The PSM Degree: Serving State Workforce Demands

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Why has Sloan Foundation supported PSM?

- 1 of very few foundations devoted to science
- Strong supporter of PhD and postdocs
- NOT intended to replace PhD
- BUT: important place for serious graduate science degree configured for needs of science careers outside Academe
- A new pathway for science/math majors who are not interested in pursuing PhD (~ 80%)
- Link (pull?) to undergraduate, community college, K-12?
PSM addresses 3 peculiar gaps:

U1. U.S. strength in BA/BS and in PhD
Yet has real weakness between the BA/BS and PhD

E2. Employers’ expressed demand for “more”
Yet PhD labor markets “chilly” (and deteriorating?)

R3. Rapid shifts in science careers and labor markets
Yet response of graduate science education is...
... not very nimble!
Sequence

1. Research universities = pioneers
2. Master’s-focused universities
3. Bioinformatics
4. System- and state-wide initiatives
**Interim status report on PSM**

- **Proof of concept**
  - >150 PSM programs, offered by 80+ universities, 25 states
  - ~2,600 current students (an underestimate)
  - ~ 2,650 alumni (as of fall 2008; majority quite recent)
  - Initial job/career experiences? Very good!

- **Major system/campus-wide initiatives:** CA, NY, IL
- **Enthusiastic support from many in industry**
- **Specific embrace:** America COMPETES (astonishing)
- **$15 appropriation in “stimulus” package** (amazing)
Enrollment trends (rough) are positive

Sources: Tobias, CGS, NPSMA surveys
University administrators:
- Council of Graduate Schools leading national initiative
- Graduate deans in lead (SUNY, UNC, Illinois, Florida, AZ)
- Chancellors of Cal State and SUNY Systems

National Conference of State Legislatures
National Governors Association

Federal government:
- National Science Foundation (NSF)
- FIPSE (Ed Dept)
- Real interest in DOE, DOD, DHS – but slow
Industry support

- **Enthusiastic support**
  - Provide advice to faculty leaders
  - Internships for PSM students
  - Hiring of PSM graduates
  - Support for employees to pursue PSM degree
  - Alternate course delivery to workplace (e.g. QUALCOM)
  - Lectures from industry scientists
  - Straight cash contributions (e.g. Abbott to SJSU)

- **Biotech: Especially strong support (e.g. BIOCOM)**

- **Helpful: High-level employer advisory board (CSU)**
Recent acceleration

- Major system/campus-wide initiatives: CA, NY, FL, MA, IL, AZ, OR
- Numerous PSMs currently in development stage
- What works well? What does not?
  - PSM’s need faculty leadership; System lead works less well
  - Cal State and SUNY systems delegated lead role to a campus
  - ...but continuing support at System HQ also essential
  - harder if faculty rewarded mainly for research grants
  - Critical mass helps, e.g. 5+ PSMs on a campus
In summary…..

- Real progress: a major shift for US higher education
- But PSM is not yet large
- And vulnerable in times of financial stringency
- Next 2-3 years critical stage in PSM evolution
- Sloan Trustees: renewed support until end of 2010 => sustainability (even with the financial meltdown!)
Where would we like to be in 2011?

- 175-200 PSM degrees, at ~100 univ’s, & rising
- 4-5,000 enrolled PSM students, & rising
- Federal $ support growing (NSF, Ed, DoE, DoD, DHS)
- Industry support continuing ($, internships, hiring)
- Strong national support (CGS, NPSMA, NGA, NCSL)
- Large states continue to lead: CA, NY, IL, FL, MA
- ... PSM a “normal” part of US graduate education
- State legislators can have powerful influence, e.g.
  - Express interest in linking HE with economic needs
  - Protect fragile PSM “green shoots” during financial hardship
THANK YOU!

Comments/questions are welcome:

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