

The INNOVATOR



The Voice of the PSM

Volume 9, Issue 1

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Message from the President



As your President of the National Professional Science Master's Association (NPSMA), I am honored to report that 2015 was a spectacular year. 2015 was another year of new endeavors and bold decisions, intentional and purposeful for our future growth and that of PSM programs, nationally and internationally.

Among our biggest and boldest actions, which were the result of deliberative dialogue among our Board of Directors, was deepening our investment in talented individuals to advance our Association. First, following a search process, we began the year with Dr. Kiriko Komura joining our leadership team as an Administrative Director to enhance NPSMA member cultivation and services and enhance our collaborative relationship with the PSM National Office. Kiriko holds a joint appointment with the PSM National Office at the Keck Graduate Institute.

In July 2015, we retained Dr. Linda Strausbaugh as a professional services consultant for her expertise, above and beyond her responsibilities as a member of the Board of Directors, to re-imagine and re-establish our NPSMA National Advisory Board (see page 6 for members of our new NAB), determined by the Board

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A NEW LOOK AND A NEW NAME!

A definition of an innovator includes an organization that reduces to practice something that is done better than before. In recognition of the role of the NPSMA in revolutionizing professional master's-level training in STEM disciplines, we've renamed our newsletter, established a number of ongoing featured articles, and given it a more visually engaging new look.

JOIN THE NPSMA

NPSMA Membership Form at:
https://npsma.memberclicks.net/assets/documents/npsma_membership_form.pdf

Save the Date

NPSMA 7th National Conference, Members Meeting and Pre-conference Workshop
November 9-11, 2016, Arlington, VA



Crowne Plaza National Airport
1480 Crystal Drive, Arlington, VA

View program and register at <http://www.npsma.org/upcoming-national-conferences>.
 Registration Opens July 1st.

Message from the President

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as a top priority and essential endeavor to fulfill our mission and achieve our goals. Linda also has been invaluable in assessing our infrastructure and services, and offering recommendations to the Board for next steps that will offer the highest impact.

The Board of Directors also continued our relationship with Patricia McAllister as a consultant who over the past two years has proven valuable with government relations and advocacy; please see her report under “Capitol Commentary” on page 5. Patty has and continues to work closely with Dr. Carol Lynch, who serves on our Board of Directors and as Chair of our Government Relations Committee. The Board also extended our agreement with Debra Warren-Hite, who has been core to NPSMA operations and our signature events.

One of our new endeavors for the year was the launch of our NPSMA Webinars. Following successful joint Webinars with the Council for Undergraduate Research (CUR) in 2013 and the National Association for System Heads in 2014, NPSMA introduced our Webinar series as an additional way to promote PSM growth and development. Our first Webinar, Branding and Marketing PSM Programs: How PSM Affiliation and NPSMA Membership Can Help, was held in April, with over 70 participants. Our second Webinar, The New Face of Leadership, held in October, featured the SUNY PSM Consortium and had 30 participants. Based upon these two successful Webinars in 2015, plans are underway for additional Webinars on current and relevant topics with prominent presenters in 2016 (see initial announcements under NPSMA Webinar Series on page 11).

Once again, we achieved new heights with our 2015 National Conference and Pre-Conference Workshop in November. Among the many highlights were distinguished speakers who enthusiastically endorsed the PSM degree and concept (please see our article on PSM Innovation on the Rise on page 3). These events also included our very own PSM program directors, industry partners, and colleagues. Following the National Conference, we held our Board of Directors’ Annual Meeting where we recognized outgoing members of the Board: Cynthia Bainton, David Dyer, Michael Morad, and Sheila Thomas. We also invited our incoming Directors: Ross Barnard, Scott Herness, Rana Khan, Priyanka Patel, and Courtney Thornton to join us. The Board, once again, engaged in meaningful and purposeful dialogue on essential matters for our future – clarifying and enhancing benefits of membership in NPSMA, deepening our collaboration with the PSM National Office at the Keck Graduate Institute (consult our Featured Article on page 7 for more details), drafting our strategic directions for the next five years, and prioritizing our goals and work plan for 2016.

Indeed, 2016 promises to be another banner year for our National Professional Science Master’s Association! I invite you to join with me and your fellow members on the Board of Directors to serve on one or more of our committees, attend our Spring 2016 Workshop in Niagara Falls, present at our 2016 National Conference in Arlington, participate in our forthcoming Webinars, and invite colleagues and industry partners to become engaged in who we are and what we do!

