

College of Engineering Faculty / Staff Meeting

September 23, 2009

Peter Kilpatrick

The College of Engineering
at the University of Notre Dame





Michael Sain
Monday, September 21, 2009

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Overview

- ❑ Year in Review
- ❑ Our DRAFT Strategic Plan
- ❑ Questions and Answers

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Year in Review: 2008-2009

- People
- Programs
- Finances
- Some Observations

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New People in 2008-2009

T&R Faculty

SPF Faculty and Research Faculty

Staff

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New Faculty - 2008

| Name | Department | Title |
|-----------------------|-------------------|-----------------------------------|
| Basar BILGICER | CBE | Assistant Professor |
| David GO | AME | Assistant Professor |
| Kaphil KHANDELWAL | CEGEOS | Assistant Professor |
| Peter KILPATRICK | Dean's Office | Professor and Dean of the College |
| Michael LEWIS | AME | Research Associate |
| Michael NIEMIER | CSE | Assistant Professor |
| Thomas PRATT | EE | Research Assistant Professor |
| James SCHMIEDELER | AME | Associate Professor |
| Indra SINGH | CBE | Research Professor |
| Philippe SUCOSKY | AME | Assistant Professor |
| Alexandros TAFLANIDIS | CEGEOS | Assistant Professor |
| Andre TOVAR | AME | Research Assistant |



New Faculty - 2009

| Name | Department | Title |
|-------------------------|-------------------|--|
| Eric MATLIS | AME | Research Assistant Professor |
| Mark RENNIE | AME | Research Assistant Professor |
| Karel MATOUS | AME | Associate Professor |
| Jessica KUCAENSKI | CBE | Associate Professional Specialist |
| Kirk REINBOLD | CBE | Managing Director, Advanced Diagnostics |
| Joseph FERNANDO | CEGEOS | Professor |
| Chongzheng NA | CEGEO | Assistant Professor |
| Elizabeth KERR | CEGEOS | Assistant Professional Specialist |
| Brian BLAKE | CSE | Professor |
| Erliang ZENG | CSE | Research Assistant Professor |
| Thomas ALBRECHT-SCHMITT | CEGEOS | Professor |
| Evegeny ALEKSEEV | CEGEOS | Research Assistant Professor |
| Michelle KELLY | EE (Nano Science) | Research Assistant Professor |
| Mark WISTEY | EE | Assistant Professor |



New Staff – 2008 / 2009

| | | |
|------------------|---------------|--|
| Megan BLANK | CBE | Program Assistant |
| Heidi DEETHARDT | EE | Administrative Assistant |
| Thomas LOOMIS | Graphics | Graphics Design Specialist |
| Jerry CAPPERT | Dean's Office | Director, Facilities |
| Douglas FEDDER | CBE | Research Technician |
| Robert ALWORTH | Dean's Office | Director, Integrated Engineering / Business Practice Curriculum |
| Edward BENSMAN | Dean's Office | Director, Science & Engineering Computing |
| Patrick MURPHY | CBE | Managing Director, ND Energy Center |
| Kirk REINBOLD | CBE | Managing Director, Advanced Diagnostics and Therapeutics |
| Heather McCLEERY | CBE | Administrative Assistant |
| Douglas FEDDER | CBE | Research Technician |
| Deb GILLEAN | EE | Department Administrator |
| Elizabeth KOVACS | EE | Administrative Assistant |
| Marcy SIMONS | Library | Supervisor |

