“The emerging global university is set to be one of the transformative institutions of the current era.”

“The brains business”
The Economist, September 2005
Georgia Tech vision and mission

Georgia Tech will define the technological research university of the 21st century and educate the leaders of a technologically driven world.
National priorities converge on Georgia Tech’s “sweet spot”
OPPORTUNITIES FOR CREATIVITY
Pioneering new fields

Biomimetics studies nature’s solutions to problems for clues to complex engineering challenges.

Computational systems biology is the foundation for the next revolution in biomedicine.

Mark Weissburg, Don Webster test the transport of chemical odors through water.
Technology enlivens the arts

Music Department partners with Computing on new technologies like Haile, the robotic drummer. M.S. in music technology is Tech’s first performing arts degree.

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

- The Georgia Tech–Emory partnership has emerged as a leader in federal grants for nanomedicine.
- 3 federally funded nanomedicine centers:
  - Cardiovascular disease
  - Cancer diagnosis and treatment
  - DNA and RNA repair
Father-son team tackles cancer

Tech professor Mostafa El-Sayed collaborated with his son Ivan, a professor at the University of California Medical Center, to use gold nanorods to illuminate cancer cells.

They discovered that using gold to identify cancer cells weakens them, enabling them to be destroyed with lower levels of laser power that do not harm surrounding cells.
New international research partners

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

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

Abdallah Ougazzaden
Georgia Tech Lorraine
Expanding east and west

Georgia Tech Ireland: GTRI’s first international center for applied research and technology transfer

Dual degree agreement with Shanghai Jaio Tong University
Renewed focus on energy

- Strategic Energy Initiative
  - Technology development, assessment, demonstration, policies
  - Southern Pine to Ethanol
  - $12 million partnership with Chevron: biofuels, hydrogen

- Creative new ideas:
  - unmanned aerial vehicle powered by hydrogen fuel cells
RIM@GT: Robotics and Intelligent Machines

- Partnership of Engineering and Computing in collaboration with GTRI and the Office of Research
- Coordinates Tech’s efforts in robotics and facilitates technology transfer to industry
- 31 faculty, 15 labs, 44 academic courses

RALF: Robotic Arm
Long and Flexible
Focusing on the high end

- China and India will continue to benefit from R&D expansion.
- Cutting-edge research will stay in developed countries due to IP protection.

Marie Thursby, Management, study author

“The study underscores the critical role universities play in a country’s national innovation system, not just in the training of new scientists and access to the best talent, but in the ease of developing and licensing technology.”

Carl Schramm
President & CEO, Kauffman Foundation
Brings Tech’s new and established programs together in an integrated initiative to help entrepreneurs, industries, and communities become more innovative and competitive:

- Commercialization Services
- Entrepreneur Services
- Industry Services
- Community Policy and Research Services
Tech recognized for biotech transfer

- No. 4 in start-up companies
- No. 8 in patents filed
- No. 11 in technology transfer

*Mind to Market: A Global Analysis of University Biotechnology Transfer and Commercialization*

A study by the Milken Institute

Orthonics

CardioMEMS
“Clean tech” start-ups grow

- Clean-tech companies use new technology to make things happen in an environmentally sustainable way.
- Tech’s VentureLab has 5 “clean-tech” start-up companies in development, with 4 more projects in the pipeline.
Affordability and accessibility

- Tech’s tuition rates are among the lowest in our national peer set.
- Co-op Program allows students to work their way through Tech, gaining valuable job experience.
- *Diverse Issues in Higher Education and Hispanic Business* rank Tech among the best in the nation in graduating minority engineers.
“He or she will aspire to have the ingenuity of Lillian Gilbreth, the problem-solving capabilities of Gordon Moore, the scientific insight of Albert Einstein, the creativity of Pablo Picasso, the determination of the Wright brothers, the leadership abilities of Bill Gates, the conscience of Eleanor Roosevelt, the vision of Martin Luther King Jr., and the curiosity and wonder of our grandchildren”

The Engineer of 2020
National Academy of Engineering
Honors Program

- "Empowering great minds to think differently"
- First 2 years at Tech
- Bright, inquisitive students seeking an intense educational experience
- Small, inquiry-based classes
- Topical seminars
- Howell Residence Hall
Taking study abroad to the next level