With honor and appreciation,

Marilyn J Wells, PhD
President, NPSMA

FEEDBACK REQUESTED ON NPSMA STRATEGIC PLAN

The Board of Directors for the NPSMA recently endorsed a five year Strategic Plan as a conceptual framework for both the Association’s goals and its strategies to achieve them. The Strategic Plan will be an evolving guide for our organization’s progress.

Comments from the NPSMA membership are encouraged and welcomed. [Click here](#) to view.

Please send your comments to coordinator@npsma.org with Strategic Plan in the subject line.

PSM INNOVATIONS ON THE RISE

National Leaders in Education and Science Commend the PSM

NPSMA's 2015 national conference was held in Arlington, VA, where an enthusiastic audience of over 100 attendees crowded the halls and auditoriums for cutting edge discussions about the PSM movement and higher education trends.

PSM is the gold standard and shining model for professional skills and development in graduate education

The plenary and keynote sessions featured a number of national leaders in graduate education and science who offered both praise and suggestions for the PSM movement.

The Council of Graduate Schools' Suzanne Ortega (President) and Daniel Denecke (Vice President, Best Practices and Strategic Initiatives) continued a long-standing interaction with the PSM movement by speaking to the group on the role of master's education in regional economic development and the importance of professionalizing graduate education. Ortega made the observation that the movement toward master's education (a new norm in graduate enrollment that reflects demand for the degree with the largest growth in recent job opportunities) fits the description of, and has in fact become, a social movement. She also reminded the community that relatively little is known about the matriculation, attrition/completion rates and career trajectories of M.S. graduates; likewise attention needs to be directed to the challenges of accumulation of debt during the M.S. and the support of the part-time adult learner.

Denecke shared information from one of the CGS studies on employer perceptions of educational gaps; these included the ability to process large datasets, internships and externships, skills in mathematics and statistics, and an understanding and ability to function in teamwork driven environments. Denecke noted that the PSM is the gold standard and shining model for professional skills and development in graduate education. Reinforcing the need to share information, Walter Schaffer (Senior Scientific Advisor for Extramural Research, National Institute of Health) spoke about the need to more widely include and share information about internships and industry, especially in doctoral training programs. The NPSMA looks forward to contributing to a better understanding of the nature of workforce demands, and to sharing our professional development resource and expertise with the larger graduate education community.

The PSM has answered the call for change in graduate education

Leaders on the national science front encouraged the NPSMA community to continue to think in greater terms about our efforts in STEM graduation education. The National Science Foundation's Joan Ferrini-Mundi (Assistant Director, Education and Human Resources) noted that the PSM has answered the call for change in graduate education issued in the 1995 National Academy of Sciences report. She characterized the PSM as a crucial and groundbreaking movement in the evolution of graduate education, and believed that those preparing the STEM workforce for tomorrow need to learn from our experiences. Ferrini-Mundi reminded us that our work is never done since science is continually changing, noting as some examples the current needs for visualization of data, the ability to manipulate large datasets, mathematics and statistics based modeling, better teamwork training, and improved public scientific literacy and interaction with citizen scientists. The American Association for the Advancement of Science's Rush Holt (Chief Executive Officer and Executive Publisher of Science) echoed the importance of public engagement, reminding us to pay much more attention to diversity, and emphasized a need to promote a national "reverence for evidence". He characterized the PSM as a movement that advances the national appreciation of science, and at a level needed, by graduating students who know how to think like scientists, with the confidence to consider evidence and analyze it. Holt encouraged all in the PSM community to be proactive in countering the perception that science is an activity exclusive to STEM higher education, one that is not for public consumption and participation. The National Science Board's Matthew Wilson (Science and Engineering Policy Analyst) discussed the latest SEI policy companion, "Revisiting the STEM Workforce", and put an important spin on the perceived exclusivity of science training. He noted that the concept of "STEM" workers is changing with more workers in "non-S&E" fields specifically saying they need STEM knowledge than those in "S&E" fields. In this framework of thinking about the STEM workforce as evolving to a STEM-capable workforce, the PSM is specifically mentioned as an innovative model.

The NPSMA supports graduate level professional development

Recurring themes in all of the stimulating 2015 plenary and keynote addresses were the needs to continue to develop and share the kinds of professional development training that have come to characterize the PSM degree.