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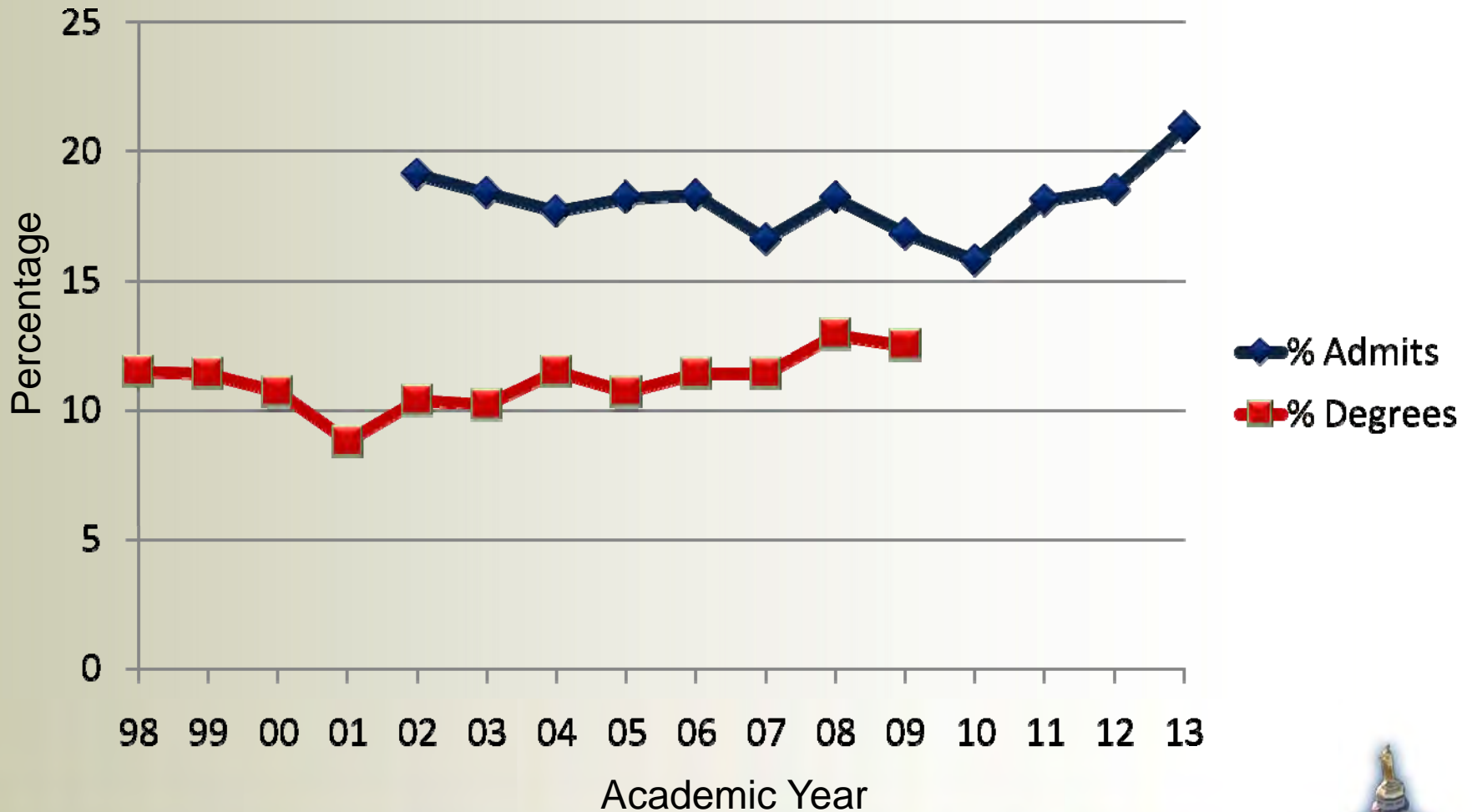


Those Who Have Left 2008 / 2009

| | |
|-----------------------|--------------------------|
| Alan Bowling | Jeffrey Talley |
| Edmundo Corona | Susan Sakimoto |
| Ivan Favila | Felicia Geary |
| Judy Kenna | David Devine |
| Alfred Kriman | Surendar Chandra |
| John Schafer | Christopher Sweet |
| Tamas Roska | Leona Strickland |
| | |



