

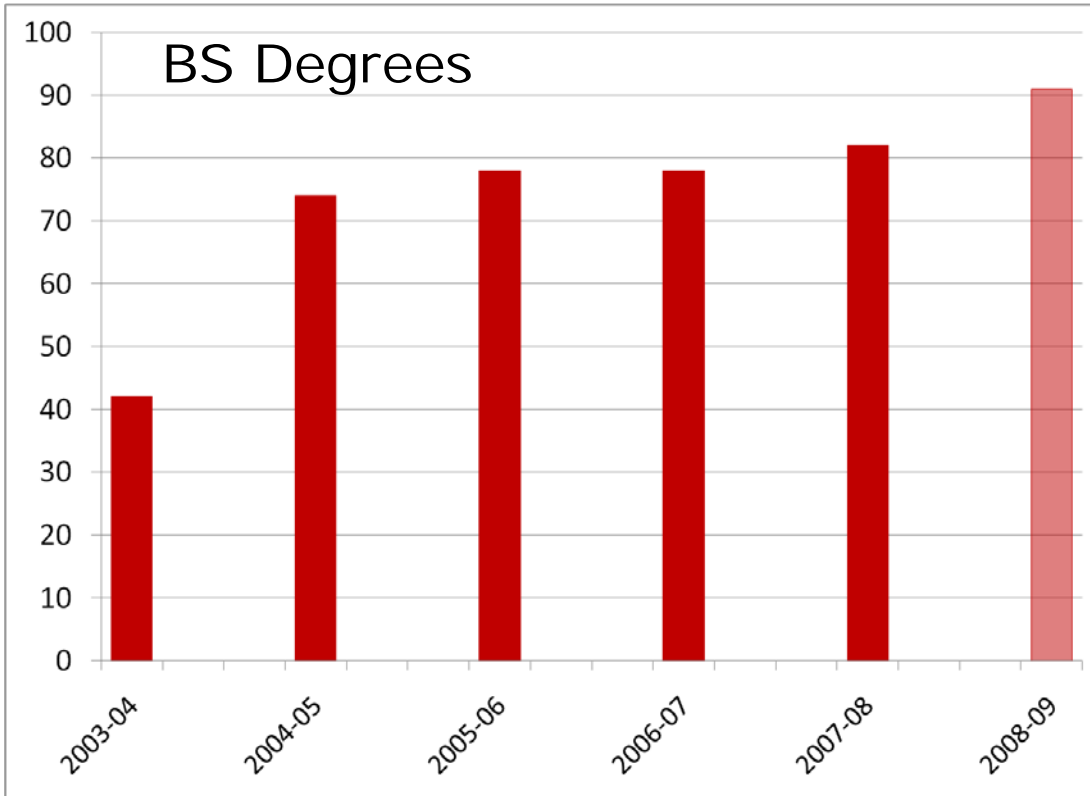
Mechanical & Industrial Engineering

Mario A. Rotea
Professor and Department Head

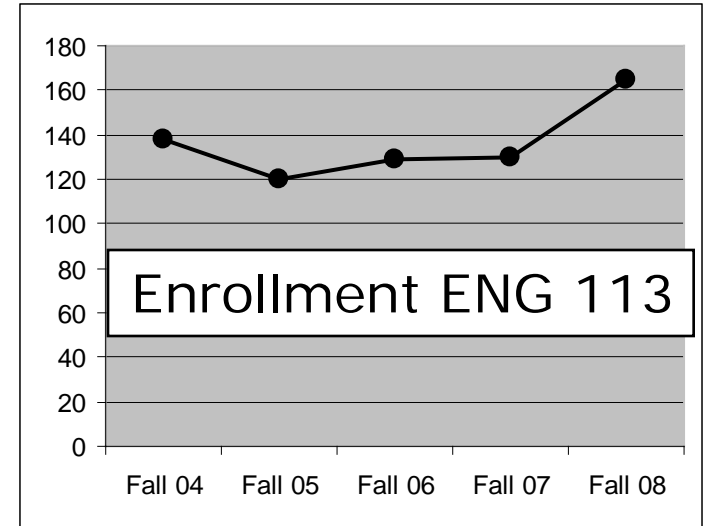
Outline

- Undergraduate Degree Programs
- Graduate Degree Programs
- The Faculty
- The Research
- Summary

