



Report on PSM Activities Spring 2009

Since the Fall of 2008, the Council of Graduate Schools (CGS) PSM team has been engaged in a numerous activities to promote, grow and institutionalize the Professional Science Master's degree. These are summarized below.

Meetings and Presentations

The sixth Advisory Board meeting was held on December 3, 2008 in Washington, D.C. in conjunction with the CGS Annual Meeting. Carol Lynch gave a status report, highlighting an upcoming session on the PSM at the BIO International Conference, noting the new PSM programs that had been approved for affiliation, and describing a new initiative by Historically Black Colleges and Universities (HBCU) in the mid-Atlantic region to collaborate in the development and implementation of PSMs. Bogdan Vernescu reported on the NPSMA inaugural conference and their online data collection. The Advisory Board (AB) charter was discussed in the context of the need to move to more of a sustainability model. AB members discussed the positive impact of the NRC report, detailing how they had used it in their own organizations. In a discussion on program quality and the possibility of delisting, Keith Boyum suggested a self review model for programs to maintain quality. Nancy Vincent reported that 78% of programs are displaying the PSM logo on their websites. Eleanor Babco noted that the 2009 PSM biennial will be November 4-6 at the Washington Court Hotel in Washington, D.C. The Board discussed recognizing international programs and voted to pursue some sort of international PSM affiliation. Nancy Vincent had surveyed PSM programs to determine their willingness to purchase advertising in a proposed Hobsons Guide and reported that 42% gave a positive response, although for only minimal levels of advertising. 31% reported that they would purchase advertising on a website, again at the minimum levels. Hobsons is reevaluating their proposal and will submit another to CGS for a strictly online presence. Patty McAllister discussed strategies to obtain an appropriation for the PSM program contained in the America COMPETES Act. Several members of the Advisory Board and others made legislative visits to targeted members of the House and Senate.

CGS Annual Meeting – The CGS PSM team organized two sessions at the CGS Annual Meeting. A pre-meeting workshop addressed *Assessment and Review of Graduate Programs – Master's* in which two perspectives were presented, including one for professionally-oriented degrees such as the PSM presented by Lisbeth Borbye, North Carolina State University. The second session on *Leadership 501: The PSM As a Case Study* explored the process of establishing a PSM from idea to implementation at a master's institution, particularly focusing on the leadership role of the graduate dean. The PowerPoint presentation of Edelma Huntley, Dean of Research and Graduate Studies at Appalachian State University is available at http://www.cgsnet.org/portals/0/pdf/mtg_am08Huntley2.pdf. A second presenter was Robert Roer, University of North Carolina. Both sessions were well attended.

CGS Regional Meetings – CGS organized presentations on the PSM at all four of the regional affiliate meetings.

- Carol Lynch and Nancy Vincent organized a PSM Deans and Program Directors meeting, which was held in conjunction with the **Conference of Southern Graduate Schools** Annual Meeting in Norfolk, Virginia on February 26, 2009. Attendees included Deans, Program Directors, and representatives from institutions in the process of establishing PSM programs. This meeting, co-hosted by the National Professional Science Master's Association (NPSMA), provided an update on the CGS PSM initiative, results of the NPSMA program survey, as well as facilitated discussion about a variety of aspects of program development, student recruitment and tracking, etc. The PowerPoint presentations of Carol Lynch, Stephen Lemire and Lawrence Mays/Elise Marshall are available on the sciencemasters.com website. Carol also organized and participated in a concurrent session on *Developing and Implementing Professional Master's and Doctoral Programs, Including Professional Science Master's (PSM) Programs*. Also presenting were Duane Larick, North Carolina State University and James Bohland, Virginia Tech.
- Carol organized and participated in a session at the **Western Association of Graduate Schools** meeting on March 7, 2009 on *Professional Master's Degrees: Preparing for Sustained Competitive Workforce Success*. This session addressed emerging trends in the professional master's programs highlighting statewide efforts to implement professional science master's programs. Presenters included Sally Francis, Oregon State University, Maria Teresa Valdez, University of Arizona, and Linda Lacey, New Mexico State University.
- Carol and Nancy also organized a PSM deans and program directors meeting in conjunction with the **Northeastern Association of Graduate Schools** Annual Meeting on April 2, 2009 and a session at the NAGS meeting. Carol's presentation on the future of the PSM movement, Bogdan Vernescu's presentation on *Sharing PSM Best Practices* and Stephen Lemire's on the activities of NPSMA are available on sciencemasters.com. Carol also organized a breakfast session on PSM at the meeting. Carol's presentation *The Professional Science Master's: A Key Piece of the Competitiveness and Innovation Agenda*, David King's on the SUNY initiative, and Harvey Waterman's (Rutgers University) presentation on the initiative of integrating business and science master's programs university-wide at his university are available on the sciencemasters.com website (<http://www.sciencemasters.com/ScienceMastersHome/Faculty/PSMRelatedMeetings/tabid/77/Default.aspx>).
- Eleanor Babco organized and participated in a session on April 1, 2009 at the **Midwestern Association of Graduate Schools** annual meeting on *Professional Science Masters: Matching Programs to Employer Needs*. David Elrod, Grand Valley State University and Julia Funk, Michigan State University also participated.

