



Professional Science Master's

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Council of Graduate Schools



Master's Education

- American “success story”—responds to workforce needs
- Largest portion of graduate enterprise





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

- Prepares graduates for science careers in business, government, & non-profit sectors
 - Combines technical competencies with professional workforce skills.
- ➡ Technical leadership development

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PSM Fields of Study

PSM programs are interdisciplinary in fields such as:

- Biotechnology
- Forensic Science
- Financial Mathematics
- Nanoscience
- Environmental Science
- Biosecurity
- Bioinformatics
- Analytical Chemistry
- Applied Systematics
- Science Entrepreneurship
- Genetic Counseling
- Health Care Informatics





Science Professionals: Master's Education for a Competitive World

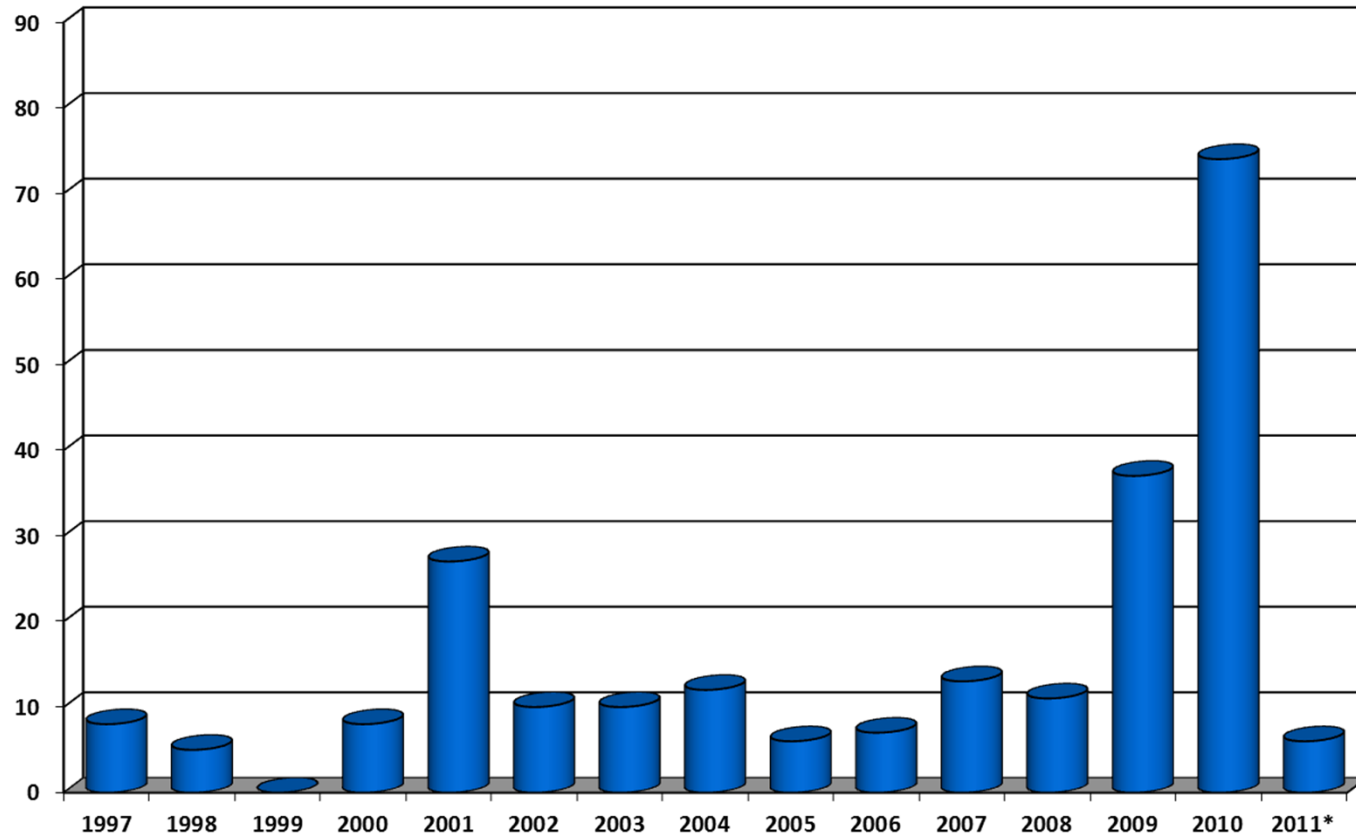
NRC recommends “concerted action to accelerate the development nationally of PSM education”:

