

Update on the Professional Science Master's National Initiative

**“The Role and Status of the Master's Degree in STEM”
18 May 2010**

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National Research Council Report Supports PSM

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

- Expand beyond the NSF to other federal science agencies.
- Encourage states to endorse PSMs.
- Philanthropic institutions should continue to play role in creating and sustaining PSMs.





National Research Council Report* Supports PSM (con't.)

- Professional and industry associations should include PSMs in their higher education strategies.
- Higher education should support development of PSMs and seek employer partners.

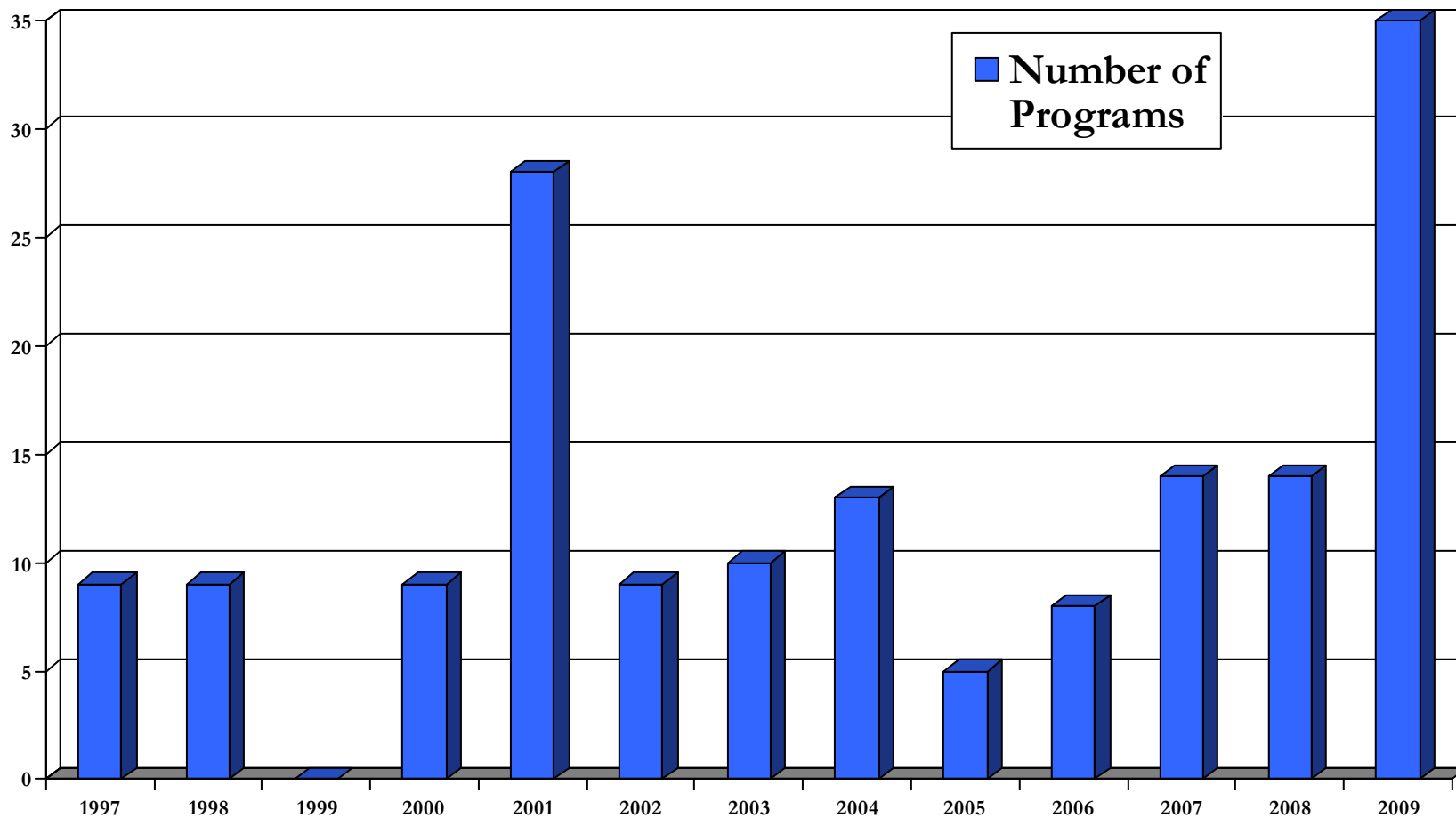
Employers should partner with higher ed institutions to create and sustain PSM programs.