National Science Foundation - Carol Lynch made a presentation to staff at the NSF on January 14, 2009 on *The Professional Science Master's – the Future? Where Are We and Where Are We Going*. The presentation was well attended and many questions were addressed and answered. In addition, Carol and Patty McAllister met with Wanda Ward, Acting Assistant Director for Education and Human Resources at the National Science Foundation. Myles Boylan, Carol Stoehl, and Carol Van Hartesvelt of NSF were in attendance as was Greg Anderson, CGS/NSF Dean in Residence. PSM issues discussed were the PSM trademark issue, financial plans, student support (or not), what constitutes “success” of the PSM initiative and how do you measure it, and whether PSM programs compete with PhD programs for the same students.

American Association for the Advancement of Science - Eleanor Babco made a presentation on *A New Kind of Scientist: Professional Master's Education and U.S. Competitiveness: Nationwide Next Steps* at the AAAS annual meeting on February 14, 2009. The three-hour session also included presentations from a number of other stakeholders in the PSM initiative, including Rita Colwell, chair of the NRC committee that produced the report, *Science Professionals: Master's Education for a Competitive World*, Elizabeth

Friedman, Illinois Institute of Technology, Michael Teitelbaum, Vice President of the Sloan Foundation, and Sheila Tobias, PSM consultant. In addition, there were presentations by a PSM graduate and an employer of PSM graduates.

American Association of State Colleges and Universities - Eleanor also did an overview presentation on the PSM at the AASCU Grants Resource Center meeting on February 27, 2009. She was joined by Peter Henderson who summarized the NRC report *Science Professionals: Master's Education for a Competitive World*.

National Professional Science Masters Association - Nancy Vincent attended and participated in the first quarterly 2009 meeting of the NPSMA on March 6, 2009. Her presentation provided an update of the activities of the CGS PSM initiative as well as information on the PSM funding provided by the economic stimulus bill. Carol Lynch attended the Board meeting of the NPSMA meeting in Boston on April 30, 2009.

Florida-State-Wide PSM Meeting - Carol Lynch made a presentation on the PSM to state groups in Tallahassee, Florida on March 30, 2009. Michael Teitelbaum from the Sloan foundation and Erin Lemos from the National Governors Association also made presentations. Attendees included representatives from many Florida Universities, members of the Board of Governors, staff from the legislature and governor's office and industry representatives.

SUNY PSM workshop - Eleanor Babco attended the SUNY PSM workshop on March 26, 2009 to serve as a resource person along with Sheila Tobias, and Rana Khan, University of Maryland, University College. Approximately 40 people attended representing nine SUNY campuses that are developing PSM programs.

Engaging Universities

The CGS PSM team approved the following PSM programs: **California State University, San Bernardino** in environmental sciences, **California State University, East Bay** program in biostatistics, **California State University, San Marcos** program in biotechnology, a comprehensive **multi-campus program among CSU Fullerton, Los Angeles, and Pomona** in Applied Biotechnology Studies, **San Francisco State University** in Biotechnology and Stem Cell Science, **North Carolina State University** in geospatial information science and technology, **Thomas Jefferson University** in Biomedical Sciences, Cell and Developmental Biology, Microbiology, and Pharmacology, and **Creighton University** in Bioscience Management.

