

College of Engineering Research, Graduate Education and Resources

Michael S. Isaacson
Associate Dean for Research, Graduate Studies
and Professional Education

Engineering College Council

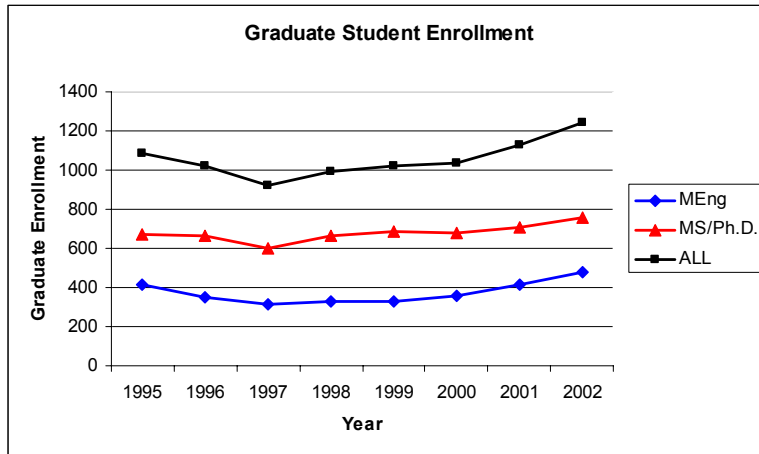
October 26, 2002

Outline

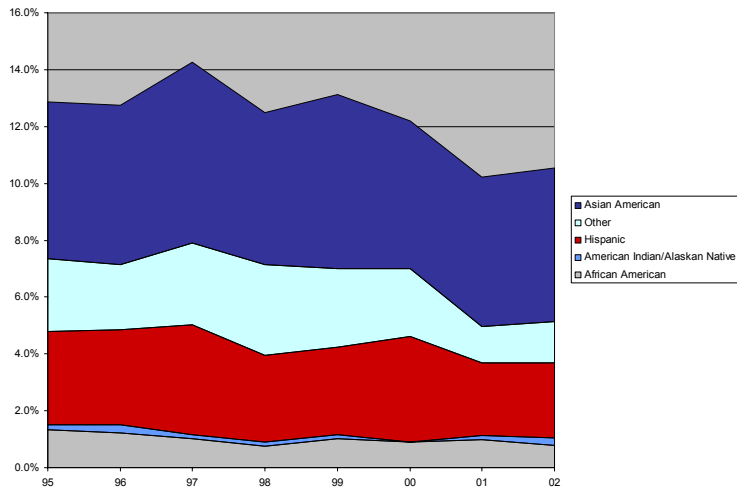
- I. Introduction**
- II. Graduate Enrollment**
 - MEng
 - MS/Ph.D.
 - The Pipeline Problem
- III. Research Expenditures**
 - Total
 - Distribution/Sources
 - Effect of Centers
- IV. Space/Facility Issues**
- V. Where do we want to go and how do we get there?**



Graduate Student Enrollment

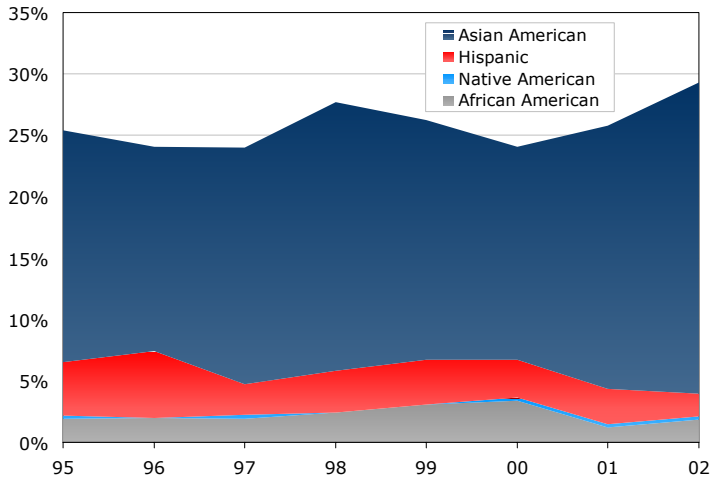


Graduate Student Enrollment Ethnicity in MS/Ph.D.