- Expand beyond the NSF
- Encourage states
- Philanthropic institutions should continue to play role.
- Professional and industry associations should include PSMs in higher education strategies.
- Higher education should support PSM development & seek employer partners.
- Employers should partner in creating PSM programs.





Number of PSM Programs Approved by Year



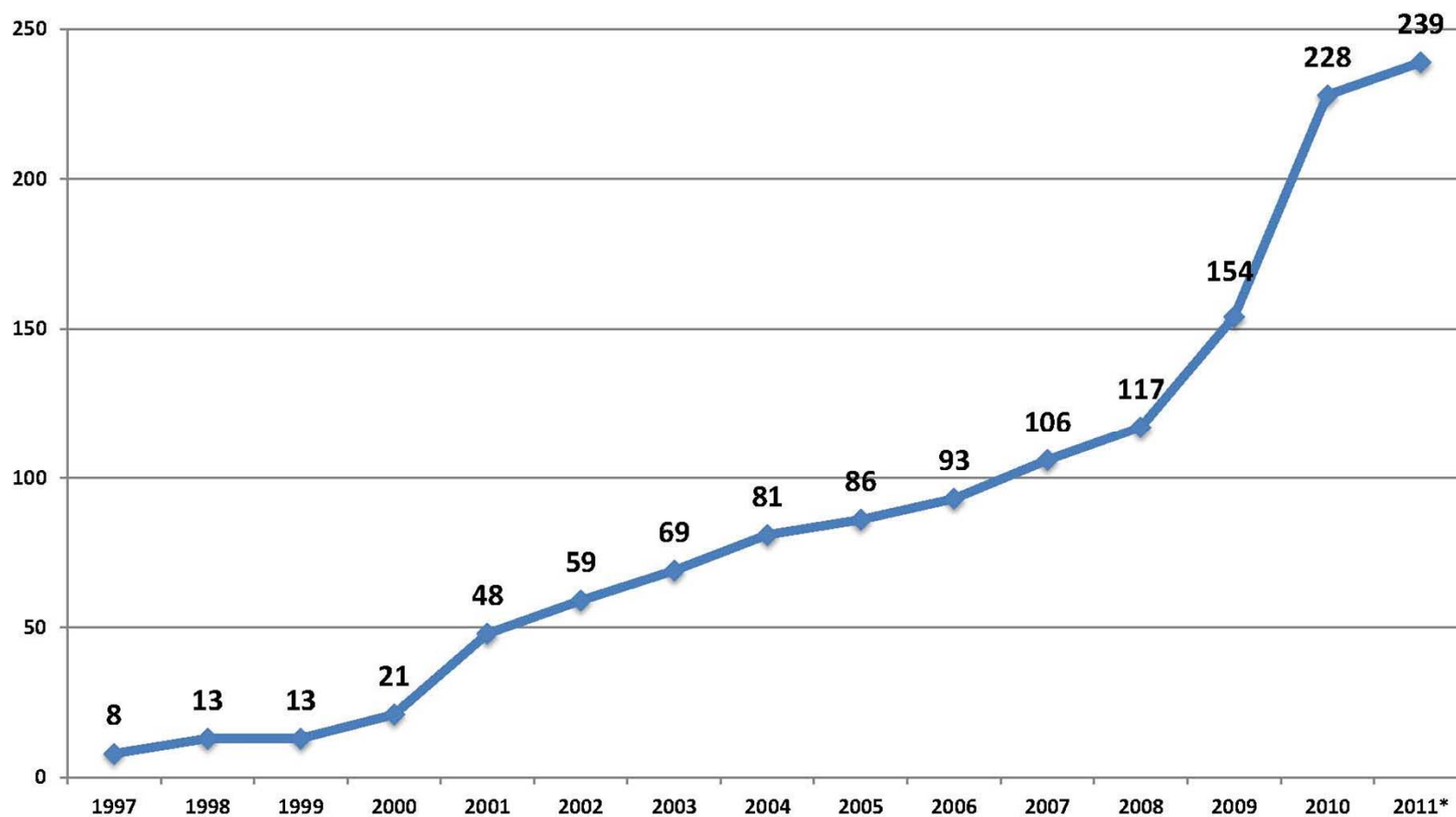
*Number of PSM programs approved in 2011 through September 21, 2011.

