



Professional Science Master's – Introduction and Overview

PSM Pre-Meeting Workshop

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Professional Science Master's (PSM) - What is it?

A new kind of degree that:

- Prepares graduates for work—outside academia—involved in active science.
- Combines technical competencies with workforce skills, e.g. management, policy, communications, law – “Science Plus.”
- Leads to a wider variety of career options than provided by traditional graduate programs – jobs in business, government, non-profit (“BGN”) sectors.

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What else is it? Technical Leadership Development

- Technical depth and leadership skills are hard to find in one person, but essential in many employment areas (director/manager in technical and financial fields).
- PSMs produce technically knowledgeable leaders.
- Needs for such people increase with complexity.
- This is vital for US global competitiveness.





PSM Programs Are For:

Students who want to work in:

- Non-academic sectors
- Interdisciplinary careers
- Team oriented environments
- Managerial or other professional level positions
- Emerging areas of science and scientific discovery

Students who are:

- Seeking career advancement in government, industry, and technology,
- Looking to gain a competitive edge in the job market,
- Re-entering the workforce looking to refine professional and technical skills,
- Seeking career growth

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How is the PSM Different?

- More science (or mathematics) than MBA.
- More informatics/computation than science degree.
- More professional skills (business, law, communication) than PhD.
- Project or team experience vs. thesis: real world experience.
- Curriculum developed in concert with employers and designed to dovetail into present and future vocational opportunities.

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Why Consider Establishing PSM Programs

- The bulk of new jobs being created are in the non-academic sector.
- PSM programs are more popular with women and domestic students than traditional master's programs in Natural Sciences.
- Master's graduates are more likely to be employed in the state in which they earned a degree compared to Ph.D. graduates.
- Graduates contribute to workforce development through their ability to manage and grow science & technology based industries.

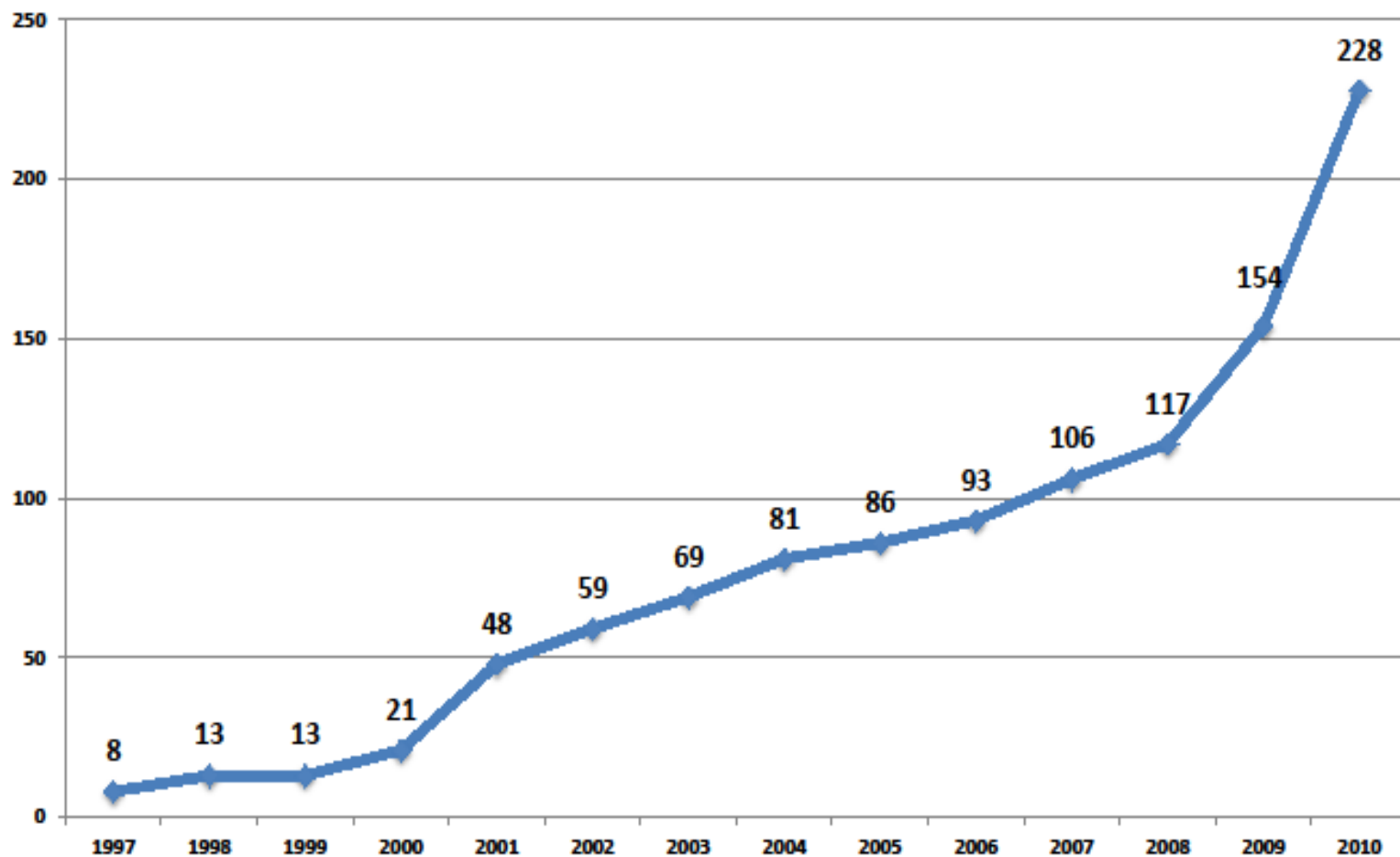
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Growth In PSM Programs* (only existing programs listed)