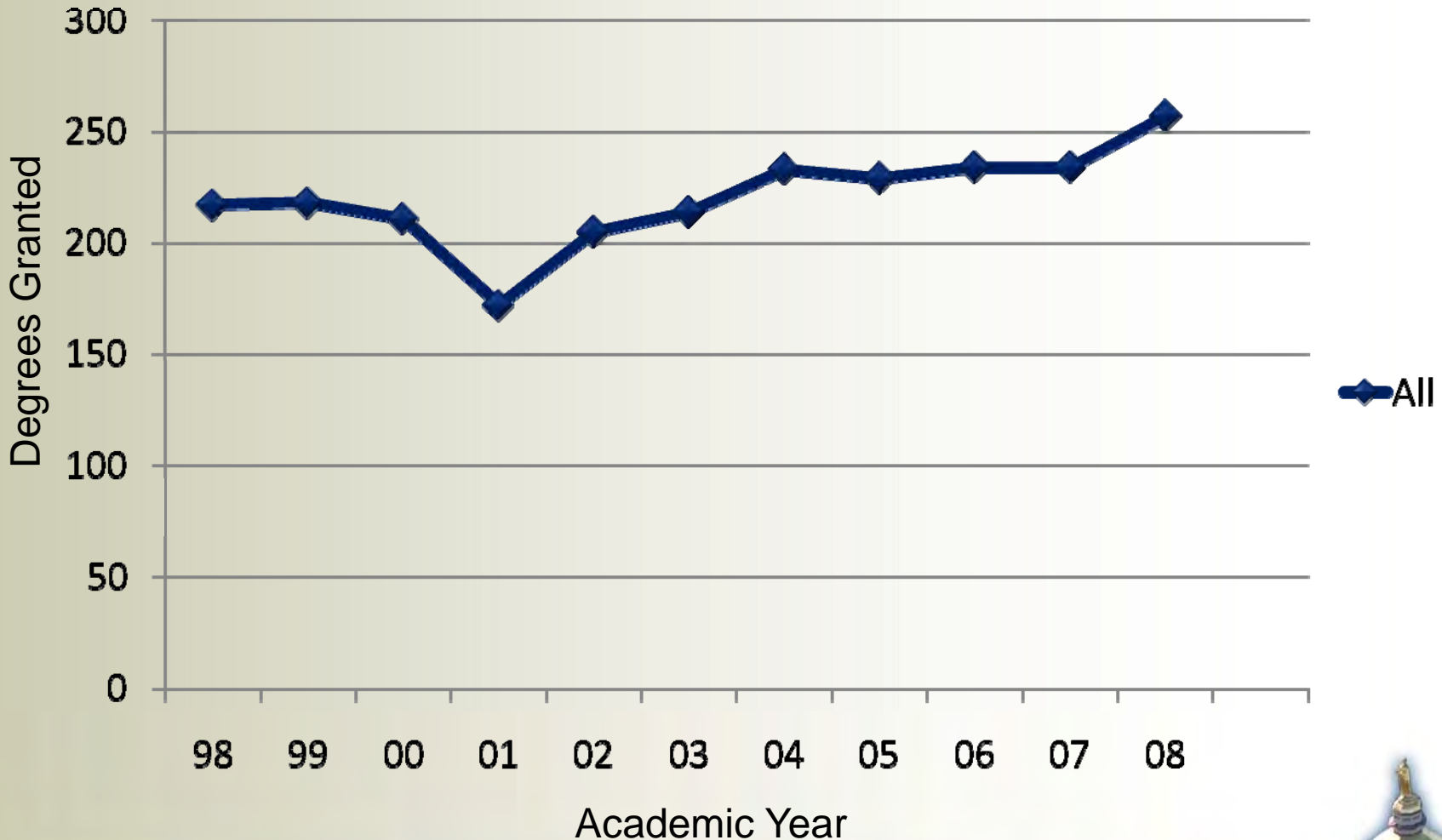
EG Admits and Degrees Granted



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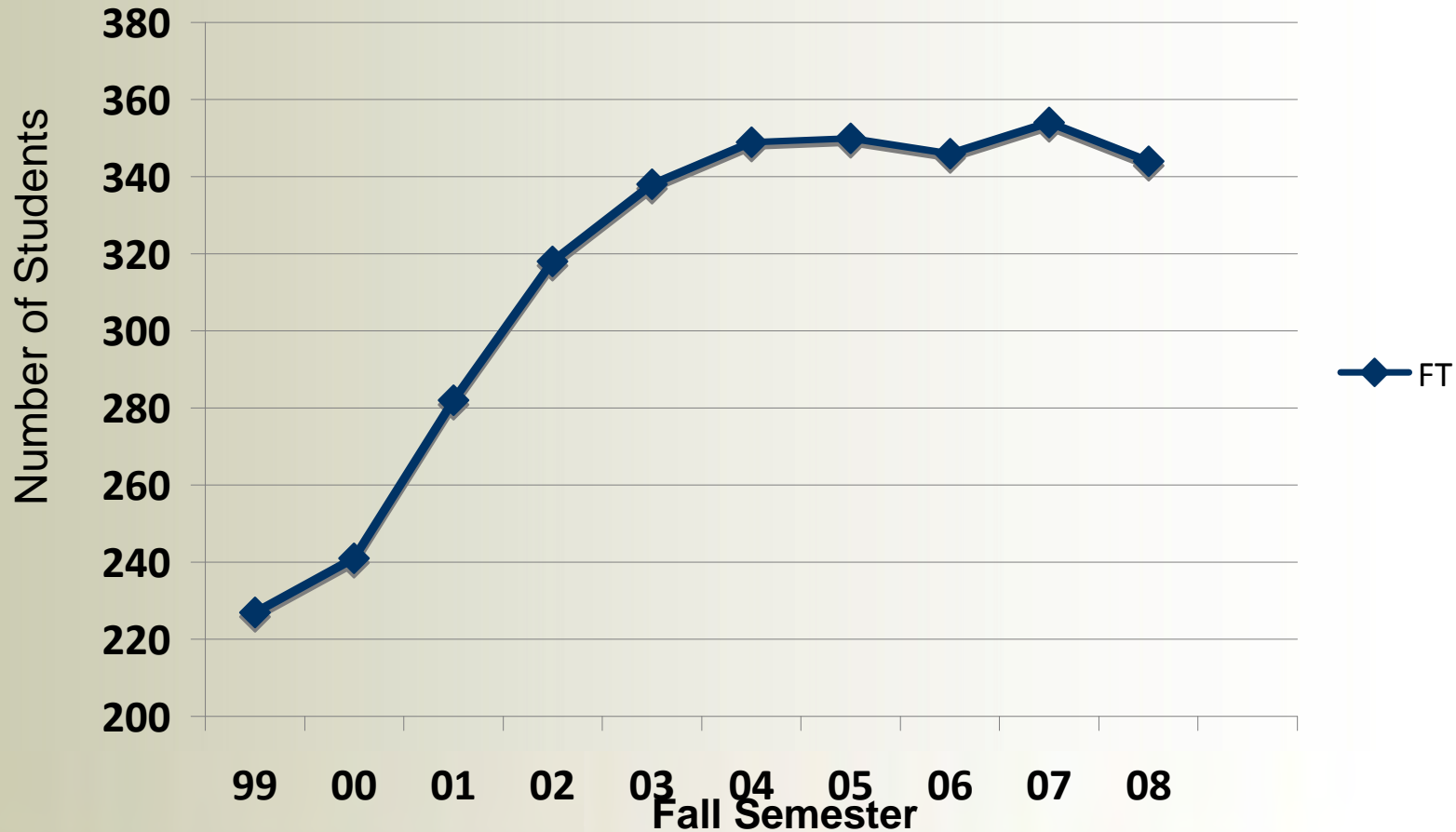
Bachelors Degrees



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FT PhD Enrollment Data



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Faculty Trend Numbers In Engineering

| Year | Total T & R Faculty |
|--------------------|---------------------|
| 2004 | 101 |
| 2005 | 98 |
| 2006 | 93 |
| 2007 | 100 |
| 2008 | 102 |
| 2009 | 108 |
| 2010 – 2011 | 115-118 |

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USNWR Rankings

| | <i>Rank</i> | <i>T&R Faculty</i> | <i>Research Faculty</i> |
|------------------|-------------|------------------------|-------------------------|
| Carnegie Mellon | 6 | 133 | 19 |
| Cal Tech | 7 | 98 | 164 |
| Harvard | 18 | 56 | 119 |
| Princeton | 18 | 128 | 99 |
| UC Santa Barbara | 18 | 138 | 0 |
| Johns Hopkins | 25 | 136 | 26 |
| Penn | 27 | 105 | 79 |
| Rice | 34 | 107 | 5 |
| Rochester | 38 | 71 | 27 |
| Vanderbilt | 39 | 81 | 37 |
| Yale | 40 | 61 | 79 |
| Lehigh | 42 | 110 | 41 |
| Notre Dame | 51 | 102 | 16 |

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Monies Invested by University in Last 5 years Which Benefit Engineering