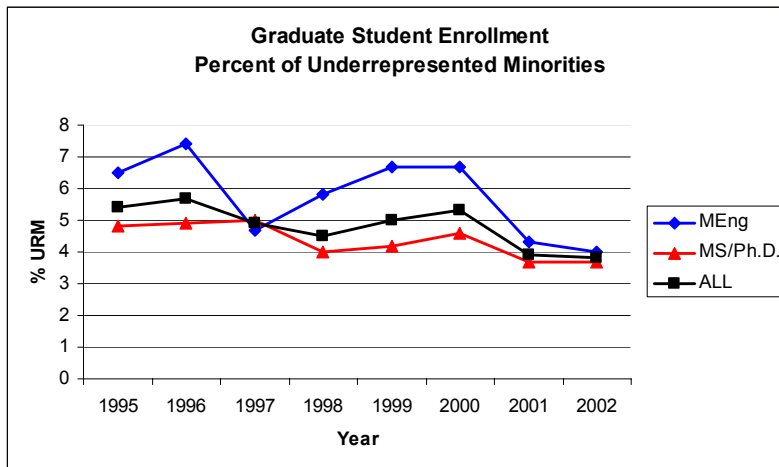
Graduate Student Enrollment Ethnicity in MEng Program



College of Engineering

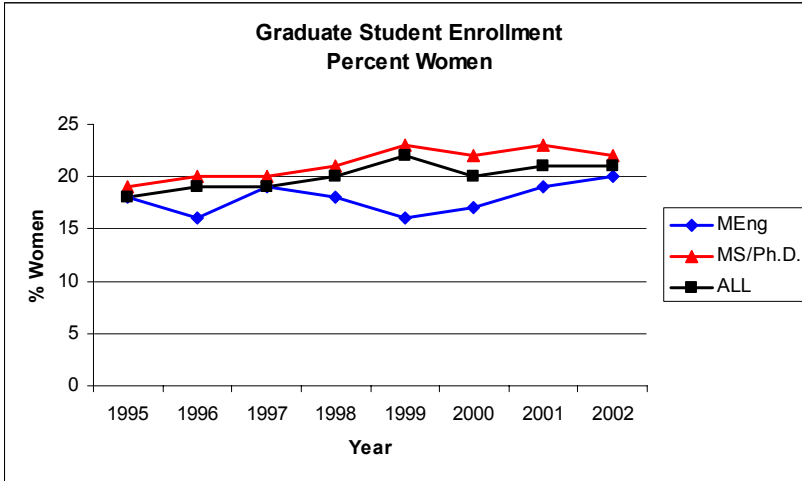


Graduate Student Enrollment Underrepresented Minorities

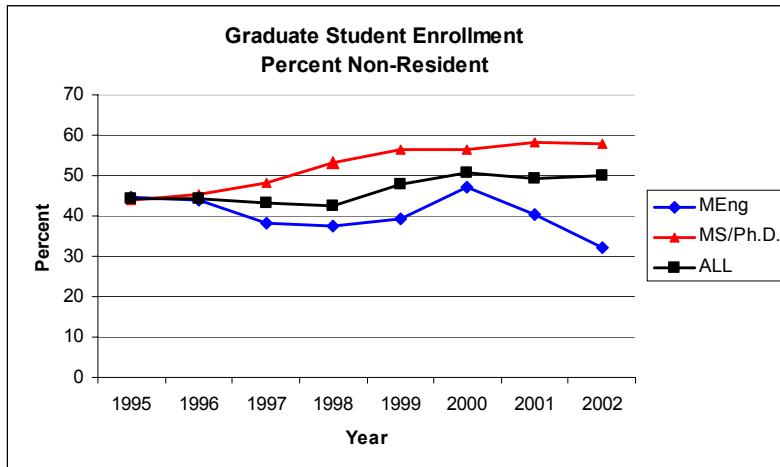


College of Engineering

Graduate Student Enrollment Percent Women

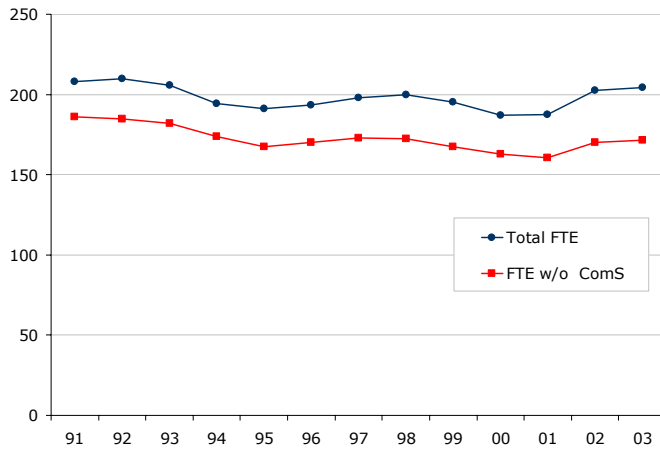


Graduate Student Enrollment Percent Non-Resident





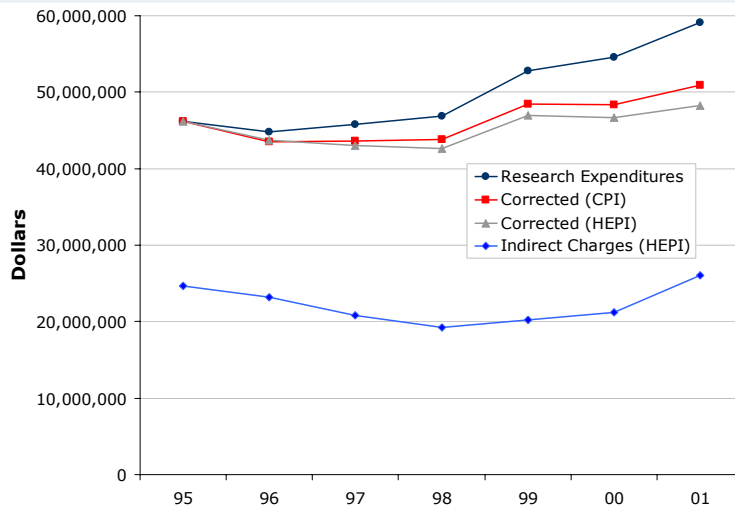
Faculty FTE



College of Engineering



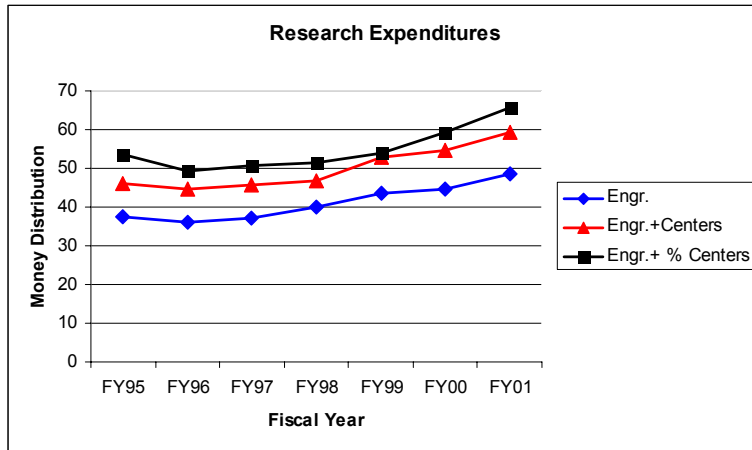
HEPI Adjusted Research Expenditures



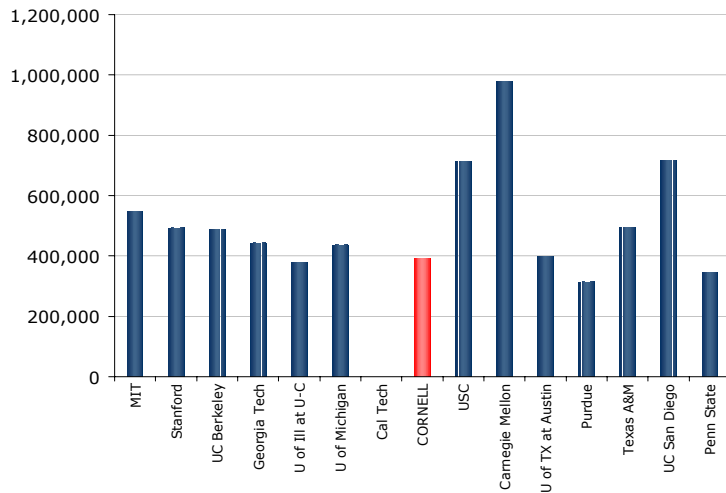
College of Engineering



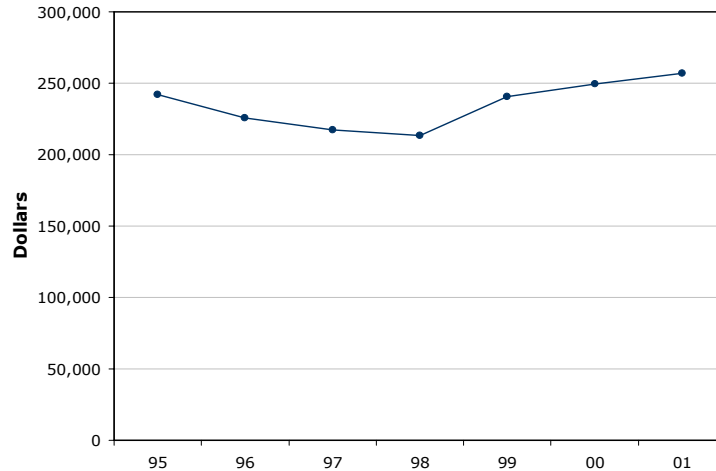
Research Expenditures



Research Expenditures Per Faculty Member (ASEE)