*cumulative total number of PSM-affiliated programs as of December 31, 2010

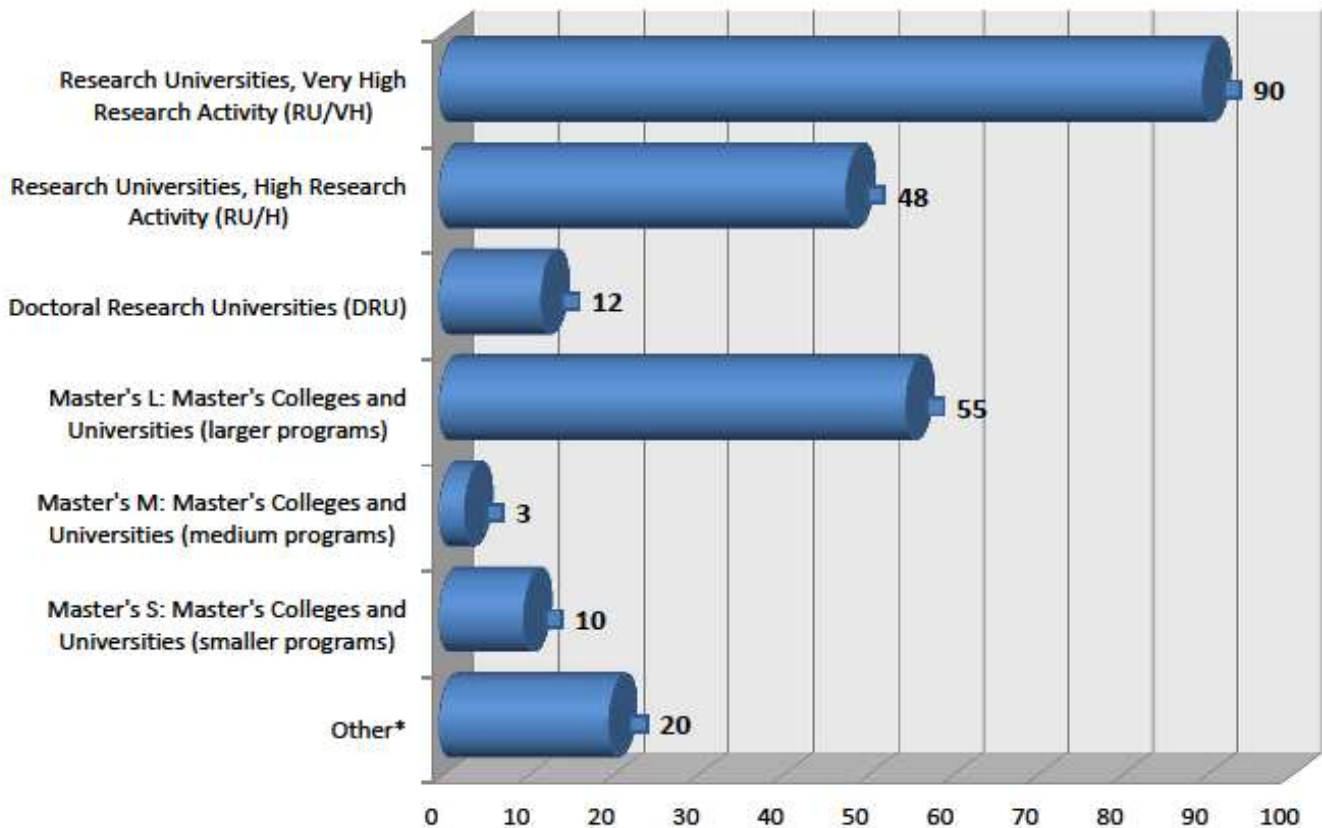
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Carnegie Classifications for PSM Programs (n=238)



* Includes Specialized Institutions, Special Focus Institutions, Baccalaureate Colleges, International, and Inter Campus programs at Rutgers University programs and two University of Massachusetts programs. These participating institutions have different Carnegie classifications.

data as of September 12, 2011





CGS PSM Data Collection

(full reports available on www.cgsnet.org)

- **Funded by Sloan Foundation:**
 - Two-year project (2011 and 2012)
- **Develop, pre-test, field, analyze data, and disseminate data from two surveys:**
 - PSM Enrollment and Degrees Survey
 - PSM Student Outcomes Survey
- **Project team:**
 - Nathan Bell and Jeff Allum

