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The Impacts of the Molecular Education and Research Consortium in Undergraduate Computational Chemistry on the Careers of Women in Computational Chemistry

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ABSTRACT: The Molecular Education and Research Consortium in Undergraduate Computational Chemistry (MERCURY) has supported a diverse group of faculty and students for over 20 years by providing computational resources as well as networking opportunities and professional support. The consortium comprises 38 faculty (42% women) at 34 different institutions, who have trained nearly 900 undergraduate students, more than two-thirds of whom identify as women and one-quarter identify as students of color. MERCURY provides a model for the support necessary for faculty to achieve professional advancement and career satisfaction. The range of experiences and expertise of the consortium members provides excellent networking opportunities that allow MERCURY faculty to support each other's teaching, research, and service needs, including generating meaningful scientific advancements and outcomes with undergraduate researchers as well as being leaders at the departmental, institutional, and national levels. While all MERCURY faculty benefit from these supports, the disproportionate number of women in the consortium, relative to their representation in computational sciences generally, produces a sizable impact on advancing women in the computational sciences. In this report, the women of MERCURY share how the consortium has benefited their careers and the careers of their students.

INTRODUCTION

The percentage of people who identify as women in full-time academic faculty positions in the United States (US) is increasing from 31.6% in 1991 to 46.7% in 2018.[1] However, the representation of women at the highest ranks in academia is lagging.[2,3] Across all academic fields, women comprise 50.0% of the tenure-stream assistant professors, but only 45.0 and 32.5% of the tenured associate and full professors, respectively.[2] The situation is worse for people from minoritized groups—only 12.9% of full-time faculty self-identify as Hispanic, Latino, Black or African American despite those groups comprising 32.6% of the US population. Sadly, the percentages of other minoritized groups such as indigenous people, transgender people, and people with different abilities are too small to be tracked.

Lack of Diversity in the Computational Sciences. The scientific workforce needs the contributions of people from all walks of life.[4−7] In 2022, it is remarkable that there is still a gender imbalance in science, and this imbalance is especially notable in quantitative fields such as computational chemistry, chemical physics, physical chemistry, and data analytics.[8−10] A 2020 report from the US Bureau of Labor Statistics shows that 40.4, 25.2, and 16.5% of chemists, computational and mathematical professionals, engineers, and architects, respectively, are women.[11] A report from the US National Science Foundation indicates that only 30% of Science, Technology, Engineering, and Math (STEM) faculty in colleges and universities are women.[12] An event history analysis of a cohort of academic biochemists performed by Long, Allison, and McGinnis quantified the differences in promotion rates between men and women.[13] While productivity and career trajectory played a role in the rate of advancement, women whose publication records were comparable to men were less likely to be promoted. Recent studies from the European Union suggest that among doctoral graduates, women are

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approaching gender parity, but are still underrepresented in technical fields (24.9%) and only 26.2% advance to full professor.[14] In US academia more generally, data from the 2005−2006 American Faculty Compensation Survey indicated that only 24% of full professors were women.[15−17] Even after controlling for factors such as productivity, social networks, and other human, social, and structural capital, a logistical regression analysis on the National Study of Postsecondary faculty data set by Perna indicated that women were less likely to achieve the rank of full professor.[18,19] Ample evidence suggests that women in academia either leave or become stalled at the associate professor level at rates higher than men.[20]

Why Diversity is Important in Academia. To align the STEM pipeline with population demographics, we need faculty who reflect those demographics, that is, our students benefit from role models to whom they can relate.[21] All students need to see themselves reflected in the scientific and professorial role models from whom they learn, as this allows them to envision their own development as computational and quantitative scientists. All students benefit from intentional, inclusive instruction that allows them to master quantitative concepts. Academia has lagged behind industry in recognizing the need for a change in hiring practices to encourage a more diverse workforce as well as changes to workplace culture to allow people from different backgrounds to succeed.[21] Only in the last 5−15 years have academic institutions begun to structure their hiring practices by introducing diversity advocates, mandatory equity, and inclusion training, especially for hiring committees, and generally recognizing the need for a more diverse professoriate. It is important to keep in mind that gender diversity is only one kind of diversity; we need to focus on all aspects of diversity and to recognize that gender diversity may intersect with other minoritized demographics in STEM.[6,7]

The Climate for Computational Research and Teaching at Predominantly Undergraduate Institutions. Scientists who obtain tenure-track positions at predominantly undergraduate institutions (PUIs) are expected to excel in the academic trinity of teaching, research and service. Such individuals must navigate the challenges of relatively heavy teaching and service loads, along with a lack of graduate students more advanced in their study and capable of working full-time on research projects. Yet, the scholarship expectations at PUIs are increasing, in some cases, approaching the lower range of productivity expected at some research universities, with a continued emphasis on high-quality instruction without course reduction. When analyzing these research expectations in light of a computational career, it is also important to note that at many PUIs, there is no centrally supported high-performance cluster with the staff necessary to maintain the resource and assist faculty and students with technical troubleshooting. While it is true that compute cycles are available via national grid resources such as the National Science Foundation's XSEDE or the Department of Energy's INCITE programs, increasingly those resources are made available on a competitive basis. It is also difficult to fully utilize national grid compute cycles when training undergraduate students, that is, by their very nature as computational beginners in the early stages of their intellectual and professional development, they can quickly deplete an allocation with unproductive calculations even when a computational project is well-defined.