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UNIVERSITY PERSPECTIVES

PSM NATIONAL OFFICE TAKES NEXT STEP IN SUPPORTING PSM DEGREE PROGRAMS AND STUDENTS BY MAKING APPLICATION EASIER

Liaison, the leader in admissions management and enrollment marketing solutions for higher education institutions, today announced that it will power a centralized application service (CAS™) for PSMNO. The solution will allow the PSMNO to help affiliated PSM programs deliver an exceptional applicant experience and improve their admissions workflows.

The PSM is an innovative, new graduate degree designed to allow students to pursue advanced training in science or mathematics, while simultaneously developing workplace skills highly valued by employers. Sample programs include biotechnology, data analytics and environmental sciences. The PSM centralized application service (PSMCAS) will serve as a single source of information, helping applicants identify schools to which they are well-matched. PSMCAS is a comprehensive admissions solution that combines application software, integrated services and analytical capabilities. The solution will provide:

Access to comprehensive data – The PSMNO will have access to accurate historical and real-time applicant data and forecasting tools to develop workforce trends and projections, tailor recruitment strategies to reach under-represented populations and inform public policy decisions.

Unparalleled admissions software and reporting capabilities – Schools will receive, at no cost, robust admissions software through which they can analyze their applicant pool, forecast against admission goals and benchmark against other schools to facilitate better admissions decisions and improve their enrollment processes.

A wider, more diverse pool of students – Schools that are a part of PSMCAS will have improved reach and awareness of their programs to drive applications from a larger and more diverse pool of students, helping them to meet recruitment goals.

An exceptional applicant experience – Students can research and apply to multiple PSM schools using a single electronic application with an easy, intuitive interface that helps them navigate and simplify the application process.

"Since PSM's founding in the late 1990s, the movement has made significant strides in supporting the growth of these innovative higher education programs," said

James D. Sterling, Faculty Director of the PSMNO. "Liaison, with its state-of-the-art technology and integrated enrollment services, will help bring more attention to our programs and increase understanding and awareness for prospective students. Liaison's leadership in CAS and impressive track record with many leading associations will greatly benefit us."

The PSMNO, which sees its member programs process nearly 10,000 applications annually, will join more than 28 associations in using Liaison's CAS™.

"The PSMNO has taken the next step in supporting their students and programs," said Michael Behringer, CEO and President of Liaison. "Given the continued growth of the PSM programs, a centralized application service will be instrumental in ensuring students and schools make well-informed decisions and will free admissions staff to focus their attention on creating exceptional experiences for applicants across the full enrollment cycle."

Watertown, MA., Dec. 16, 2015 /PRNewswire

National Leaders in Education and Science Commend the PSM

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The NPSMA will continue to work with the many interested parties to achieve these goals, and follow through with next year's preconference workshop which will focus on the diversity of "PSM PLUS courses" and consider ways to better distribute and share what we have learned.

The fall 2016 National Conference and Pre-conference Workshop

The fall 2016 National Conference and Preconference Workshop will also be held in the welcoming and enjoyable Washington, DC, area. Attendees can expect a similarly distinguished set of guest speakers as well as great opportunities to network during the breakfasts, lunch and dinner. We hope to see more of you at next year's events.

Presentations from this conference are available on the NPSMA website.

Linda Strausbaugh (UConn) is Director of Strategic Initiatives for the NPSMA and was a member of the 2015 Conference Planning Committee. Joaquin Carbonara (SUNY Buffalo) is NPSMA Finance Officer, and Board and Executive Committee member; he was Chair of the 2015 National Conference Planning Committee.

CAPITOL COMMENTARY

This article provides a summary of major federal policy issues addressed in 2015 and highlights items of interest to the NPSMA community that are on the agenda for 2016.

Congress ended 2015 by passing a 2016 federal spending bill of \$1.1 trillion to fund all federal agencies for the remainder of this fiscal year which runs until September 30, 2016. Overall, federal agencies that provide funding for science fared well. The National Institutes of Health (NIH) received the largest increase with \$2 billion, or 6.6 % over the current budget of \$30.1 billion. This is the largest increase received by NIH in the last 12 years. Most of NIH's institutes and centers will receive about a 4% increase. Specific programs targeted for larger increases include \$350 million in new funding for Alzheimer's disease research and \$200 million for the President's Precision Medicine initiative, among other things.

The National Science Foundation (NSF) received a \$119 million increase (1.6 %) for a total of \$7.46 billion for this fiscal year. The NSF Education and Human Resources directorate is funded at \$880 million, a \$14 million (2%) increase over the current funding level. Some of the increased funding will be directed toward enhancing a scholarship program for students training in cyber security. The final bill does not contain language to specify funding by specific discipline, thereby affirming the value of all disciplines supported by the agency.