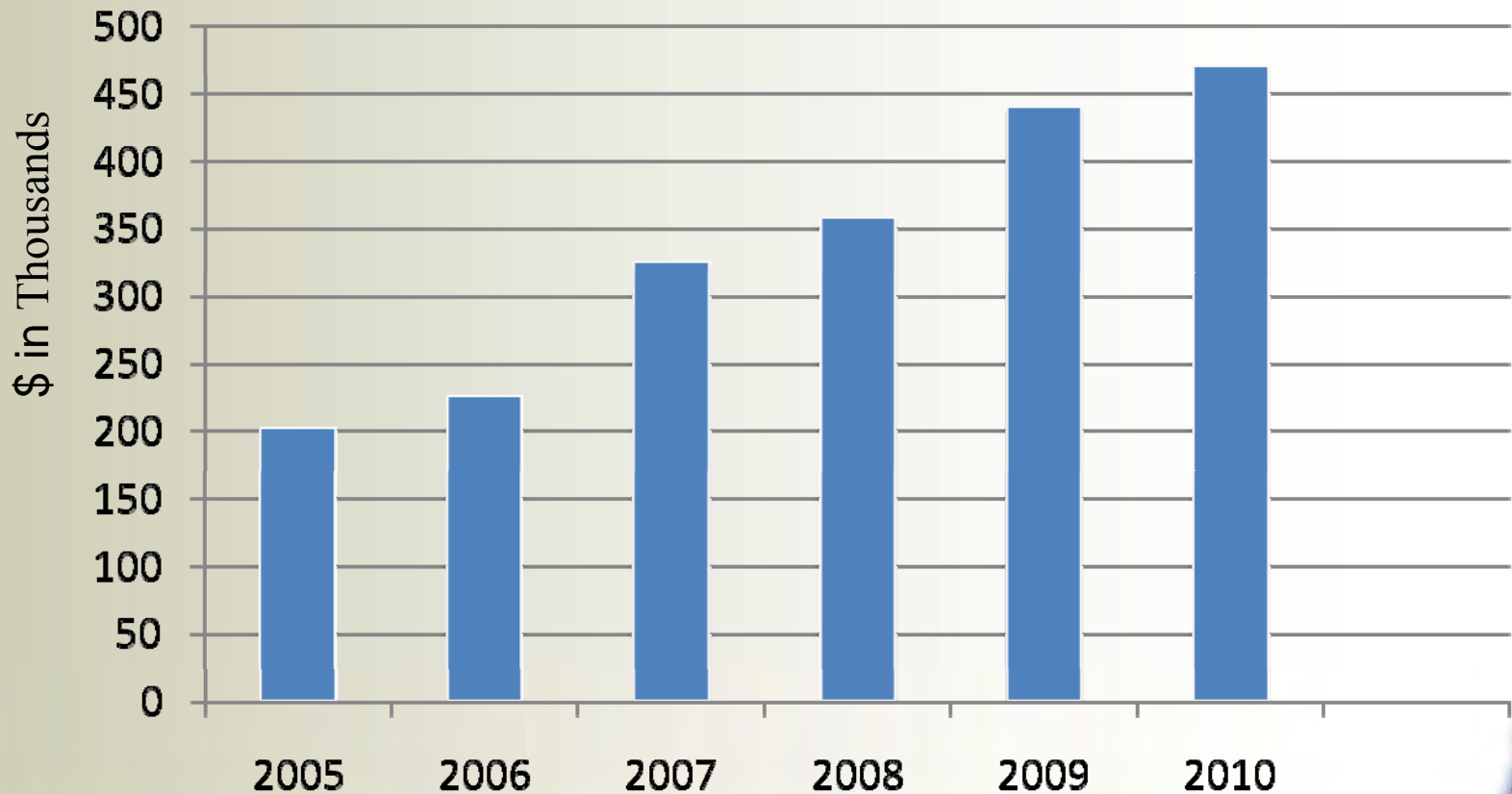
| | |
|--|-----------------|
| Stinson-Remick Building | \$71M |
| Endowed Professorships | \$10-12M |
| <ul style="list-style-type: none">• Keough- Hesburgh• Wayne and Diane Murdy• Anthony Earley• Leo Linbeck• Teske | |
| SAPC | \$14M |
| MIND State and City Match | \$9M |
| Renovation of Cushing/Fitzpatrick | \$20M |
| Total | \$124M |

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Progression of Jr. Faculty Start-up Packages

Average Annual Start Up Package



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Notre Dame Research Expenditures