- The International Plan
  - Courses in international affairs, global economics
  - Two study/work terms abroad
- New interdisciplinary degrees
  - Global economics/modern languages
  - International affairs/modern languages
  - Economics/international affairs
- Addressing fundamental problems facing developing countries
LEAD: Leadership Education And Development program

Multiple opportunities for students to develop and practice leadership skills

- Organizations
- Community service
- Workshops
- Internships
- Career portfolio
- Certificate program

Undergraduate Research Opportunities

- President’s Undergraduate Research Awards
- Undergraduate Research Option
- Spring symposia
- Best practices workshops, training sessions
Defining the curriculum of the 21st century

Problem-based learning

Digital media degrees

Interdisciplinary professional master’s degrees

TI:GER program
Weaving the curriculum from “threads”

- Undergraduates in computing customize their degrees by integrating “threads” in subject areas like media, computational modeling, people, and platforms into their studies.

- “Roles,” which help students define what they want to do with their knowledge, are integrated with the threads.
Library opens East Commons

- Creative, adaptable space combines living room comfort and latest in presentation technology.
- Focus on group projects, collaborative study.
- A space that is “over-supplied with potential.”

Ethan Trewhitt, Student Publications
Enrollment trends

Record freshman class of 2,800 +
- 60% from Georgia; 40% from outside state
- Women make up 31% of class
- College of Sciences up 22%
- Ivan Allen College up 11%

Record enrollment of 17,933
Outstanding students

Michael Haynes: Marshall Scholar

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

Isaac Penny: Astronaut Scholarship Foundation Scholar

John Crocker: Fulbright Fellow

Goldwater Scholars:

A.J. Friend
Jonathan Diaz
Andrew Marin

Anita Borg Memorial Scholars:
Gillian Hayes
Delphine Nain
Laura Rouse
Tracy Westeyn
Baseball team played in the College World Series for 3rd time in Tech history. Golf team won the ACC title.

Women’s tennis team went to the NCAA quarter-finals, farthest in Tech history. Kristi Miller named 1st Team Academic All American, nation’s 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 honored

Jim Meindl, ECE, 2006 IEEE Medal of Honor

Carol Colatrella, LCC Fulbright New Century Scholar

Robert Loewy, AE Daniel Guggenheim Medal

Frank Rothaermel, Management Sloan Industry Studies Fellow

ACM Fellows: Vijay Vazirani, Computing Krishna Palem, Computing
Faculty win awards

CAREER Awards:
Victor Laurens Breedveld, ChBE
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

AAAS Fellows:
Charles Liotta, ChBE, Chemistry
James Foley, Computing
James Gole, Physics
Willie Pearson, Jr., HTS
Peter Webster, CEE

Fulbright Scholars:
David Goldsman, ISyE, to Turkey
Stuart Goldberg, Mod Lang, to Russia
Fei-Ling Wang, Int Affairs, to S Korea
New leaders step up to the plate

Gary Schuster, Provost

Dan Radakovich, Athletics Director

Steve Salbu, Dean College of Management

Jim Fetig, AVP Communications

Ronald Bayor, HTS School Chair
LENDING A HAND
Hurricane Katrina

- Sheltering storm evacuees
- Volunteering on the Gulf
- Providing leadership
Empowering the disabled

- SWAN is a wearable navigation system for the blind that uses a small laptop with GPS, computer vision, a proprietary tracking chip, and other specialized technology to provide auditory direction.
- CopyCat is a sign language tutor to help deaf students in the classroom.
Reaching out beyond our borders

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

New Tech-Emory Center for Global Safe Water tackles water-related health issues. Latrine project in Bolivia won a World Bank Development Marketplace Award.
Rising to the top

- Top 10 public university
- Top 5 engineering program
- Top 10 rating for all engineering disciplines
- Top 5 in average SAT score among public universities
- Top producer of minority, female engineers
- Best campus rec center
- Best golf program
- Best collegiate tennis athlete
- Top 2 in engineering research
- Top 5 in nanomedicine research
- Top 5 in biotech start-ups
- Top 10 in patents
- Top university-based incubator
- Top 2 in NSF CAREER Awards
- Top 10 in National Academy members
- Top 10 in PECASE Awards
- Top 10 transformative urban development
- Top 12 best value in public education
- Top 12 academic places to work
Tech has the “right stuff”

“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.”

Thomas L. Friedman
The World is Flat