Other federal science agencies received increases as follows: NASA (6.6%), FDA (5%), and NOAA at 4%. The final budget agreement also made the

research and development tax credit permanent for companies that invest in R&D. This issue had been a top priority for businesses, industry groups and research advocates for many years.

Looking ahead to 2016, two policy initiatives of interest to our community remain on the Congressional agenda. These include the COMPETES Reauthorization Act and the Reauthorization of the Higher Education Act. The COMPETES Act contains the reauthorization of NSF programs and other initiatives to support science and innovation. In May 2015, the U.S. House of Representatives passed its version of the COMPETES Act, legislation that was not supported by many in the higher education and science community due to a number of restrictive provisions and reduced funding. The Senate has begun work on its version of a bill and NPSMA provided written comments to the Senate Committee on Commerce, Justice and Science in October.

The Higher Education Act reauthorizes higher education programs at the U.S. Department of Education. Federal student aid to support undergraduate and graduate students is a major focus of the reauthorization effort.

NPSMA will continue to provide input to policy makers as appropriate on issues of relevance to the PSM.

Patricia McAllister is a government relations specialist working with the NPSMA as a consultant. If you would like to be involved in federal policy outreach, please contact Patricia McAllister at phmedu@msn.com.



CORPORATE CORNER

Why Hiring PSM Graduates is Beneficial to Companies

The very important process of identifying and onboarding candidates for positions within industrial science is expensive, especially when one considers the time spent with recruiting, interviewing, and relocation. Hiring the wrong candidate is even more costly. Employing a student who graduated from a college or university with a Professional Science Master's (PSM) Degree reduces this risk significantly and results in a tangible reward: a solid, well-trained, critical thinking employee. Members of the National Professional Science Master's Association (NPSMA) share a common goal in terms of curriculum offered, internships required, and relevant skill training that enable students to contribute immediately upon entering into a position at a company. However, it's important to remain cognizant that the responsibility for success in students' preparation lies not only on the shoulders of faculty at our universities and colleges. Providing feedback, guidance, and reinforcing the elements of employees' success are the obligation of both hiring managers and recruiting specialists. Without this candid and productive exchange of information, the NPSMA, and its trainees, will not continue to evolve with the dynamic environment of our STEM-supporting industries.

Recently I had the privilege to speak at the 2015 NPSMA National Meeting pre-conference workshop in Washington, D.C. The focus of my presentation was relationship building and maintenance between the educators and employers. By establishing open, productive relationships both participants, and most importantly the PSM students, can win! Open communication, focused curriculum, clarity of essential skill sets required by employers for their incoming hires are all vital elements to successfully leveraging the NPSMA curriculum and ensuring that graduates contribute to their new companies at the highest level. My experience over the past fifteen years of interacting with PSM programs, and hiring many graduates from the University of Connecticut PSM program, has been nothing but positive. It is incumbent on all of us to continue working together, challenging ourselves, whereby enabling the NPSMA to sustain and flourish.

Todd Arnold, Managing Director, Mount Sinai Genetic Testing Laboratory—Connecticut, Icahn Institute for Genomics and Multiscale Biology Department of Genetics and Genomic Sciences, Icahn School of Medicine at Mount Sinai

NPSMA National Advisory Board

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Linda Strausbaugh, Ph.D.
Director of Strategic Initiatives, NPSMA

FEATURED ARTICLES

The PSM National Office: 2016 Initiatives



It has been 3.5 years since the PSM National Office inherited the responsibility from the Council of Graduate Schools to manage the PSM affiliation process, curate the sciencemasters.com web-

site, and to collect annual data on PSM program enrollment, degrees, and recent alumni outcomes. During this period, our office has managed the review of 83 new affiliated PSM programs, bringing the total to 345 PSM programs at 160 institutions. The success of the PSM Movement is clear, with outstanding employment of PSM graduates who give strong praise of their graduate education. We do not present data on outcomes in this report but encourage you to review both Enrollment and Degrees surveys and Outcomes for PSM Alumni surveys that can be found on the sciencemasters.com website.

In this article, we highlight several initiatives that are underway in 2016 – and we describe the nature of the partnership between the PSM National Office and the NPSMA in tackling these initiatives. We seek your help in providing feedback and advice, and wish to evolve these initiatives to best meet the needs of the PSM community to help programs meet their goals of student number, quality, and learning and employment outcomes.