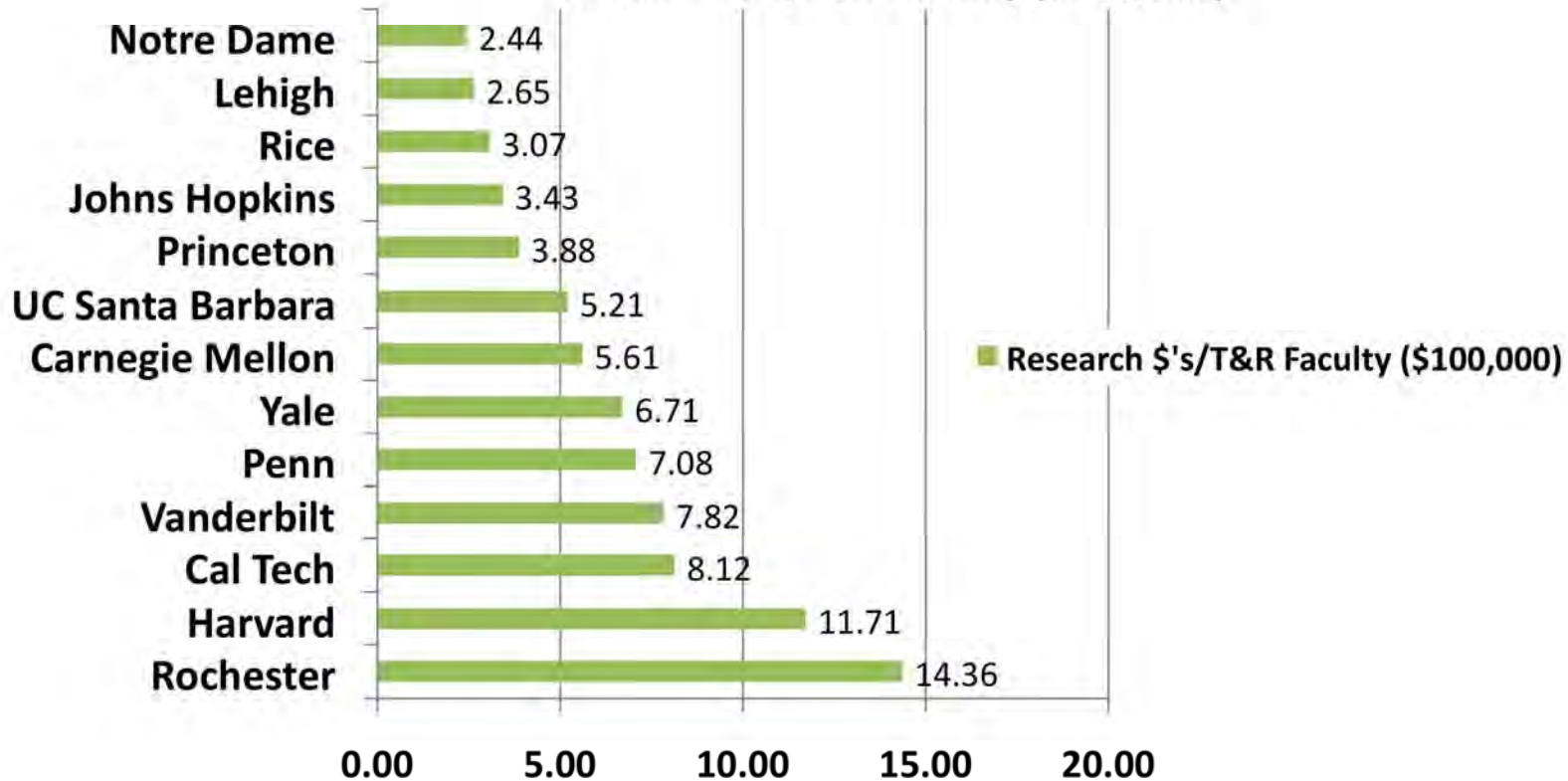
| Fiscal Year | Expenditures (Dollars) |
|-------------|------------------------|
| 1999-2000 | \$8,575,065 |
| 2000-2001 | \$10,793,057 |
| 2001-2002 | \$12,500,427 |
| 2002-2003 | \$14,990,596 |
| 2003-2004 | \$17,102,070 |
| 2004-2005 | \$16,589,402 |
| 2005-2006 | \$16,830,473 |
| 2006-2007 | \$16,977,003 |
| 2007-2008 | \$23,005,205 |
| 2008-2009 | \$23,003,008 |