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PSM Enrollment & Degrees

- Sample
 - All 235 CGS-recognized PSM programs
- Limitations
 - Some data were necessarily suppressed
 - One institution has several large programs
 - Only CGS-recognized PSM programs were included
- Implementation
 - Launched in April, closed in May
 - 209 usable responses, an 89% response rate

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PSM Enrollment & Degrees Highlights

- 4,396 applications received and 2,134 accepted
- 1,471 first-time enrollment
- 4,753 total enrollment
- 1,102 degrees awarded in 2009/10
- Biology/biotechnology is the largest field of study

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PSM Enrollment & Degrees – Total Enrollment Demographics

- 51% men, 49% women
- 64% part-time, 36% full-time
- Among U.S.-based enrollments
 - 13% international students
 - 64% Asian/Pacific Islander or White
 - 29% Underrepresented minorities
 - 7% Two or more races

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PSM Student Outcomes Survey

- Initial employment outcomes for 2010-11 PSM graduates
- Core data elements:
 - PSM program and institution, graduation date
 - Employment status, sector of employment, job title, primary work activity
 - Salary range (and progression if possible)
 - Satisfaction with PSM degree, relationship of PSM and internship to job

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PSM Student Outcomes Highlights

- 82% of PSM graduates are working
- Of those, 88% are working in their preferred field
- Satisfaction ratings are high, value ratings are higher
- Most frequently cited reason for enrolling in PSM:
 - Impart scientific/technical skills/training
 - Fulfill personal interest
 - Increase opportunity for advancement/pay

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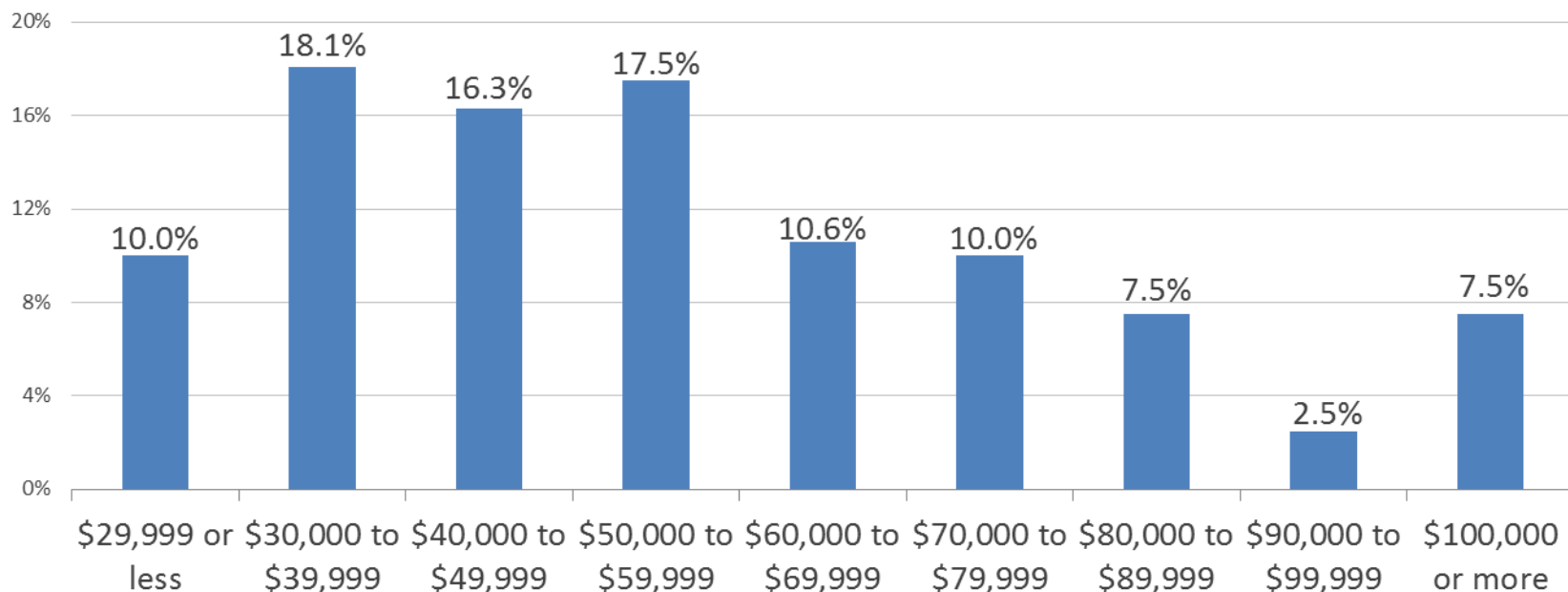
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PSM Student Outcomes Survey

Salary Distribution Among PSM Graduates Working Full-Time, 2011



Source: Council of Graduate Schools, 2011
Represents only respondents who were working during the week of June 20, 2011





Summary

Win, Win, Win

- Win for the student – alternative way to remain in science without getting a PhD.
- Win for the university - provide students with another career option and help solve community workforce needs.
- Win for the employers – local, regional, state – have a technically trained cadre of workers.