Background

Between the late 1990's and 2015, the Alfred P. Sloan Foundation provided a total of approximately \$23 million to support the establishment of PSM programs and to support the Council of Graduate Schools (CGS) to develop and manage the quality-control definition and process for review of PSM programs. The Sloan Foundation also supported the establishment of the NPSMA to serve as a member-organization that hosts conferences and disseminates best-practices for the PSM community. When the CGS transferred its PSM-related activities to the PSM National Office in 2012, the National Office and the NPSMA leadership established a partnership that has been formalized by an annual Memorandum of Understanding between the two organizations. The initiatives described here have been discussed and reviewed by the Steering Committee of the National Office as well as by the Board of Directors of the NPSMA. We've been pleased with the strong collaborative spirit in working together on these initiatives, but the final details and implementation remain in-progress. So we look forward to hearing from you, either through your connections to steering committee or board members, or directly through emails and phone calls.

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Help! Where Can I Place My Students?



Two of the highest interest topics to PSM program directors are internship policy and placement, as well as downstream opportunities for employment. The 2015 NPSMA Pre-conference Workshop, "Finding Opportunities in Industry and Government for Your PSM Students", focused on helping program directors place their students; here we share information and suggestions introduced in the presentations and lively question and answer periods from the first three sessions.

The first session on building pathways to internships and employment featured three speakers. Dr. Todd Arnold (Managing Director of Mt. Sinai Genetic Testing Laboratory) praised the job-readiness of the PSM graduates he has hired, and encouraged the best practice of continuous engagement between industry and the academic program in all aspects from curriculum development to placement. Dr. Rebecca Osthus (Senior Science Policy Analyst, The American Physiological Society) noted that master's graduates, in general, are an under-represented segment in many scientific societies, and urged PSM students to join a scientific society and take advantage of its professional development activities, internship and job listings, and opportunities for networking. Dr. Judy Brown (Director of the Health Care Genetics PSM, UConn), raised the issues of accountability and liability for programs with respect to internships. She also provided examples of the scope of internship agreements from very informal arrangements between student/program/site to highly structured ones with legally binding paperwork, and discussed the pros and cons of each.

In the next session on taking advantage of contract research services, attendees were able to hear from a variety of companies about internships and ways to create partnerships with local industry through internship alternative programs. Dr. Laura Peiterson, Senior Scientist of Leidos, spoke on behalf of her company and the Leidos Technical Fellows program. She explained that interdisciplinary scientists are needed to tackle today's issues especially in the healthcare sciences. Dr. Peiterson also reviewed the opportunities available at Leidos for the skillsets that PSM alumni encompass. Erin Sweeney from Bode Cellmark Forensics discussed her career path to Director of Human Identification and Databasing. She talked about the mandatory courses and skillsets required for forensic DNA identification and highlighted

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The PSM National Office: 2016 Initiatives

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The following four initiatives are important steps towards the establishment and recognition of the PSM as a professional graduate STEM program at universities around the world. The specifics of the design and evolution of these initiatives are yet to be determined.

Website Improvement and Marketing

Features: A new mobile-ready responsive website design framework is near completion for sciencemasters.com. The first phase of the project provides a new layout that is directed more to student marketing than to the prior emphasis as a repository for educators, employers and policymakers.

Description of the Issues: We seek to develop a process for systematic sharing of Google Analytics and work to ensure up-to-date links and visual identity of both sciencemasters and program websites. We expect the vendor to work with NPSMA to establish a single landing-page for both the national office and NPSMA websites.

Dates of Implementation: Late January review by Steering Committee and early February launch of sciencemasters with follow-on work to ensure marketing efforts and NPSMA.org mobile-ready upgrades.

Feedback solicited: The review and editing of content will require feedback from the community – both for accuracy and messaging. PSM Programs will be highlighted in ways that should increase traffic to program websites.

PSM Certificates of Completion

Features: The PSM National Office will offer a Certificate of Completion to all PSM graduates. An official communication of graduate student names must be sent to the PSM National Office in a timely manner so that the Certificates can be generated and returned for distribution at your institution.

Description of the Issues: Some institutions grant an MS degree that is affiliated as a PSM but the students have no official proof that they have completed an affiliated PSM degree. This electronic certificate can be shared with employers and indicated on the student resume or CV.

Dates of Implementation: Effective immediately.

