

MODELING & SIMULATION A VIEW FROM GEORGIA

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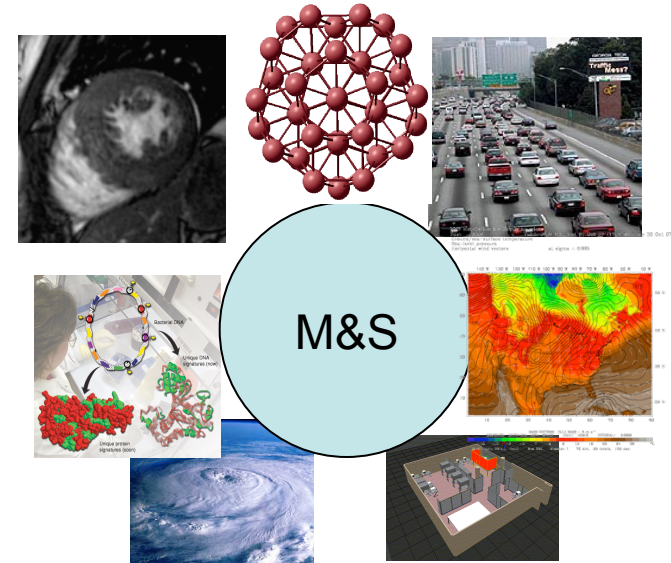
National Training at

2009 M&S LEADERSHIP SUMMIT



Modeling and Simulation at Georgia Tech

M&S is a discipline; it should be represented on university campuses like other disciplines... as a formal academic department



New Education Programs

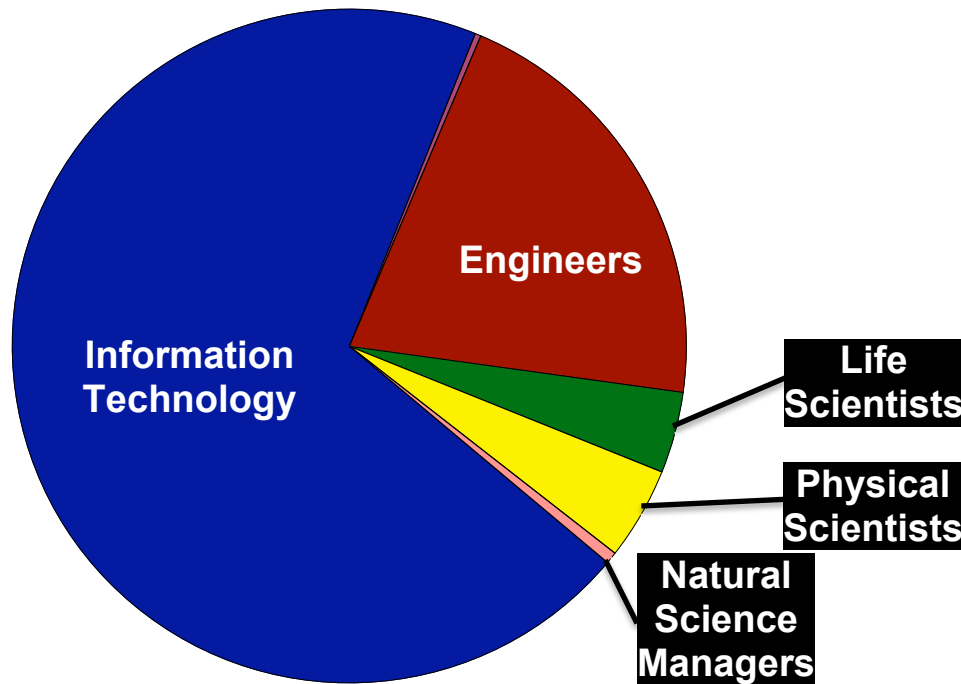
- PhD program
- Distance Learning
- MS program
- Undergraduate “thread”