General System/State Initiatives

California State University – The CGS PSM team continues to work with the California State System PSM initiative as they bring additional PSM programs to fruition.

SUNY – The CGS PSM team continues to work closely with David King, Dean of Graduate Studies and Research at SUNY, Oswego and the other individual campuses of the SUNY system by serving as a informational resource and providing feedback as they develop programs.

Mid-Atlantic HBCU Professional Science Master's Alliance – Under the leadership of Beverly Karplus Hartline, University of the District of Columbia, and with guidance and organizational support from the CGS PSM team, a group of representatives from Historically Black Colleges and Universities (HBCU) in the Mid-Atlantic area secured a planning grant from the Alfred P. Sloan Foundation. The Alliance, held an informational workshop for administrators on December 3, 2008 during the CGS

Annual Meeting. At the workshop, Carol Lynch provided a national perspective of the PSM, Michael Teitelbaum gave a brief history of the Sloan Foundation's PSM initiative and their planned next steps, David King proved a summary of how SUNY is developing PSMs in a complex, multi-campus environment, and Scott Winston, a member of the CGS PSM Advisory Board, provided an employer perspective of PSMs. A second workshop for faculty at the HBCU institutions was held on March 6, 2009. Nathan Bell, CGS Research Director, provided a national overview of the PSM. HBCU Institutions who are working on this project include Howard University, University of the District of Columbia, Delaware State University, and Morgan State University.

Florida – For the meeting mentioned above, Carol Lynch worked closely with Patricia Bishop, Vice Provost and Dean, College of Graduate Studies at the University of Central Florida on organization and agenda, as well as invitees.. The meeting elicited much interest and Florida has submitted a proposal for their PSM initiative to the Sloan Foundation

Rutgers University – With funding from the Sloan Foundation and the U.S. Department of Education through receipt of a FIPSE grant, Rutgers will develop a number of PSM-type programs that integrate tracks in science and engineering with those in business/management. The CGS PSM team first met with David Finegold from Rutgers (formerly at KGI) in 2008 and hosted a follow up visit with Aaron Shenhar on January 27, 2009. CGS also arranged for Harvey Waterman to make a presentation on the Rutgers initiative at the NAGS meeting on April 2, 2009. Continued communication is planned.

Federal/Agency/Media Relations and Policy Initiatives

The PSM CGS team continued to work with Patty McAllister and her CGS Government Relations staff to advocate for funding for the PSM as part of the *America COMPETES Act*. While there has been no appropriations for the PSM or for any other program advocated in the *America COMPETES Act* to date, \$15 million for PSM funding at the National Science Foundation in the Education and Human Resources Directorate as part of *The American Recovery and Reinvestment Act of 2009* has been appropriated. It is expected that NSF will issue an RFP by the first week in June. Meantime, CGS will continue to monitor this and will provide new information when available on the sciencemasters.com website.

CGS also continues to work with Peter Henderson, Study Director of the NRC committee that studied the role of master's education in the natural sciences, culminating in the release of their report, *Science Professionals: Master's Education for a Competitive World*. A Policy Briefing on the report was held on April 29, 2009 at the Rayburn House Office Building. The briefing was supported by the House STEM Education Caucus. The speakers included Rita Colwell, chair of the NRC Committee, Michael Teitelbaum, Carol Lynch, Don Langenberg, member of the NRC committee and Chair of the CGS PSN Advisory Board, and Lewis Schwartz from Abbott Laboratories. Congressman Vernon Ehlers and Congressman Brian Baird made opening remarks. The report is a critical tool for policymakers at both the federal and state levels.

Department of Homeland Security – Carol Lynch and Michael Teitelbaum met with Starnes Walker of DHS to brief him about the PSM and discuss how DHS might be of help. He was extremely interested and a follow-up meeting with DHS staff was held on May 4, 2009 that included Michael, Carol, and Patty McAllister.