*Science Professionals: Master's Education for a Competitive World.
The National Academies Press 2008





Growth In PSM Programs





2010 as of May 14

- Total added this year to date: 36
- Total PSM programs: 193
- Total PSM institutions: 94

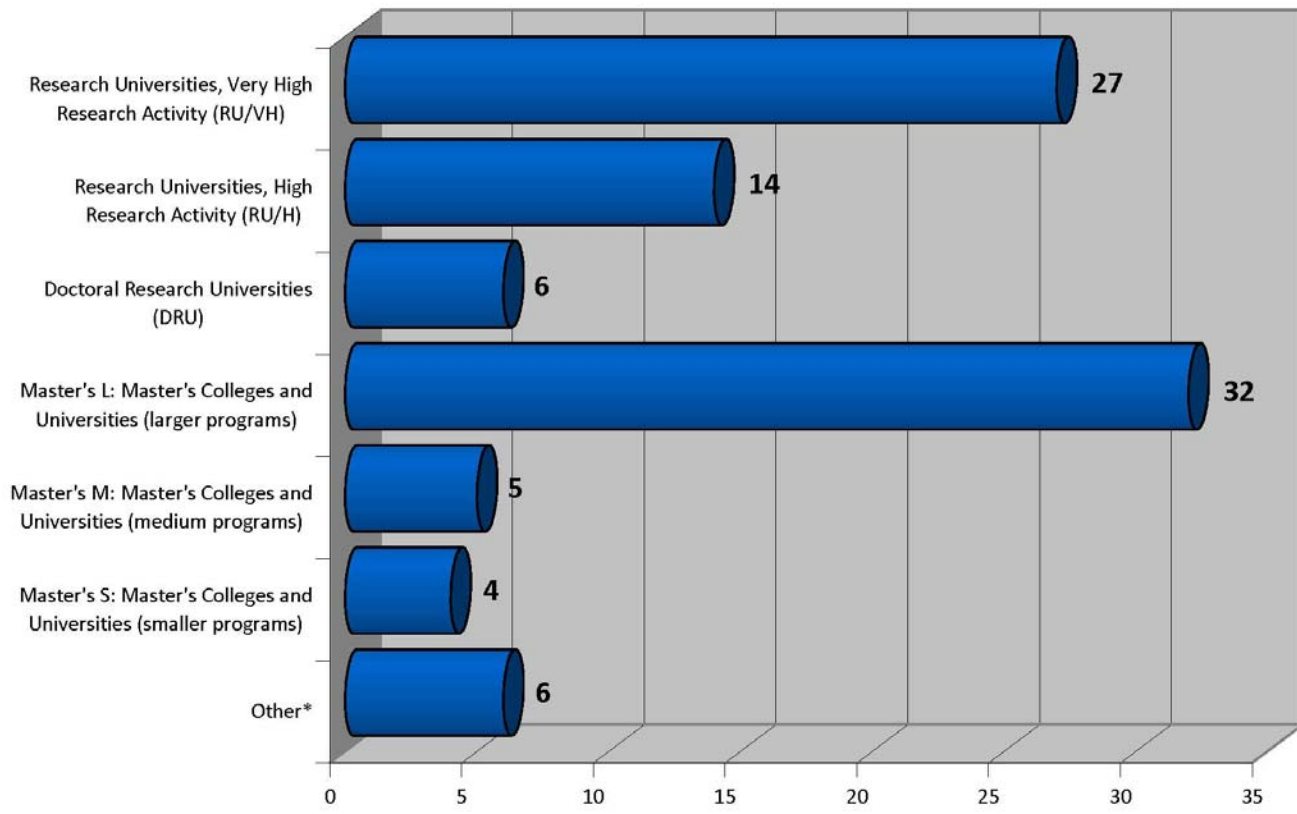
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Carnegie Classifications for PSM Institutions (n=94)



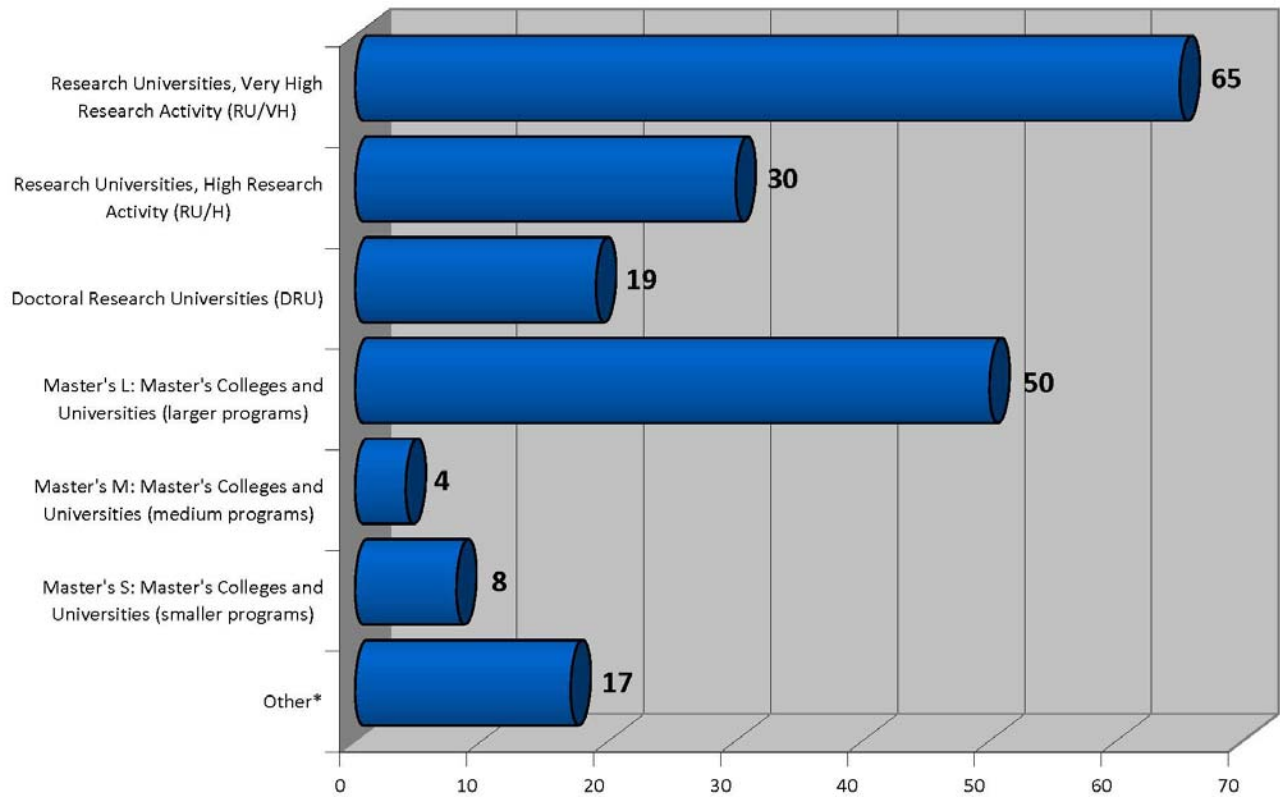
* Includes Specialized Institutions, Special Focus Institutions, Baccalaureate Colleges, and International programs