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Total PSM Programs by Year



*total number of PSM-affiliated programs as of September 21, 2011

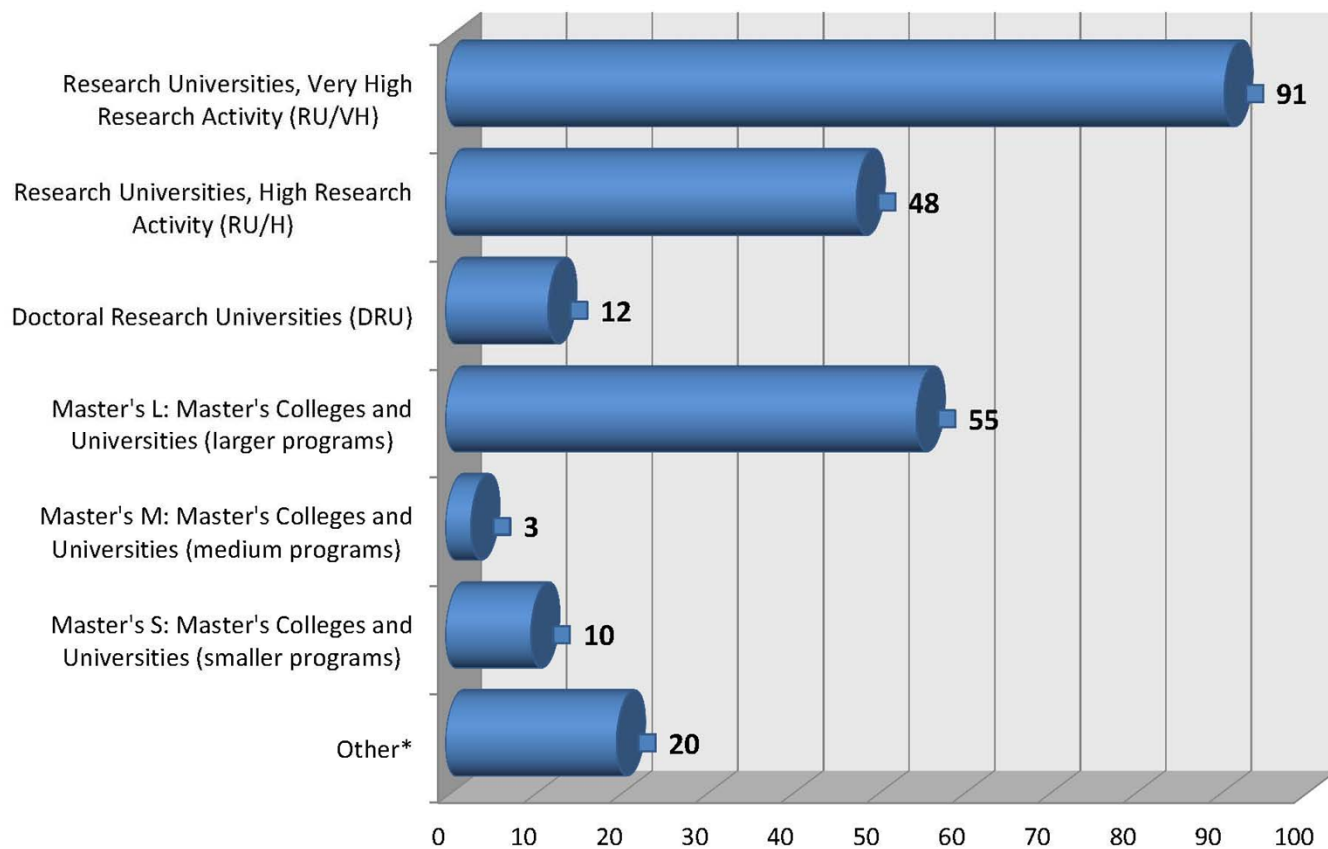
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Carnegie Classifications