Feedback solicited: Please email us at know@npsma.org if you intend to participate this spring semester/quarter and the date by which you can provide official graduate names to appear on the certificates.

Transition from Affiliation to Accreditation

Features: PSM graduates do not require a license to practice and the programs span a wide range of interdisciplinary topics. The Council of Graduate Schools therefore established a quality-control system known as Affiliation using a set of Guidelines which serve as a lower barrier-to-entry than a full Accreditation process.

Description of the Issues: The term Affiliation is relatively unknown and the benefits of being affiliated seem unclear to many. We seek to rename our current Affiliation process to Accreditation which is a well-known term used by students, parents, administration, and higher-education professionals worldwide. Current Guidelines would be renamed Standards. Existing Affiliated PSM programs would be grandfathered and granted Accreditation immediately. Re-accreditation review would occur on the same 5-year cycle as Affiliation. We would expect that the PSM National Office accreditation activity could be renamed to be the Commission on PSM Accreditation which is a name that is consistent with many accrediting bodies.

Dates of Implementation: Seeking a July 1, 2016 launch.

Feedback solicited: We seek feedback on stakeholder perspectives of PSM Accreditation – assuming the process is the same, or very similar to the current Affiliation process. A survey will be sent very soon to gauge your perception and interest in this initiative.

Financial Sustainability

Features: A joint-funding model for the PSM National Office and the NPSMA. The proposal under consideration is to issue a single invoice to each institution with a PSM program that is based on the total number of students in all PSMs at the institution and the number of PSM programs and program tracks at the institution.

Description of the Issues: The PSM National Office and NPSMA are very lean organizations with a total of about 1.5 FTE employees and a host of volunteers. With the end of funding from the Sloan Foundation, effective October 2015, we seek revenues of around \$200k each year to manage our current activities. Detailed analysis by a committee of NPSMA and National Office participants was performed and the following pay structure has been proposed: Membership dues for the NPSMA, annual dues will be tiered at \$2000/yr for more than 50 students, \$1000/yr for 11-50 students, and \$500/yr for 10 or fewer PSM students at the institution. Affiliation/Accreditation fees will be \$500/year/program and \$150/year/track. A track is defined as a PSM course of study that shares at least 50% of its curriculum with another program at the same institution.

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The PSM National Office: 2016 Initiatives

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Dates of Implementation: Seeking a July 1, 2016 launch.

Feedback solicited: Communication from program directors, faculty, and academic administration on the desirability of payment of a single invoice for both NPSMA dues and program/track affiliation/accreditation is sought.

We hope that these initiatives will generate new momentum for PSMs and the PSM community will embrace some form of each of these initiative and provide feedback before, during, and after they are launched to ensure continued evolution of a high-quality professional PSM movement.

James D. Sterling, Professor, Keck Graduate Institute, is Faculty Director of the PSM National Office in Claremont, California.

NPSMA Academic Institution Members

NPSMA would like to acknowledge its academic institution members:

American University, Bowie State University, California State University Office of the Chancellor, California State University San Marcos, California University of Pennsylvania, Cornell University Graduate School, Delaware State University, Grand Valley State University, HBCU Mid-Atlantic PSM Alliance, Illinois Institute of Technology, Keck Graduate Institute, Kutztown University, Lock Haven University of Pennsylvania, Michigan State University, Middle Tennessee State University, Millersville University of Pennsylvania, Minnesota State University Mankato, Morgan State University, Norfolk State University, Northeastern University, Northern Arizona University, Ohio State University, Pennsylvania State University, Eberly College of Science, Rice University, Richard Stockton College of New Jersey, Rutgers, The State University of New Jersey, SUNY Brockport, SUNY Buffalo State, SUNY College of Environmental Science and Forestry, SUNY Cortland, SUNY Empire State College, SUNY Institute of Technology, SUNY Fredonia, SUNY New Paltz, SUNY Old Westbury, SUNY Oneonta, SUNY Oswego, SUNY Plattsburgh, SUNY Potsdam, Stony Brook University, Temple University, Texas Tech University, University at Buffalo SUNY, University of Colorado Denver, University of Denver, University of District Columbia, University of Findlay, University of Illinois at Urbana-Champaign, University of Maryland Baltimore County, University of Maryland Eastern Shore, University of Massachusetts Dartmouth, University of Massachusetts Lowell, University of Miami, University of Northern Colorado, University of Toledo, University of Utah, Virginia State University, Washington State University, Worcester Polytechnic Institute

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the Data Analyst position at Bode as a possible pathway for future PSM graduates. Finally, Dr. Peiru Wu, Director of the PSM in Industrial Mathematics at Michigan State University, discussed her program's industrial project. This project provides PSM students the opportunity to work with local companies to solve a real problem. This type of industrial project helps to expand the PSM program's industry partnerships as well as provides the students with experience working with local companies.