HEPI Adjusted Research Money per Faculty



US News Graduate Rankings

Research \$s Per Faculty Ranking

- 8. University of Southern California
- 14. University of California–San Diego
- 12. Texas A&M University–College Station
- 8. Cornell University**
- 6. University of Michigan–Ann Arbor
- 2. Stanford University (CA)
- 1. Massachusetts Institute of Technology
- 2. University of California–Berkeley
- 10. University of Texas–Austin
- 15. California Institute of Technology

Total Expenditure Rankings

- 1. Massachusetts Institute of Technology
- 4. Georgia Institute of Technology
- 5. University of Illinois–Urbana-Champaign
- 12. Texas A&M University–College Station
- 6. University of Michigan–Ann Arbor
- 2. University of California–Berkeley
- 15. Penn State University–University Park
- 14. University of California–San Diego
- 8. University of Southern California
- 12. Purdue University–West Lafayette (IN)
- 15. University of Wisconsin–Madison
- 10. University of Texas–Austin
- 2. Stanford University (CA)
- 8. Cornell University**
- 10. Carnegie Mellon University (PA)
- 7. California Institute of Technology



US News Graduate School of Engineering Rankings

Peer Ranking

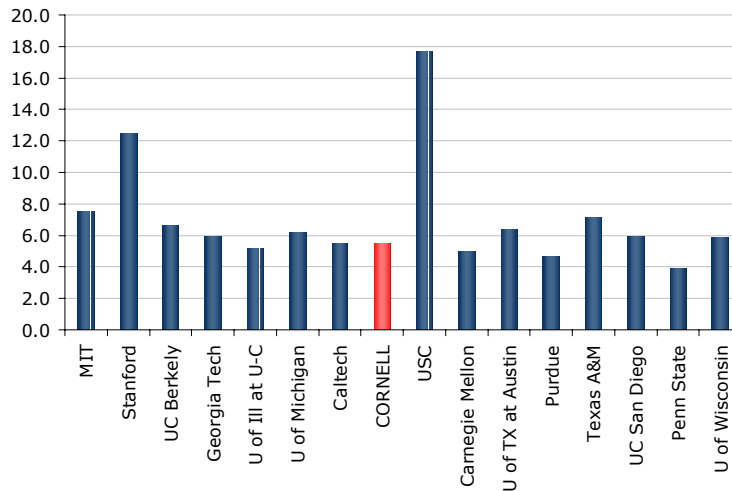
1. Massachusetts Institute of Technology
2. Stanford University (CA)
2. University of California–Berkeley
7. California Institute of Technology
5. University of Illinois–Urbana-Champaign
6. University of Michigan–Ann Arbor
4. Georgia Institute of Technology
- 8. Cornell University**
10. Carnegie Mellon University (PA)
10. University of Texas–Austin

