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HBCU Mid-Atlantic PSM Alliance

Please raise your hand if you have heard of professional science master's or PSM degrees.

Keep your hands up, if PSMs are among the educational and career options you typically bring to the attention of your STEM students.

With the launch of the first Professional Science Master's (PSM) Programs just over 10 years ago, the concept—a brain child of author, Sheila Tobias—has grown. It is based on the premise that science-based, professionally oriented master's graduates are important to enhance U.S. scientific industries, non-profits, and government agencies and keep America competitive in the 21st century.

As Sheila wrote in the June 20th issue of *Science News*, the PSM could be the 21st century equivalent of the MBA, a now-popular degree launched around 100 years ago. She says: "The PSM is intended for math and science graduates bent on careers at the intersection of science and management. In large public and private enterprises, PSMers serve as lab and project managers and/or work in close collaboration with specialists in finance, intellectual property or regulatory affairs. In smaller startups, they carry responsibilities in both science and management. And in the public sector, their value is just now beginning to be recognized."

In its report, *"Science Professionals: Master's Education for a Competitive World"*, released in summer 2008, the National Research Council concluded: ***"Industry, government, and nonprofits need employees who have deep scientific knowledge as well as skills to apply that knowledge in innovative ways. A reinvigorated master's degree in the natural sciences can answer the demand for such science professionals and help ensure that the U.S. has the work force it needs to stay competitive."***

As of the beginning of October there were 151 PSM programs offered by 79 institutions across the country, with many more in the development stages.

Yet not one of the active programs is at an HBCU. Moreover, according to the latest survey by the National Professional Science Master's Association, underrepresented minorities from all racial and ethnic groups comprise fewer than 10 % of the 2600 enrolled students nationwide and of the 550 2008 PSM graduates.¹

We would like to fix these sorry statistics.

The PSM is an innovative degree, which prepares students with STEM bachelor's degrees for STEM careers managing science-based programs and spurring innovation in business, government, and non-profit organizations. The PSM curriculum combines rigorous graduate-level coursework in science and/or mathematics with workplace-oriented coursework in management, communications, law, or other, so-called "plus" fields. PSM programs are designed in concert with interested employers and feature an internship or team project, rather than a research thesis or comprehensive exam. PSM degrees are offered in such specialties as bioinformatics, science entrepreneurship, financial mathematics, ecosystem management, industrial chemistry, water resources, and bioenergy, among others. Graduates are well paid and in high demand.

I believe that the educational and career pathways provided by PSM degrees may help attract additional science-interested but career-oriented students into STEM undergraduate majors and keep them from switching into a non-STEM major, like business or communications. Many on the national academy panel, which former NSF Director Rita Colwell chaired, were initially concerned that PSM programs might divert PhD-bound students to a "lesser degree." By the end of the study, they were convinced unanimously that was not the case, and that the degrees had significant value and would attract more science-savvy students to complete STEM undergraduate majors, PLUS prepare them to serve important employer needs.

¹ NPSMA "PSM Degree Program Enrollee and Graduate Report," 2009

Because of the potential of the PSM degree and because, despite the interests of employers in hiring a diverse workforce, few minorities are pursuing these degrees, a group of HBCUs in the mid-Atlantic region has formed an Alliance to develop collaborative PSM programs utilizing the strengths of each institution. Members of the alliance include: Bowie State University, Delaware State University, Morgan State University, Norfolk State University, the University of the District of Columbia, the University of Maryland, Eastern Shore, Virginia State University, and American University (a non-HBCU Associate Member with successful PSM programs in place).

The purpose of the Alliance is to develop and coordinate new PSM degree programs and courses at the member HBCUs that serve the needs of diverse Mid-Atlantic regional employers and enroll significant numbers of African American and other underrepresented minority students. Last week, we learned that the Alfred P. Sloan Foundation has approved funding for a 3-year implementation grant to the University of the District of Columbia Foundation for the Alliance. The Sloan funding will support an extensive market survey; assist with the development and launch of 16 new PSM degree programs, strongly connected with the needs of government agencies, industry, and non-profit organizations in this region; and evaluation. The first programs will admit students for fall 2010.

Member Institutions	Location	Initial PSM Specialties
Bowie State University	Bowie, MD	*Information Technology
Delaware State University	Dover, DE	*To be determined, possibly homeland –security-related
Morgan State University	Baltimore, MD	*Applied Measurement Science
Norfolk State University	Norfolk, VA	*Materials Science *Biotechnology
University of the District of Columbia	Washington, DC	*Water Resources *Applied Statistics *Forensic Science
University of Maryland, Eastern Shore	Princess Anne, MD	*Fisheries with concentrations in (1) Quantitative Fisheries Science and (2) Resource Economics
Virginia State University	Petersburg, VA	*Actuarial Science
American University (Associate)	Washington, DC	Existing PSM concentrations in * Biotechnology * Envir. Science & Assessment

PSMs are ideal degree programs for many types of institutions, including HBCUs. They can

- * raise the profile of graduate education
- * connect faculty and students with industry and/or government agencies providing new research opportunities for faculty and excellent employment opportunities for students, and
- * bring new resources to campus.

Moreover, the America Competes Act authorized funding for PSM programs. Appropriations included in the ARRA stimulus bill have resulted in a new program at the National Science Foundation to provide grants to support PSM degree programs and their students—mostly by providing stipends and educational allowances for the students, and by requiring the students to engage in research as a part of their program.

The two major national organizations for PSM degrees are the PSM group at the Council of Graduate Schools and the newer National Professional Science Master's Association, which institutions offering or interested in PSM programs can join.

I want to thank the CGS for making and providing the packets you have received (please only one per institution). The CGS is at the hub of an extraordinarily helpful network and has taken with Sloan Foundation support a large moving, shaking, and enabling role in promoting PSMs and building capacity. They organize the registration-fee-free Biennial PSM Conference, which will be here in DC next week.

The hard work of creating the new HBCU Mid-Atlantic PSM Alliance has been done by Joe Whittaker and Maurice Taylor (Morgan State) and Bill Eckberg and Orlando Taylor (both recently retired from Howard). More recently, the leadership of Jennifer Keane-Dawes (UMES) and Rowena Wilson and Mildred Fuller (Norfolk State) on their campuses and in the Alliance is pushing forward some exciting degree programs.

[Pause]

PSM programs are a win-win-win: for students, for universities, and for employers. Thank you, and I welcome questions and discussion.