Undergraduate Programs – BSME & BSIE



- Healthy number of BS degrees
- 5-year averages: 87% ME, 13% IE

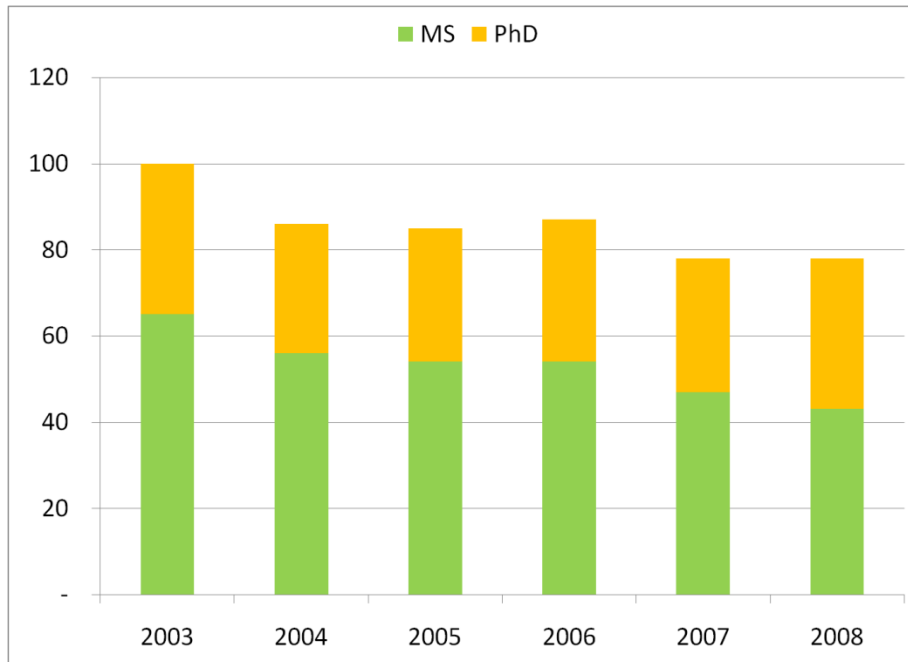


NSF REU

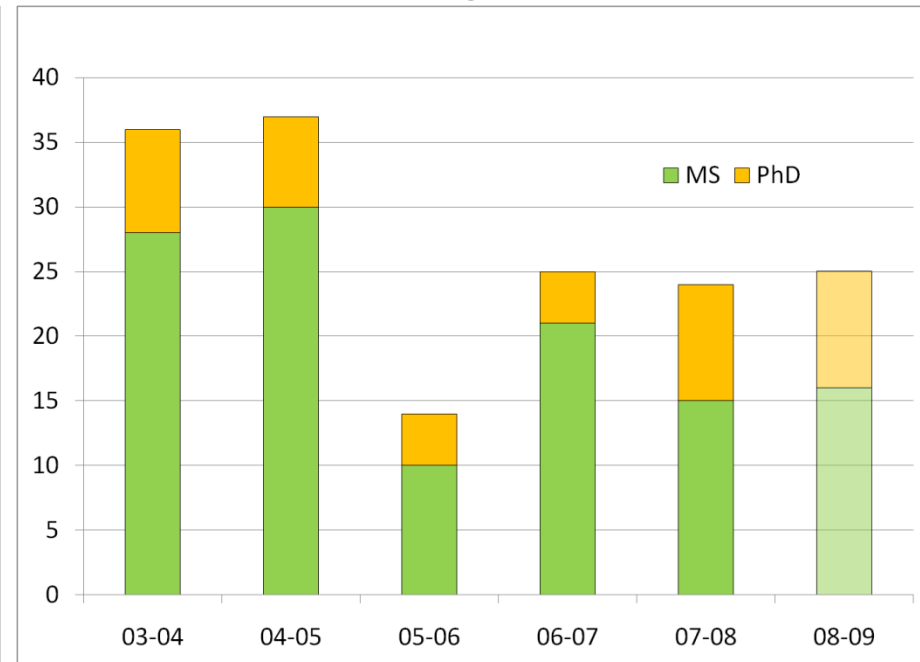
Year	MIE	COE
'06	5	16
'07	5	20
'08	11	24