Recruiter Ranking

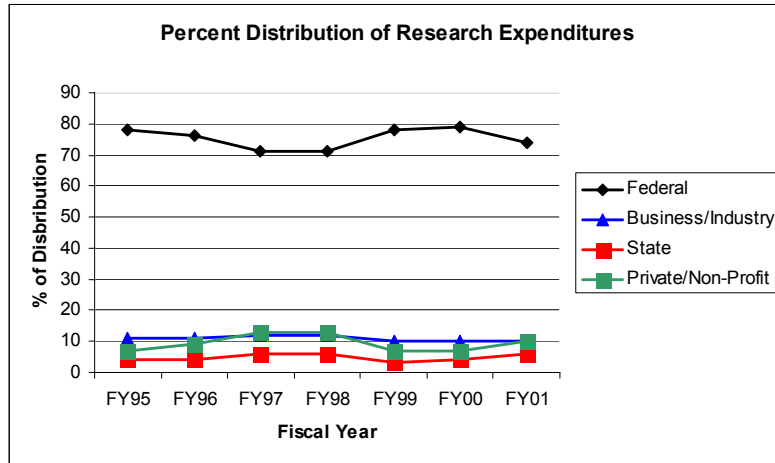
1. Massachusetts Institute of Technology
2. Stanford University (CA)
2. University of California–Berkeley
7. California Institute of Technology
5. University of Illinois–Urbana-Champaign
12. Purdue University–West Lafayette (IN)
4. Georgia Institute of Technology
- 8. Cornell University**
10. Carnegie Mellon University (PA)
6. University of Michigan–Ann Arbor



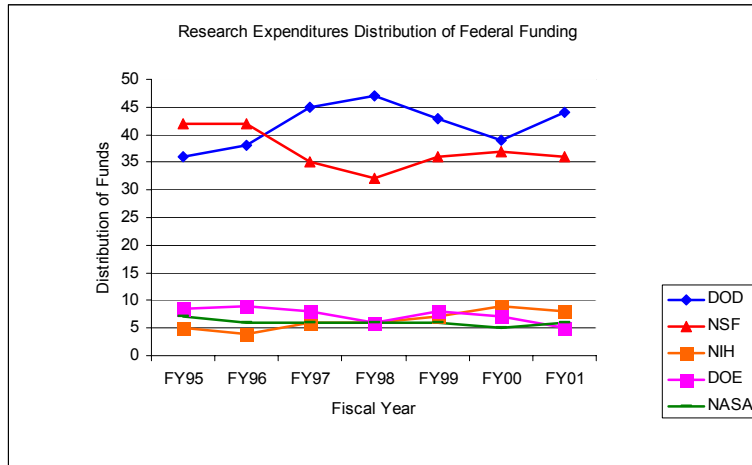
Graduate Student to Faculty Ratio



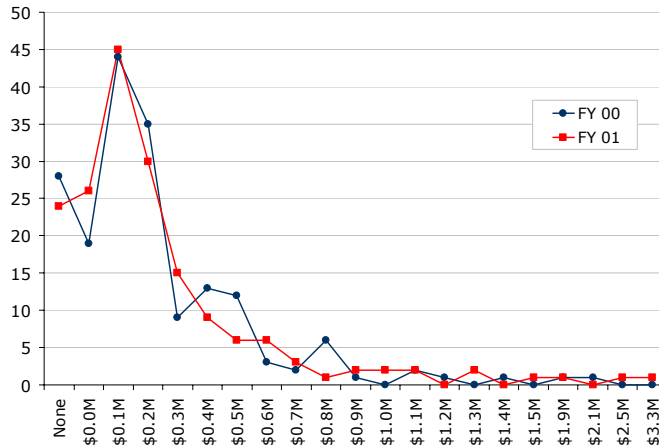
Percent Distribution of Research Expenditures



Research Expenditures - Distribution of Federal Funding



Distribution of Research Expenditures by Faculty



Research Centers with Substantial Engineering Participation

Cornell Nanofabrication Facility (CNF)+
 Cornell Center for Materials Research (CCMR)+
 Cornell Center for Nanoscale Systems (CNS)+
 Nanobiotechnology Center (NBTC) +
 Center for Theory and Simulation
 Cornell High Energy Synchrotron Source (CHESS)+
 Laboratory of Plasma Studies (LPS)^
 National Earthquake Engineering Simulation (NEES)+
 National Astronomy and Ionosphere Center (NAIC)+
 Development Resource for Biophysical Imaging Opto-Electronics *
 Power Systems Engineering Research Center #

Key:
 + funded by NSF
 ^ funded by DOE
 *funded by NSF
 #funded by Industry/NSF

Goals

- **Significantly increase research dollars per faculty**
- **An ERC at Cornell**
- **Effective strategies for attracting women and underrepresented minorities**
- **Increase percentage of US students**
- **Diversify research portfolio**
- **Expand College/University investment**
- **Interdisciplinary areas**
- **More visibility for Engineering**
- **Outreach aids**
- **Increase the number of College fellowships**
- **Enhance and expand research facilities**