Carnegie Classifications for PSM Programs (n=239)



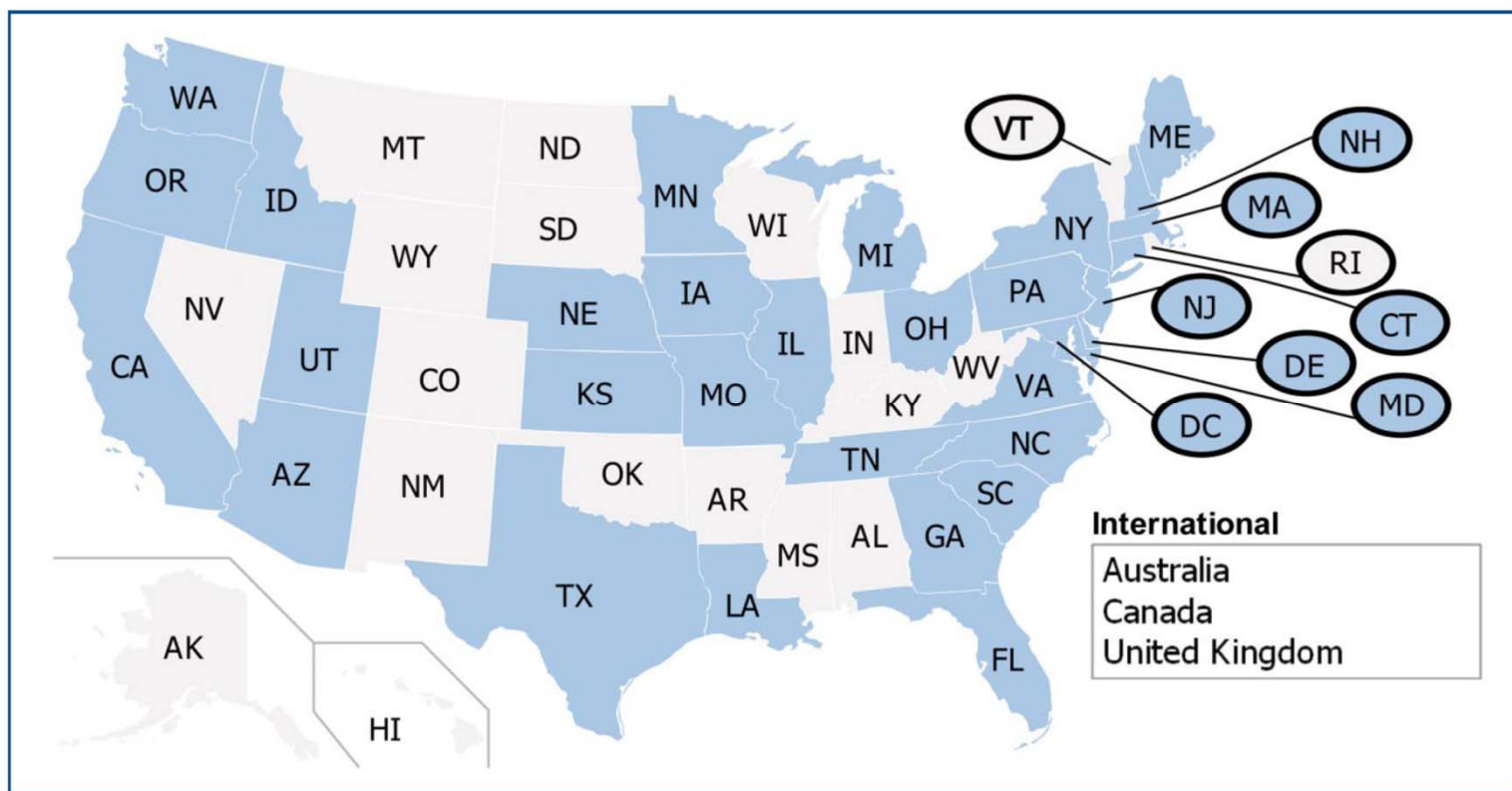
* Includes Specialized Institutions, Special Focus Institutions, Baccalaureate Colleges, International, and Inter Campus programs at Rutgers University programs and two University of Massachusetts programs. These participating institutions have different Carnegie classifications.