The session on opportunities in federal agencies featured speakers from the National Institutes of Health, the Office of Naval Research, and American University. Highlights included the personal story of Dr. Frank Turner, who began at NIH while in high school, eventually earned his MD, and has now returned to help recruit for the agency. Mitzi Kosciulek (Team Lead, Corporate Recruitment Office, NIH) described full-time and internship opportunities at NIH for MS students. Dr. Michelle Skoorka (Director of Laboratory Research Programs and Internships) discussed the STEM education and workforce programs for students that are available in the Office of Naval Research. Students in these programs receive excellent stipends, and some programs lead to full-time positions upon graduation. Internship opportunities at NIH, ONR, and other federal agencies can be accessed through USAjobs.gov. (the NPSMA will schedule an upcoming webinar on how to effectively use this powerful site). Dr. Kathryn Walters-Conte (Biotechnology PSM Program Director, American University) talked about her experience placing students with the Smithsonian Museum of Natural History. She stressed that networking and informal partnerships are the key to securing long-term opportunities.

What can the NPSMA do to help? Several action items arose from the workshop. First, several speakers will be invited to make longer presentations as NPSMA webinars (please see NPSMA Events for the first of these). Second, there was considerable interest in having the NPSMA gather descriptions of the various types of internship arrangements that have been developed, including examples of documents. Third, it would be very helpful to Program Directors to have listings of internship and employment opportunities appropriate to master's level students, especially from "national" companies and agencies.

Tim Born (Director, Grand Valley State University PSM Programs), Tara Levine (Coordinator, Florida Statewide PSM Efforts, NPSMA Board) and Linda Strausbaugh (NPSMA Board and Consultant) were members of the workshop planning group and chaired these sessions.

BEST PRACTICES

Strategies for Identifying Internship Opportunities

The final session in the Pre-conference Workshop, summarized here, featured valuable information and practical information for Program Directors about strategies for identifying internship opportunities.

Dr. Sheryl Baldwin (Director of Special Programs, PSM development, Virginia Commonwealth University) shared her knowledge on how to locate internship and employment opportunities at not-for-profit agencies, such as trade associations and professional societies. Using several state, local, and regional *technology councils* in the Mid Atlantic Region as examples, she illustrated how they can serve as sources of jobs and internships for PSM students. Particular emphasis was placed on the Virginia Biotechnology Association, which offers free memberships for students and lists job and internship opportunities for its member companies. VABIO has a career section that offers the opportunity for job or internship seekers to post their resumes and to browse positions posted by its member companies. Such trade associations or technology councils exist across the nation and have job postings for member companies. PSM programs are encouraged to include these associations in their search for positions.

Dr. Saeed Foroudastan (Program Director and Associate Dean, Middle Tennessee State University; Board Member, NPSMA) discussed the strategies used in establishing the PSM program at Middle Tennessee State University, in which local companies were canvassed for their input *prior to establishing the programs* and companies were solicited as participants in hosting student internships for the PSM program in Middle Tennessee. This has been one of the most successful PSM programs in placing its students because of its proactive and inclusive approach to the needs of local industries. This is really the best strategy and is a best practice for PSM programs.

Debbie Murray (Virginia Space Grant Consortium, Program Manager for Internships and Research) shared lessons she has learned from nearly thirty years' experience with internship programs. She is currently managing the

Virginia CUSIP STEM internship program for undergraduates in Virginia associated with the NASA Space Grant Consortium. Although this program is for undergraduates, the structure of the model, with defined internships, committed participants, and a database of opportunities seems useful for application for PSM programs. The use of a database of job and internship opportunities is useful for student or faculty to search for student positions.

Dr. Sterling Thomas (Fellow and Director of Advanced Analytics, Noblis, Inc.) discussed what organizations look for in interns. He also described the kind of employee desired by his employer, a major defense and security contractor in Northern Virginia. He noted that it is expected that interns and new hires will have the necessary technical skills, but their abilities to fit into the organization as well as work in a team are keys to success. Noblis even takes interns out for activities together with team mates to help establish the team. The suitability of the recruit is evaluated in this kind of environment, outside the work place as well as within it. Successful recruits are those capable of functioning well with the group both on the job and in more casual settings. The effective team and fit for the organization are as important as the technical skills.