Innovative Research

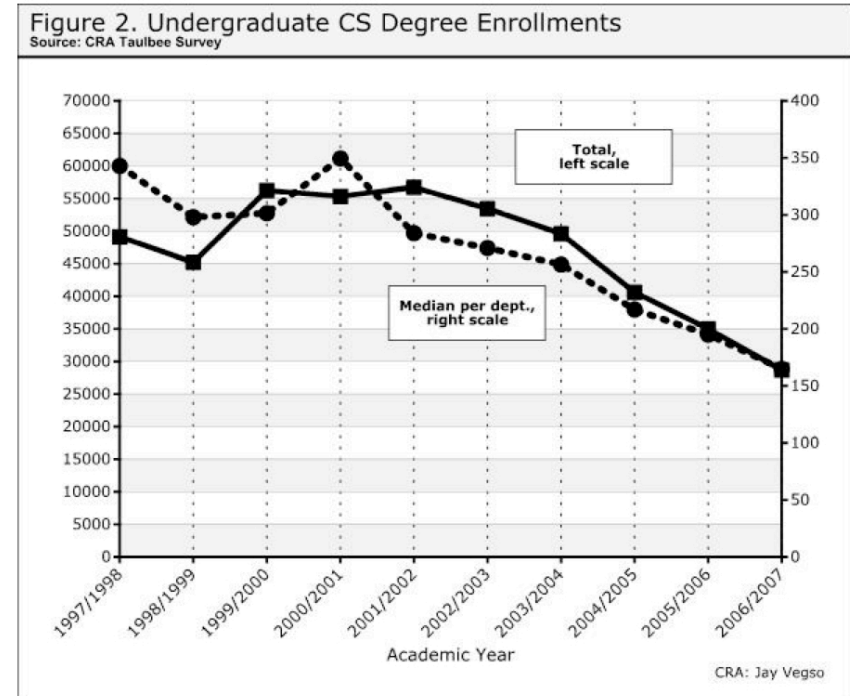
- M&S Methods, Data Analytics
- High Performance Computing

The Computational Science & Engineering Division was created “... to improve the quality of life in society, our nation and the state of Georgia by bringing to bear advances in computational modeling methods and techniques to create novel solutions to real-world problems.” [CSE Strategic Plan]

A Crisis in Education



Projected S&E Job openings
(new jobs plus net replacements)
2002-2012



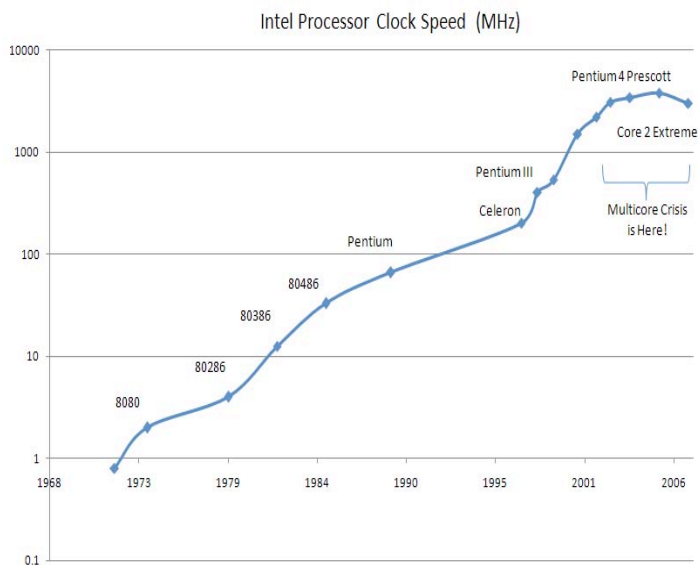
Undergraduate enrollments in
Computer Science

A steady decline in the number of students entering the computing field since the dot-com crash is a serious threat to the future well being of the modeling and simulation industry, and overall the economy of the nation.

M&S Research Agenda

“... only a small fraction of the potential of computational science is being realized, thereby compromising U.S. preeminence in science and engineering”

President’s Information Technology Advisory Committee, 2005



Source: Smoothspan Blog

The Multicore challenge/crisis



telecommunications



health care



homeland security



transportation



energy

M&S essential in many applications

Advances in M&S technology needed to exploit emerging technologies (e.g., multicore) and to maximize M&S benefits in areas of national importance.