Graduate Education: Stanford & National Context

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Vice Provost for Graduate Education

Graduate Student Services Forum
November 7, 2013
A Bit of Stanford History

- 1891: 37 grad students when Stanford opened
- 1894: First PhD granted (in geology)
- Post WWII: Entrepreneurial spirit in science (SLAC), engineering, & technology (HP, Google, Yahoo)
More Recent Defining Moments

- 1990: Graduate Division disbanded
- 2005: Commission on Graduate Education calls to build on strengths & reinvent graduate education
- 2007: VPGE founded as a catalyst for academic innovation & collaborative problem-solving
Stanford Enrollment 1985-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Undergraduate Enrollment</th>
<th>Graduate Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>6,593</td>
<td>6,505</td>
</tr>
<tr>
<td>1990</td>
<td>6,753</td>
<td>6,887</td>
</tr>
<tr>
<td>1995</td>
<td>6,927</td>
<td>6,999</td>
</tr>
<tr>
<td>2000</td>
<td>7,470</td>
<td>8,174</td>
</tr>
<tr>
<td>2005</td>
<td>8,779</td>
<td>8,796</td>
</tr>
<tr>
<td>2010</td>
<td>8,871</td>
<td></td>
</tr>
</tbody>
</table>

Change 1985 to 2012:
- +33.5%
- +6.2%

Change 2011 to 2012:
- +0.9%
- +1.0%
Graduate Enrollment by School, 2012
N = 8,871

- Business: 39%
- Earth Sciences: 4%
- Education: 4%
- Engineering: 7%
- H & S Natural Science: 10%
- H & S Social Science: 4%
- H & S Humanities & Arts: 7%
- Law: 11%
- Medicine: 7%
- 25% total
Graduate Enrollment by Degree Level, 2012

Master’s:
- M.A.
- M.S.
- M.F.A.
- M.L.A.
- M.L.S.
- L.L.M.
- J.S.M.
- M.P.P.
- Eng.

Professional:
- J.D.
- M.D.
- M.B.A.

Doctoral:
- Ph.D.
- D.M.A.
- J.S.D.

1,773 (20%) M.F.A.
2,525 (28%) M.P.P.
4,573 (52%) Professional

~3,000 graduate degrees / year
~700 PhDs / year; median time to degree 5.75 years
Demographics

~8,900 graduate students
- 9% underrepresented minority
- 33% international: China, India, Korea = ~47%
- 37% women
- 57% live on campus

~2,000 postdocs
- 63% in School of Medicine
- 61% international (19 countries)
- 85% at Stanford for ~2.5 years
- > 1/3 faculty mentor postdocs
Thank You
Three Challenges

1. Funding challenges
   - Rising costs
   - Uncertainty in external sources

2. Advising and preparing for career paths
   - Advising & mentoring relationships
   - Preparing for academia, business, non-profits …

3. Expanding diversity
   - Extend reach of academic pipeline
   - Promote community & educational benefits
1. Funding

Rising costs

- Loan indebtedness (master’s, professional)

Growth yet uncertainty in funding sources

- $309M (tuition/fees; stipend/salary) FY12
- External sources (84% Federal; 31% NSF, 23% NIH); restrictions, including widening gaps in tuition/stipend
- Internal sources: competing priorities (e.g., PhD & postdoc)

Resources vary by department, student, quarter

- Forms of support: RA, TA, fellowships
- Personal funds, loans, Emergency Grant-in-Aid Fund
Graduate Student Funding by Source
FY98, FY08-12

<table>
<thead>
<tr>
<th>Year</th>
<th>External Grants &amp; Contracts</th>
<th>Designated &amp; Restricted Funds</th>
<th>General Funds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY98</td>
<td>$56.6M (39%)</td>
<td>$33.2M (23%)</td>
<td>$53.6M (37%)</td>
<td>$143.4M</td>
</tr>
<tr>
<td>FY08</td>
<td>$75.6M (30%)</td>
<td>$112.4M (45%)</td>
<td>$65.8M (26%)</td>
<td>$253.8M</td>
</tr>
<tr>
<td>FY09</td>
<td>$80.5M (29%)</td>
<td>$124.9M (44%)</td>
<td>$71.3M (26%)</td>
<td>$276.7M</td>
</tr>
<tr>
<td>FY10</td>
<td>$83.3M (29%)</td>
<td>$126.8M (44%)</td>
<td>$75.4M (26%)</td>
<td>$285.5M</td>
</tr>
<tr>
<td>FY11</td>
<td>$85.4M (28%)</td>
<td>$134.3M (45%)</td>
<td>$80.4M (27%)</td>
<td>$300.2M</td>
</tr>
<tr>
<td>FY12</td>
<td>$84.7M (27%)</td>
<td>$132.0M (43%)</td>
<td>$92.5M (30%)</td>
<td>$309.2M</td>
</tr>
</tbody>
</table>
Graduate Student Funding by Source from School & Unit, FY12

- **External Grants & Contracts**
  - SLAC: $3.8M (100%)
  - DoR: $16.7M (40%)
  - Medicine: $44M (42%)
  - Engineering: $85.3M (38%)
  - Education: $8.8M (28%)
  - Earth Sciences: $14.5M (20%)
  - H & S: $81M (18%)
  - GSB: $19.7M (48%)
  - Law: $9.1M (69%)

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Graduate Student Funding: External Grants & Contracts by Source/Agency, FY12

- DoD $12.1M (14%)
- DoE $8M (9%)
- NASA $1.7M (2%)
- NIH $19.6M (23%)
- NSF $26.6M (31%)
- Other Federal $3.3M (4%)

Total Federal = $71.3M
Total = $84.7M
Responses to Uncertainty

Stanford’s top priority is to meet our funding commitment to current graduate students.