Graduate Programs – MS/PhD in ME & IEOR

Enrollment



Degrees

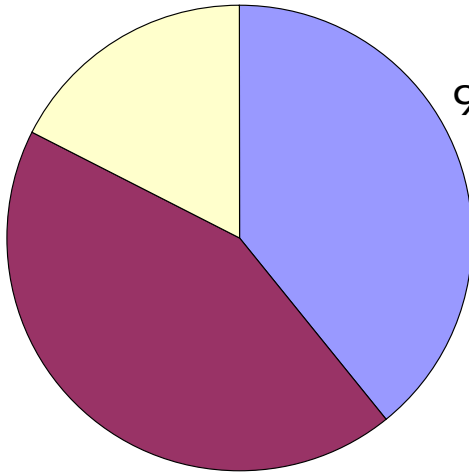


Reasonable goal

- 100-120 graduate students enrolled per year
- 35 graduate degrees per year (.5PhD/Faculty/year, 1MS/Faculty/year)

The Faculty

4 Assistant Profs. (17%)



9 Profs. (39%)

10 Associate Profs. (39%)

Control & Dynamical Systems	3
Design of Mechanical Systems	3
IE & Operations Research	6
Materials & Manufacturing	3
Thermodynamics & Fluids	8

Honors & Awards

- 1 NAE (Emeritus)
- 10 Fellows (National/International)
- 3 NSF CAREER Awardees
- 2 NSF Young Investigator Awardees
- 2 ONR Young Investigator Award
- 20 books (edited or co-authored)

FY'09 Approved Searches

- Wind Energy (1)
- Materials (1)

New Faculty in FY'09

- Hari Balasubramanian
 - PhD ('06) and MS ('02) from Arizona State University
 - Operations research applied to healthcare delivery
- Matthew Lackner
 - PhD UMass ('07), MS ('03) from MIT
 - Wind energy

FY'09 Faculty Searches

- Materials
 - Offer extended to outstanding candidate with great potential for interdisciplinary work (PSE, ChE) in the mechanics of nanomaterials
 - Decision expected next week
- Wind Energy
 - Search refocused to find strongest candidate with interest and ability to contribute to wind energy program (not necessarily 100% effort)
 - Search committee has provided their recommendation
 - Offer will be extended shortly

The Research

- Research & Development ~ 4.5M/year
- Multiple programs
 - Large size
 - Computational and experimental fluid dynamics
 - Human performance and cognitive engineering
 - Wind energy systems
 - Medium and small size
 - Biomechanics and systems biology
 - Condition monitoring and controls
 - Environmental and energy economics/policy
 - Logistics & supply chain management
 - Emerging
 - Bioengineering: devices, biomechanics, health care delivery services
- Extension
 - DOE Industrial Assessment Center (Energy Utilization)
 - Massachusetts Energy Efficiency Partnership (education, training)

Federal Funding

- Large number of proposals submitted to major federal agencies (NSF, NIH, DOE, DOD, DOT) in FY'09
 - Federal funding necessary for PhD production
 - Program reputation grows with federal funding

	FY'08	FY'09
Proposals*	20 (\$6.6m)	31 (\$17.5m)
Awards*	16 (\$6.4m)	16 (\$2.4m)

- FY'09 proposals in energy and healthcare
 - 3 proposals in healthcare (NSF, NIH)
 - 11 proposals in wind energy (NSF, DOE)

* Need validation from OCGA records

Summary

- Program is great and getting better
 - Good number of proposals submitted to federal programs in FY'09
 - Funding would lead to more graduate students
- The Challenge
 - Attract and retain talent...from students to faculty
- Ideas from IAB to generate resources always welcome
- I hope to see you at lunch today