PLANNED MERGER:

THE SCHOOL OF MATERIALS SCIENCE AND ENGINEERING (MSE)
AND
THE SCHOOL OF POLYMER, TEXTILE AND FIBER ENGINEERING (PTFE)
AT
THE GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GA

[Effective July 1, 2010]
Mission: To be a national and international leader in materials research and education by:

- Providing an outstanding educational experience to students in the broad range of materials types
- Conducting fundamental and applied research in disciplinary and interdisciplinary areas that address the grand challenges of the 21st century
- Providing leadership and service to the profession, the industry of the State of Georgia, the nation and society as a whole
The New MSE School

- Positioned to focus on the development of the new materials required by the 21st century
- Redefine the manufacturing base of Georgia
- Significant strengths in nanotechnology and bio-enabled materials
- Transform the traditional ways of manufacturing
  - Textiles
  - Metals
  - Paper
  - Ceramics
  - Composites
Research Enterprise

• GT MSE School Rankings:
  – US News and World Report
    • Undergraduate Program #7
    • Graduate Program #8
  – The Chronicle of Higher Education
    • #1 based on criteria relating to faculty excellence

• GT PTFE Strengths:
  – Origin in textiles/fibers, now broadened to include polymeric materials (plastics, fibers, films, elastomers, biopolymers, etc.)
  – Excellent employment opportunities at all levels
  – 113-year history at GT

• The new merged School will be the largest in the country with 55 thesis-sponsoring faculty and plans to expand to 60.

• The faculty of the merged School will serve as the hub of the materials-related research enterprise at Georgia Tech.

• Goal – not only the largest MSE program but the best!
Current research thrusts of the combined faculty are:

- Advanced Structural Materials
- Bio-enabled/Bio-inspired Materials
- Polymers and Macromolecules
- Fibers and Composites
- Functional Electronic, Magnetic, and Optical Materials
- Nanomaterials and Nanoengineered Devices
- Materials for Energy Storage and Harvesting
- Computational Materials Design, Modeling, and Simulations
- Advanced Microstructure Characterization and Quantification
Degree Programs

• Undergraduate Program
  – Students will receive up-to-date knowledge and skills through course work that includes depth in basic principles and breadth in:

  **Materials Forms**
  - Metals
  - Ceramics
  - Polymers
  - Fibers
  - Composites

  **Functionality**
  - Chemical
  - Electrical
  - Magnetic
  - Mechanical
  - Optical
Degree Programs (cont.)

• Graduate Program
  – Goal
    • Produce outstanding research scientists and engineering professionals
  – Education will include
    • Course work focusing on the fundamental science and engineering principles governing the behavior of materials
      – Core courses
      – Elective courses
        » Specific to the student’s research topic
      – Minor
        » Specializing in a field of interest
MSE’s Grand Challenges

- Green Energy: harvesting, storage and use
- Environment protection and clean water
- Health and life sciences
- Infrastructure and transportation
- Security
- Defining a new generation of manufacturing by mining the genome of the biosphere