data as of
September 21, 2011





PSM Program Locations



Established in 31 States, the District of Columbia, Australia, Canada, and the UK





System/Statewide Initiatives

- Arizona
- California
- Florida
- HBCU Mid-Atlantic
- Massachusetts
- Minnesota
- New Jersey
- New Mexico
- New York
- North Carolina
- Oregon
- Pennsylvania
- Rutgers





PSM Students

Want to work in:

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

Are:

- Seeking career growth & advancement in government, industry, and technology,
- Seeking a competitive edge in the job market,
- Re-entering the workforce by refining professional and technical skills





Employers – Why PSM?

- Many need PhDs, *but* not in large numbers
- Do want advanced science skills,
- PLUS...
 - Interdisciplinary teamwork, flexibility
 - Project management
 - Computational skills
 - Communication ability
 - Basic business skills
 - Ethics





Examples of Employers of PSM Graduates

- Alltel Wireless
- AstraZeneca
- Booz Allen Hamilton
- Centers for Disease Control and Prevention
- IBM
- Johnson & Johnson
- Eli Lilly & Company
- Santa Clara Crime Laboratory
- Steelcase, Inc.
- National Cancer Institute
- Pfizer
- Qualcomm
- T-Mobile
- US Patent Office
- Verizon
- NOAA
- Microsoft
- Cleveland Clinic
- CDM Environmental Consulting





Examples of PSM Graduates' Jobs

- Environmental scientist
- Software developer
- Microbiologist
- Lab manager
- Geophysicist
- Product engineer
- Quality compliance manager
- Biostatistician
- Data modeling analyst
- Project manager
- Biologist
- Bioinformatics analyst
- Chemist
- Manufacturing technician





PSM Recognition

Guidelines at www.sciencemasters.com

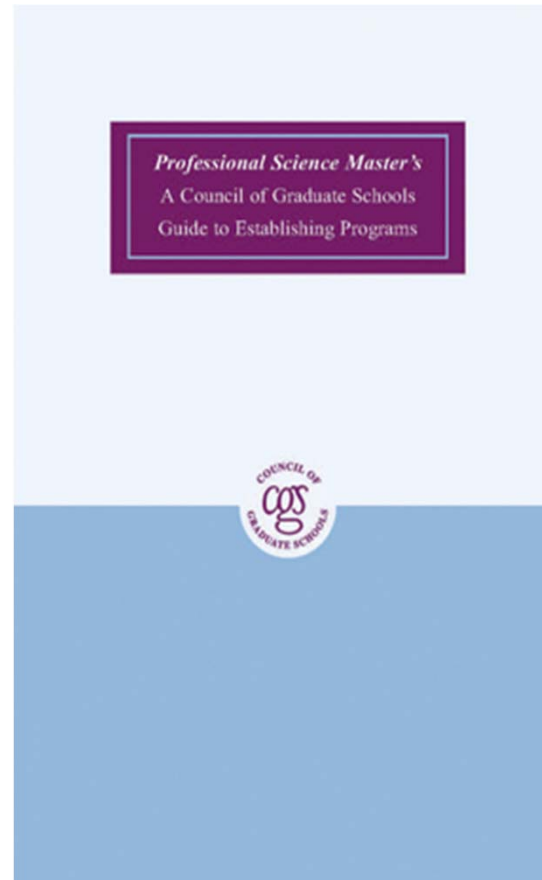
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Professional Science Master's

A Council of Graduate Schools Guide to Establishing Programs



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