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USNWR RANKINGS

Research \$'s/T&R Faculty (\$100,000)



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Challenges Facing Higher Education

- **Rising student financial need**
- **Continuing Congressional pressures**
- **Competition for research dollars**
- **Declining financial markets**
- **Drop in endowment values**
- **Reduced donor giving**



Actions at Other Private Universities

Budget Reductions

- Brown
- Cornell
- Princeton
- Stanford
- Yale

Layoffs

- Brown
- Harvard
- MIT (in libraries)
- Yale

Salary Freezes

- Brown
- Duke
- Harvard
- Johns Hopkins
- Stanford
- Vanderbilt

Deferred Capital Projects

- Brown
- Duke
- Princeton
- Yale



ND 2009-2010 Budget

- Saw increases in:
 - Faculty and staff salaries
 - Endowment payout
 - Student financial aid
- Continued filling replacement and new faculty positions
- Instituted voluntary savings
- Created financial contingency plans to:
 - Reduce expenses (e.g., strategic sourcing project)
 - Raise revenue
- Made progress on new facilities and major renovations



Stinson-Remick Hall



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Eddy Street Commons



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Innovation Park



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2010-2011 Budget Outlook

REVENUE

- Peer tuition increases averaged ~ 3.8% for fiscal 2010, creating pressure to keep tuition increases low

EXPENSES

- Financial aid for students is approximately \$5M over budget

POTENTIAL OUTCOME

- Growth in research investment will require a growth in sponsored research income
- New initiatives will require new funding source or budget reallocation



DRAFT Strategic Plan:

Strengths and

1. Loyal, dedicated alumni
2. Financial situation
3. Undergrad program
4. Collegial attitude
5. Stinson-Remick
6. Pillars of excellence
7. Unique institutional identity
8. Strong support for research

Weaknesses

1. Faculty recruitment
2. Graduate student recruitment
3. Limited infrastructure in appl biology and human health
4. Notre Dame small compared to aspirational peers
5. Impact and visibility of our best programs modest
6. No coordination of outreach
7. Diversity is modest
8. No formal mentoring



DRAFT Strategic Plan:

Opportunities and

1. **COS/COE Interactions**
2. **Nanoelectronics strong base for other areas**
3. **Computational science and engineering strong**
4. **Learning Center and Labs in S-R**
5. **Innovation Park**

Threats

1. **Best faculty targets for recruitment by others**
2. **Fed funding uncertain**
3. **Who will be moving down in the rankings?**



DRAFT Strategic Plan:

Executive Summary

- 1. Increase academic stature and societal impact of our research**
- 2. Recruit, develop, and retain outstanding faculty**
- 3. Increase PhD degrees in existing programs and place PhD graduates in best programs nationally**
- 4. Create unique signature undergraduate programs that develop the best potential for our students**
- 5. Enhance our contribution to the Catholic character of the University**
- 6. Increase the influence of COE among non-engineers**
- 7. Outreach/engagement with Michiana**



Academic Code Reminders

- **Academic Code requires instructors to have and state an absence policy at the beginning of the semester**
 - **Provost's Office requires the policy to deal specifically with absences immediately before and after breaks (fall/spring, Easter/Thanksgiving)**
- **Academic Code requires instructors to submit mid-term deficiencies for students doing D or F work at mid-semester**
 - **Presupposes that sufficient work is required by mid-semester to allow a fair evaluation of progress**
 - **Helps in identifying students with serious academic or personal problems while there is still time to correct**



Summer Research

- Consider inviting students from our 3/2 and 4/1 dual-degree programs to engage in summer research
 - Students have background in science, but little or no exposure to engineering
 - Will help in recruiting students to matriculate as transfers to complete engineering degree
 - May help in recruiting students for graduate school
 - May help in forging relationships with key schools for research and recruiting purposes
- Schools included:
 - Bethel College Loyola University Chicago Univ. of St. Thomas (MN)
 - Carroll College Saint Anselm College Stonehill College
 - Elon University Saint Mary's College Xavier University (LA)
 - Goshen College Univ. of St. Thomas (TX)
- See Cathy Pieronek or Leo McWilliams if you are interested



Questions?

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