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National Research Council Supports Professional Master's Degrees

By Paula Wasley

The National Research Council has thrown its weight behind professional master's degrees in the sciences, saying they are key to maintaining America's economic competitiveness.

In a report issued on Friday, the council—an arm of the National Academies—urged federal policy makers, universities, foundations, and employers to support the creation and expansion of programs to award such degrees. The degrees prepare students for industry positions rather than academic research.

Traditionally a master's degree in a field like biology or chemistry functioned as just a steppingstone on the path to a Ph.D. and, as a terminal degree, was considered to have little practical value or prestige.

While not intended to replace the classical master's degrees, the National Research Council report said, professional master's degrees in the sciences would help serve the nation's work-force needs at a time when the United States' economic and scientific pre-eminence is eroding under the force of global competition. The report even described the competitive situation as "Silent Sputnik." The professional science master's curricula emphasize science and technical ability as well as communication and business skills required to work in high-tech fields.

The 162-page report is the work of a committee convened by the National Research Council to analyze the motivations and characteristics of students who earn master's degrees in the sciences as a terminal degree, to examine whether graduate-level education programs are meeting the needs of employers in scientific industries, and to look at what master's education programs in the natural sciences could learn from graduate-level professional programs in business, public policy, health, and engineering.

"Industry, government, and nonprofits need employees who have deep scientific knowledge as well as skills to apply that knowledge in innovative ways," Rita R. Colwell, committee chair and a professor of microbiology and biotechnology at the University of Maryland at College Park and the Johns Hopkins University Bloomberg School of Public Health, said in a written statement. "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. It's time to

accelerate the development of these programs nationwide."

Ms. Colwell, who was director of the National Science Foundation from 1998 to 2004, was scheduled to discuss the report's findings and recommendations on Sunday afternoon at a meeting of graduate deans in Vail, Colo., sponsored by the Council of Graduate Schools.

Grants Requested

The report calls upon Congress to appropriate funds for National Science Foundation grants to universities to promote the development of professional science master's-degree programs, as authorized by the America Competes Act of 2007, and urges policy makers to extend responsibility for those grants to other major federal science agencies.

It also appeals to state governments and foundations to finance professional master's programs that try to fulfill local work-force demands, and asks universities to provide incentives to faculty members to collaborate with employers in designing professionally oriented master's curricula.

The National Research Council's report came as a welcome show of support for organizations like the Council of Graduate Schools and the Alfred P. Sloan Foundation, which for years have advocated the adoption of professional master's degrees in the sciences.

"The overwhelming endorsement by the National Academies' committee will give the whole initiative a huge boost," said Carol B. Lynch, a scholar in residence at the Council of Graduate Schools and a former graduate dean at the University of Colorado at Boulder. "I was really thrilled to see that."

She was particularly pleased, she said, that the report called for broad-based support of the programs.

According to the Council of Graduate Schools, there are 125 professional master's-degree programs in the sciences at more than 60 universities. But, said Ms. Lynch, the programs can be costly to develop, and often universities require fellowship assistance to attract the minority, first-generation, or low-income students that would most benefit from a professionally oriented degree.

"All the stakeholders and investors who have something to gain from these programs really need to support their expansion so that everyone is aware of the benefits that accrue to graduates of the professional science master's programs and we get more of them to prepare the tech work force of the 21st century," said Ms. Lynch.

A copy of the report, "Science Professionals: Master's Education for a Competitive World," is available at the National Academies' [Web site](#).

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