National Governor's Association - Carol Lynch continues to work closely with Chris Hayter of the NGA as they follow up with the five states who attended the NGA Center for Best Practices Policy Academy: State Strategies to Meet Emerging Workforce Needs Through the Professional Science Masters Program which was held in Sacramento, California on June 2-3, 2008..

National Conference of State Legislatures - The CGS PSM team works closely with the NCSL as they plan their major PSM activities. Eleanor Babco participated in a conference call on March 18, 2009 with Heather Chikoore of NCSL and Chris Hayter and Erin Lamos from NGA to discuss plans for their September 2009 workshop. NCSL envisions holding a meeting in September 2009 where key legislators from 5-8 states will be invited to hear from PSM experts and education leaders in the states. National and state experts will be engaged to present information on the benefits and trends of the PSM degree. The NCSL is assisting CGS in planning one of the plenary sessions at the 2009 PSM biennial meeting.

Other Outreach Activities

American Association for the Advancement of Science – The PSM team met with Cynthia Robinson on April 22, 2009 to discuss the possibility of the PSM becoming an acceptable degree option for the AAAS Science and Technology Policy Fellowship program.

WICHE Northwest Academic Forum – As a follow-up to a meeting that Carol Lynch had with the officers of WICHE on July 9, 2008 in which the possibility of having PSM programs listed as Western Regional Graduate Programs (WRGPs)¹ was discussed, the CGS PSM team provided detailed information for distribution at the WICHE Northwest Academic Forum on April 23-25, 2009 in Anchorage, Alaska. These efforts will continue.

Bio Human Resources Conference – Carol Lynch worked with Joan Bissell, California State University, to secure speakers for a session on the PSM which will be held at the BIO International Conference in Atlanta on May 20, 2009. Two members of the CGS PSM Board, Scott Winston and Linda Strausbaugh, and former member Jung Choi will participate.

Peace Corps – On December 17, 2008, the CGS PSM team met with Eric Goldman of the Peace Corps to discuss the Peace Corps' Master's International program. Presentations about this program were made at the 2009 CSGS PSM deans and directors meetings, but it does not appear that the program is a good fit with the PSM.

Collaboration and Communication

SACNAS - As part of the national recruitment effort, CGS will again secure a booth at the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) conference from October 15-18, 2009 in Dallas, Texas, and arranged for two PSM directors to attend and staff the booth –John Nishio from California State University, Chico and Alice Wright – California State University - Fresno. Additionally, a proposal to have a session at the SACNAS conference was submitted by John Nishio and Alice Wright and was accepted. As previously, the CGS PSM team will collect recruitment materials from PSM programs for distribution at the conference.

PSM Conference Calls – Since July 2008, monthly calls, which are organized by Michael Teitelbaum at the Alfred P. Sloan Foundation, provide opportunity for organizations leading the PSM initiative to be appraised of what everyone is doing. Participants include Carol Lynch and/or Eleanor Babco of CGS, Heather Chikoore of National Conference of State Legislatures, Chris Hayter from the National Governor's Association, Stephen Lemire and Bogdan Vernescu of the NPSMA, Joan Bissell from the CSU system, and Sheila Tobias. Nancy Vincent prepares and distributes notes from these calls.

¹ The advantage of listing programs is that any student in the WICHE region can take such courses at in-state tuition rates.

NPSMA – CGS continues to work with NPSMA providing assistance and advice in addition to jointly hosting regional meetings. Nancy Vincent of the CGS PSM team and Stephen Lemire of NPSMA have a monthly conference call to keep each organization apprised of their activities and plans. Eleanor Babco worked with Sheila Tobias to produce the survey instrument for both the enrollment and degrees survey (already published) as well as the career outcomes survey (soon to be in the field).

