciplinary research
  - Photovoltaics
  - Combustion
  - Lighting technology
  - Fuel cells
  - Biofuels
  - Electric distribution

- Southern Pine to Ethanol (SPTE)
  - Negative CO$_2$ emissions
  - Costs < $.80 to produce
  - Conventional vehicles can burn mixed with gasoline
  - Would offset declining forest products industry
New interdisciplinary centers

National Center of Cancer Nanotechnology Excellence

Health Systems Institute

Center for the Study of Systems Biology
Nanotechnology Research Center

- Largest in the South
- Three classes of cleanrooms (10, 100, 1,000)
- First in nation, world designed for both physical, biomedical research
- Flexible configuration
- Multi-user access
- Interdisciplinary
- Groundbreaking Aug 7
Buildings near completion

Molecular Science and Engineering

Christopher W. Klaus
Advanced Computing Building
Extending our global reach

G-8 Business and University Leaders Symposium on Innovation

Shanghai Jiao Tong University

Opening Georgia Tech Ireland
Economic Impact Study released

BellSouth CEO Duane Ackerman and Southern Company CEO David Ratcliffe joined President Clough in presenting the study.

“Georgia Tech has provided Southern Company, the State of Georgia, and the Southeast with a great resource for innovation, qualified graduates, and research. It is in our best interest to keep Georgia Tech competitive and help all our state research universities achieve the flexibility they need to compete with their peers across the world.”

David Ratcliffe
State government/BOR

- New fiscal year began July 1:
  - $38 million for Nanotechnology Research Center
  - $4.9 million to renovate Old CE Building
  - $5 million for ATDC seed fund
  - $5 million for nanotech infrastructure

- Board of Regents adopted “guaranteed” tuition

- Chancellor visited campus May 2
Among top 10 public universities

Engineering in the top 5
  ▶ 8 of 11 disciplines in the top 10
  ▶ Industrial & Systems Engineering #1 for 16 years

Sciences improve
  ▶ Chemistry and biochemistry cracks top 25
  ▶ Discrete math and combinations is #7
  ▶ Applied mathematics is #14

Computing moves up to #11
  ▶ Computer theory ranks #9

College of Management holds in 30s after moving up from 40s

Ivan Allen College
  ▶ Information technology management is #8
  ▶ Environmental policy and management is #11
Maximizing the opportunities
Mitigating the risks

“These boots are made for walking, and that’s just what they’ll do. One of these days these boots are gonna walk all over you.”

Nancy Sinatra
### Students are on the move

<table>
<thead>
<tr>
<th></th>
<th>1994</th>
<th>2005</th>
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<tbody>
<tr>
<td>Undergrad students</td>
<td>9,212</td>
<td>11,841</td>
</tr>
<tr>
<td>Average SAT score</td>
<td>1287</td>
<td>1340</td>
</tr>
<tr>
<td>Bachelor’s degrees awarded</td>
<td>1,893</td>
<td>2,470</td>
</tr>
<tr>
<td>Graduate students</td>
<td>3,688</td>
<td>5,294</td>
</tr>
<tr>
<td>M.S. degrees awarded</td>
<td>993</td>
<td>1,278</td>
</tr>
<tr>
<td>Ph.D. degrees awarded</td>
<td>189</td>
<td>399</td>
</tr>
</tbody>
</table>

* Tech has awarded more PhD’s since 1994 than in its entire history prior to 1994.
One-third of students study abroad

- 1,191 students enroll in language courses in fall ‘94
- 2,049 students enroll in language courses in fall ‘06
Faculty are on the move

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Academic faculty</td>
<td>732</td>
<td>940</td>
</tr>
<tr>
<td>National Academy members</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>NSF CAREER Awards</td>
<td>7 *</td>
<td>107</td>
</tr>
<tr>
<td>Endowed chairs</td>
<td>36</td>
<td>117</td>
</tr>
<tr>
<td>Centers of excellence</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Research expenditures</td>
<td>$212 M</td>
<td>$425 M</td>
</tr>
<tr>
<td>NIH grants</td>
<td>$3 M</td>
<td>$19 M</td>
</tr>
</tbody>
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* 1995: first year CAREER Awards were presented
Growing research initiatives

Energy

Predictive medicine

Systems biology

Electronic health systems
Growing research initiatives

- High performance computing
- Disasters, water
- Robotics
- Music technology
New international research partners

Joint research unit between GT Lorraine and Centre National de la Recherche for telecommunications and developing of new materials.

Belgian pharma/chemical giant Solvay: $3 million partnership with Center for Photonics and Electronics for research on organic light-emitting diodes (LEDs).
Expanding economic impact

- From 1987 to 1994, Georgia Tech spun off 8 new companies; from 1995 to 2005, Tech spun off 76 new companies.
- In 1994, Tech was awarded 19 patents; in 2005, Tech was awarded 43 patents, 9th among research universities nationwide.
National priorities converge on Georgia Tech’s “sweet spot”
Tech has the “right stuff”

New edition of *The World is Flat* features Georgia Tech and lauds the College of Computing’s transformation of its undergraduate program around “threads.”

“What the Georgia Tech model recognizes is that the world is increasingly going to be operating off of the flat-world platform, with its tools for all kinds of horizontal collaboration.”
Strategically seizing our opportunities to become an innovative, global university opens us to risks and threats to our students, our faculty and staff, our data, and our relationships with alumni, governments, and the general public. How to we maximize the opportunities and at the same time mitigate the risks?