data as of May 13, 2010





Carnegie Classifications for PSM Programs (n=193)



* 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 May 13, 2010





PSM Expansion Initiatives – Systems and States

- **North Carolina** – Currently, 4 campuses have 8 PSM programs (received NSF SMP award).
- **Cal. State System** – 22 programs (6 from previous CGS/Sloan master's focused initiative) with more under development (received NSF SMP awards).

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PSM Expansion Initiatives

- **University of North Texas** – 3 PSM programs were developed at the flagship campus at Denton.
- **University of Illinois** – 3 PSM programs at Urbana-Champaign with more planned.
- **SUNY** – 8 PSM programs on 6 campuses (3 in existence from first Sloan grants), with 23 planned; 15 campuses involved.





PSM Expansion Initiatives

- **Rutgers, the State U. of New Jersey** – 6 PSM programs with 8 under development (received NSF SMP award).
- **University of Massachusetts** – 13 PSM – many collaborative – on four of the five campuses in the UMass system, Boston, Dartmouth, Lowell and Amherst.
- **Florida** - 8 PSM programs; planning 19 additional programs as part of regional economic development.





Expansion Initiatives (planned)

NGA PSM Policy Academy resulted in initiatives in various stages in 5 states: NM, AZ, VA, PA, OR.

UNM received NSF SMP award.





HBCU Mid-Atlantic PSM Alliance

- **9 Charter Members:**

Bowie State, Delaware State, Howard, Morgan State, Norfolk State, U. District of Columbia, U. MD Eastern Shore, Virginia State, American U. (associate member).

- UDC has 2 new PSM programs.
- UMES received NSF SMP award.
- 14 PSMs planned (American has 3).





America COMPETES Act reauthorization:

- House bill has, as part of NSF authorization, an allowable use of funds, “creation, improvement or expansion of innovative graduate programs such as science master’s programs.”
- The Report language states, “ The Committee recognizes the importance of master’s programs to prepare future science professionals for careers in the business, government and non-profit sectors and intends that proposals to implement or expand innovative professional science master's programs remain eligible for funding ...”





Other agencies with interest:

- Dept. of Education – FIPSE had invitational priority for PSMs and has funded others as well.
- Dept. of Homeland Security – working with CGS to interest DHS Centers of Excellence to develop PSMs.
- Dept. of Energy – submitted request for PSM-type master's as part of "RE-ENERGYZE".
- Dept. of Labor – through regional agencies.
- NOAA – interested in providing internships.





PSM Recognition Project - A Quality Control Initiative

- Convene two representative stakeholder groups.
- Establish PSM Guidelines with broad consensus.
- Recommend a more formal process for sustainable quality control.
- Establish qualifications and an organizational structure to manage the process.





Background

- Rapid increase in programs and expanding funding possibilities (good things) greatly increase workload.
- CGS PSM promotion project not resourced to handle the increased load.
- Increase in diversity of institutions applying and competition for funds increases complexity of process and the stakes involved in PSM affiliation.





Current Process and Guidelines for a PSM Degree

- Total credits equivalent to a standard master's degree .
- Majority of program course work in graduate-level science and/or mathematics courses.
- Professional skills component developed in consultation with prospective employers.
- Professional skills are usually enhanced by internships and problem-based projects sponsored by employers.
- Employer advisory board engaged.
- ***Formal recognition currently granted by CGS (see application process on www.sciencemasters.com).***

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