PSM Listserv – The CGS team continues to use the PSM listserv to provide regular detailed updates of PSM activities to all programs and to solicit feedback. From our last report until this one, CGS used the listserv many times to:

- Notify all program directors that a National Science Foundation program officer reported that the program solicitation for the Professional Science Master's program under the American Recovery and Reinvestment Act (stimulus bill) should be out by June 1, 2009 providing 90 days to respond with a proposal. No further information available.
- Provided information regarding the article, *So You Want to Work in Business? Consider a Professional Science Master's Degree* that featured PSM women graduates that appeared in the Winter Issue of AWIS Magazine
- Notify all that CGS had created a speaker's packet that included two PowerPoints for use in faculty and employer presentations and that it was available for downloading on the sciencemasters.com website.
- Ask PSM program directors to check the accuracy of PSM program related information for their listing on www.sciencemasters.com, to insure that it is correct and to send all corrections to the CGS team.
- Provided information on the Presidential Management fellows program.
- Provided information about a Science Careers article titled *Taken for Granted: Shovel-Ready Science* which discusses how the PSM fits in with the stimulus package;
- Provided information on a American Council on Education grant program geared toward veterans which could be applicable to PSM programs
- Notify all program directors of an article entitled *Professional Science Master's Programs Merit Wider Support* by Rita Colwell that appeared in the March 27, 2009 issue of *SCIENCE* Magazine.
- Notify all program directors of the upcoming Sixth biennial PSM program directors conference scheduled for November 4-6, 2009.

Many participants also used the listserv to connect with other PSM deans, program directors, and faculty.

Media Coverage – Eleanor was interviewed by Genevive Bjorn, a freelance writer for *Nature Medicine* for an article that will examine (1) how, when and why the PSM program originated; (2) how the PSM degree fits into the larger field of biomedical research; and (3) the anticipated impact of the recent Stimulus package on those earning or holding the degree.

Eleanor Babco and Nancy Vincent wrote an article entitled *So You Want to Work in Business? Consider a Professional Science Master's Degree* for publication in the Winter 2009 issue of the Association for Women in Science magazine. Six PSM graduates were featured.

Eleanor provided information to Jennifer Evan, a writer for *The Scientist*, which will produce the *BIO Show Daily*, a daily publication that is handed out to all attendees at the BIO International Convention 2009 convention (May 18-21).

Promotional Materials – The CGS PSM team continues to distribute the three flyers on the PSM (one for students, one for employers and one for policymakers). Bulk copies of each of these flyers are

distributed to the program directors of all newly approved PSM programs. They are also available electronically from the sciencemasters.com website.

In an effort to provide necessary information to those who are just developing PSM programs, the CGS PSM team, with Nancy Vincent taking the lead, updated the current guidelines for seeking recognition as PSMs. Nancy also drafted new guidelines for international programs seeking recognition as PSMs. In addition, the CGS staff, primarily Josh Mahler, maintains and updates other areas of the sciencemasters.com website.

Future Activities

The CGS PSM team is deeply involved in planning the **2009 PSM biennial program directors meeting**. It will be held on Thursday, November 5 and Friday, November 6, 2009 at the Washington Court Hotel with a reception on November 4. A planning committee, comprised of Donald Landenberg, Linda Strassbaugh, Priscilla Kimboko and Scott Winston, has met twice (via conference call) to develop an agenda. The format of this meeting will be different from previous biennial meetings with a number of plenary sessions as well as contributed paper sessions on three different topics: 1) recruiting students and marketing PSM programs; 2) financial models for program sustainability including student financing; and 3) ethics and the PSM. Additionally, there will be a poster session that will focus on best practices with topics not being restricted. The CGS staff has developed a solicitation for papers which will be distributed soon.

The next meeting of the CGS PSM Advisory meeting will be held in Quebec City on July 11, 2009 just prior to the opening of the Summer Workshop of the Council of Graduate Schools.

American Institute of Biological Sciences - Carol Lynch will participate on a panel at the annual AIBS meeting in a session entitled **Professional Science Masters: Connecting to the Business Side of Science** on May 19, 2009. She will provide an update on national PSM initiatives.

A.P.L.U. Council on Research Policy and Graduate Education – Carol will participate on a panel on the Professional Science Master's Degree (PSM): A Workforce Development Strategy on June 11. Other speakers will include James Henkel, University of Connecticut and Terri Lomax, North Carolina State University.

The CGS PSM team is working on a number of efforts to publicize the PSM in various media outlets.