Dr. Linda Strausbaugh (Former Director, PSM in Applied Genomics, UConn) recommended that programs consider the value of start-up companies and public laboratories as sites for internships. Although they may not be in positions to offer permanent jobs, these are excellent sites for training that often expose students to a broad range of skills and regulatory environments. Many start-ups associated with universities, innovation centers, or technology parks may have positions for interns. These new companies are often glad to hire student internships for research projects but intellectual property concerns may need to be addressed by nondisclosure agreements. In her experience, building bridges to local small companies and public agencies has resulted in ongoing internship opportunities.

Sheryl Baldwin (Director of Special Programs, PSM development, Virginia Commonwealth University) was a member of the workshop planning group and chaired this session.

NPSMA UPDATES, ANNOUNCEMENTS AND REMINDERS

NPSMA members may expect an emailed, one page flyer, *innovator*, to supplement the newsletter. To be issued approximately monthly, *innovator* will contain abbreviated information and deadline reminders.

NPSMA NOTES AND EVENTS

NPSMA Workshop

Co-sponsored by SUNY PSM Consortium
***“Data Analytics Across Disciplines:
 Academic Advancement
 and Business Competitiveness”***
May 18-19, 2016

See Call for
 Proposal Info
 on Website



Niagara Falls, NY

View flyer and register at
<http://www.npsma.org/upcoming-workshops>
 Deadline to register: April 28, 2016

NPSMA Webinar Series

April 2016
 Job Opportunities for PSM Graduates at the National
 Institutes of Health.

Summer 2016
 Everything Job Seekers Need to Know to Effectively Use
 the USAJOBS.gov Website.

2016 NPSMA Board of Directors

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Inge Wefes, Ph.D., Associate Dean, Graduate School,
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NPSMA Awards

Each year at its National Confer-
 ence held in November, NPSMA
 presents awards to outstanding
 members of the PSM communi-
 ty.

2015 Board of Directors Award:
 Dr. Elizabeth Friedman
 Illinois Institute of Technology



2015 President's Award:
 Dr. Saeed Foroudastan
 Middle Tennessee State University

Newsletter

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 Science Master's Association, P.O. Box 3455, Riverview, FL
 33568-3455. Send newsletter submissions to
coordinator@npsma.org.

This newsletter serves as a venue for NPSMA members to
 make program announcements and attract national visibility.
 To receive full benefits and best practices advice for new
 programs, we encourage you to join the NPSMA.



Invoice For Annual Academic Membership Dues
(The NPSMA is a 501(c)(3) Nonprofit Organization; Tax ID # 20-8766099)

Please Check Appropriate Membership:

- Academic Institution ¹ ___ \$2,000 ___ New ___ Renewal
- Academic System ² ___ \$1,500 (Each campus submits a membership form.)
- Academic Program ³ ___ \$ 500

¹ Includes up to two institution-wide voting memberships (e.g. institution-wide PSM Program Administrator, senior leadership from the offices of graduate deans, academic deans, provosts, presidents) and one standard, voting individual membership for each Director of an affiliated PSM Program. Note: NPSMA is in the process of revising its institution membership rates. Any institution that has overpaid (compared to the revised formula) during the current membership term may request that excess fees be applied to the following year's annual membership fee.

² Per campus in an Academic System (minimum of 6 campuses), includes same memberships as above.

Above academic sustaining institution/system memberships includes first year complimentary membership for all currently enrolled students, with a second year option at \$25 per student. It also includes a first year complimentary membership for all alumni. The primary institution contact should email coordinator@npsma.org for instructions on complimentary student and alumni memberships.

³ Per PSM Program, intended for those affiliated programs that are not covered by institutional memberships.

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Personal ¹	<input type="checkbox"/> \$75 (1 year)	<input type="checkbox"/> \$225 (3 years)
Current PSM student	<input type="checkbox"/> \$50 (1 year)	<input type="checkbox"/> \$ 25 (2 nd year renewal of complimentary 1 st year academic membership)
PSM alumnus/a	<input type="checkbox"/> \$75 (1 year)	<input type="checkbox"/> \$225 (3 years)

¹ Personal subscriptions are appropriate for academic personnel who are interested in the PSM concept or planning PSM programs, and for "Friends of the PSM", active or retired, from academic, corporate, not-for-profit, government and other sectors.

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