Several levels (local first; use fund balances):

- Faculty/PI and Department
- School Dean’s Office
- Central Funds: Endowed; General Funds (35% to 40%)
- Emergency Grant-in-Aid; Loans
2. Advising & Career Preparation
Graduate Professional Development
6 Areas, 18 Competencies

- Career Development
- Specialized Content Knowledge & Skills
- Personal Development
- Communication
- Management & Leadership
- Teaching
Graduate Professional Development

Career Development
Personal Development
Management & Leadership
Communication
Teaching

Specialized Content Knowledge & Skills
Learning advanced disciplinary knowledge & skills
Conducting research & scholarship
Collaborating within & across disciplines
Graduate Professional Development

- Specialized Content Knowledge & Skills
- Communication
- Teaching
  - Instructing & using instructional technologies
  - Developing courses & curricula
  - Advising & mentoring
- Management & Leadership
- Personal Development
- Career Development
Graduate Professional Development

- Career Development
- Specialized Content Knowledge & Skills
- Personal Development
- Communication
- Teaching
- Management & Leadership
  - Negotiating & resolving conflicts
  - Managing people & projects
  - Developing leadership & entrepreneurial skills
Graduate Professional Development

- Career Development
  - Solving problems & thinking creatively
  - Behaving ethically & with integrity
  - Increasing self-awareness
- Specialized Content Knowledge & Skills
- Communication
- Teaching
- Management & Leadership
Graduate Professional Development

- Career Development
  - Networking
  - Developing job search skills
  - Exploring career options

- Specialized Content Knowledge & Skills

- Personal Development

- Communication

- Management & Leadership

- Teaching
PhD Alumni Employment: IRDS Data

PhD

Postdoc

Academia
- Faculty: Tenure-line
- Non-Tenure-line
- Research Staff
- Academic Admin.

Non-Profit

Government

Business
3. Expanding Diversity
Stanford and Peers: Graduate Students by Race/Ethnicity 2010

Source: Full time Graduate & Professional Students, IPEDS Fall 2010
URM Graduate Enrollment by School
1995 & 2012

- Education: 17% (1995), 19% (2012)
- H & S Social Science: 12% (1995), 13% (2012)
- University-Wide: 11% (1995), 9% (2012)
- H & S Natural Science: 5% (1995), 6% (2012)
What Leads to Success?
Research Findings

Campus Climate
- Valuing multi-dimensional diversity
- Community & connection

Mentoring
- Inspiring faculty & role models
- Clear & frequent communication
- Demystifying tacit knowledge
- Dialogue: job market, career, networking

Funding
- Competitive, stable & of sufficient duration
- Attending to debt & its impact
Diversity Initiatives: Supplement Schools

Recruitment: Expand applicant pool & increase yield

- Summer Undergraduate Research Experiences
- Prestigious Doctoral Fellowships (e.g., CCSRE)
- Campus Visits: Travel costs; GRAD Diversity Day (March 7, 2014)

Retention: Promote academic success

- Dissertation research funds
- Mentoring / professional support: Women in Science & Engineering (WISE; WISSH); Enhancing Diversity in Graduate Education (EDGE)

Diversify the Professoriate: Promote academic careers

- Distinguished Alumni Scholars Program
- Diversifying Academia, Recruiting Excellence (DARE) Doctoral Fellowship Program
DARE Doctoral Fellowship Program
DARE = Diversifying Academia, Recruiting Excellence

Competitive 2-year fellowships
Six cohorts to date
- 100 Fellows: 33 departments, 6 schools

Assessment shows DARE Fellows:
- Gain skills & confidence
- Gain knowledge of higher education system
- Build scholarly & professional identities
- Expand vision of & commitment to diversity
Supporting Graduate Student Success

Challenges
1. Funding & managing finances
2. Advising & career preparation
3. Diversity & community

Resources
- Department: Chair, Dir. Graduate Studies, faculty, student services staff
- School Dean’s Office
- Grad Life Office, CAPS, Financial Aid Office, CTL, Hume, Career Centers, Bechtel, VPGE
You and Your Work are Essential

- Facilitating student development & career preparation
- Advising students through critical transitions
- Teaching interdependence & how to be in community:
  - We are role models in how we work: listening, empathy, authenticity, exploring what’s possible.
- Serving on the frontline, seeing who needs support, information, a referral, or just a smile....
Thank You: We Are Grateful
Expanding what’s possible in graduate education...