It may also be the case that computational faculty find themselves in smaller departments where they are the only woman, or physical chemist, or computational scientist. The lack of colleagues with similar backgrounds to vet ideas, manuscripts, and proposals, along with the lack of networking opportunities, further challenges the development of PUI computational scientists. In the current hyper-competitive external funding climate, the successful pursuit of grant dollars, particularly from larger, more complex sources such as NIH R15, and NSF RUI, and CAREER programs, benefits from the feedback of peers with similar expertise.

The MERCURY Consortium. To counter these challenges, a group of PUI faculty founded the Molecular Education and Research Consortium in Undergraduate Computational Chemistry (MERCURY) in 2001.[22,23] We believe that mentoring students in meaningful research projects is a valuable and integral part of being an active research chemist at an undergraduate institution, and we choose careers at PUIs with the intention of focusing our energy on undergraduate student involvement. Our objective upon forming the MERCURY consortium was to help our undergraduate research programs to flourish. Our initial goals were to (1) provide mentoring and networking opportunities for our students *and* our faculty both virtually and in person at an annual scientific meeting and (2) to band together to obtain external funding to support our computing needs in ways that might have been difficult to achieve on our own. The MERCURY PIs have obtained more than $1.9 M over six NSF-MRI grants, and these resources have been used to provide compute cycles and system administrative support and an annual MERCURY symposium for scholarly exchange.

Today, the consortium has grown to 38 faculty at 34 different institutions. The institutional diversity of our group spans 14 private liberal arts colleges (including one women's college), five private master's level universities, 10 regional public master's level universities, a two-year college, and three research universities (one public; two private; note that these faculty work only with undergraduates). Our intellectual diversity is also large, with an exceptional span of computational molecular science projects. Finally, the faculty themselves hail from diverse backgrounds and include 16 women (42%), three black men (10%), and three faculty of Hispanic lineage (2 M, 1 W, 7.7%) as well as three women of Asian descent. As of 2021, MERCURY investigators have published 357 papers, or 1.7 papers per faculty member per year, which is 3.4 times greater than the usual rate at an undergraduate institution.[24,25] As of 2019, 22 of the 38 MERCURY faculty hold external research funding worth $14.57 M and are co-PIs on grants totaling an additional $3.51 M. This funding is in addition to our six consortial MRI grants.

All of the MERCURY faculty are passionate about increasing the diversity of the chemistry community. Over the last 20 years, we have trained 888 undergraduate students in computational chemistry. Without double counting women students of color, 75% of our research students have been women or students of color. Approximately half (47%) of our research alums have attended graduate school for advanced degrees in STEM fields. For comparison, approximately 16% of the US students who receive the Bachelor or Science in Chemistry go on to graduate school.[26] Approximately two-thirds of the MERCURY graduate-school bound students were women and/or students of color. Since the start of the MERCURY consortium, students mentored by MERCURY

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faculty have won more than 50 national awards, including a Rhodes, 10 Fulbright Fellowships, 21 Goldwater Fellowships, two Gates Cambridge Scholarships, and more than 20 national graduate fellowships (NIH, NASA, NDSEG, NSF-GRFP). We have had more than 1600 attendees at the 14 annual MERCURY conferences and hosted 111 speakers; 61 of whom have been women and/or persons of color. The consortium has been a key driver of inclusive excellence in computational chemistry.

Consortium Logistics. In order to achieve the goals outlined above, the MERCURY consortium has instituted the following elements to support our faculty and students in their computational research.

- Compute cycles: We continually seek external funding to provide adequate compute cycles to support the research projects of our members.
- System Administrative Support: As most of our members work at institutions lacking dedicated computational support, we have previously used external funding to provide system administrative support. Most recently, we have housed our cluster at the Palmetto High Performance Computing Center at Clemson University, and they have graciously provided a very high level of computational support.
- Annual meeting: Each year we sponsor an annual meeting for undergraduate computational chemistry researchers and their mentor-professors. This is a wonderful opportunity for MERCURY and non-MERCURY students and faculty to network, exchange ideas, collaborate, and generally support one another.
- Formal and informal mentoring: Informal mentoring takes place spontaneously, often initiated through direct interactions at our annual meeting. In addition, and to ensure that everyone benefits from direct interaction with others, we have instituted a more formal mentoring structure whereby our 38 members are binned into ∼10 groups with a convener and 3−4 people. These groups meet via video conference 3−4 times per semester to discuss teaching, research, grants seeking, student mentoring, career advancement, managing departmental politics, and individual goals.
- Accountability: Perhaps the most inspiring element of the MERCURY consortium is the built-in accountability we all feel to one another, that is, if we are to continue to obtain external funding to support our need for compute cycles, system administrative support, and our annual meeting, we know that we need to continue to generate research outcomes, that is, mentored students, publications, external funding, and scientific presentations. In many ways, it is our collective expectations that drive us to seek excellence. This is an important motivator for PUI faculty where heavy teaching loads and institutional service demands can often muscle out time devoted to research.

In this report, we share the impact that the MERCURY consortium has had on the women involved, and their students. We hope this story is an inspiration to others grappling with ways to support women in computational sciences.

IMPACTS

The MERCURY consortium has benefited our faculty and students and enriched the computational chemistry workforce. To better understand the impact that MERCURY has had, we surveyed our faculty. In what follows, we highlight some of the resonant themes that emerged from that data.

The MERCURY Consortium Provides Computational Resources and System Administrative Support. One of our goals when forming the MERCURY consortium in 2001 was to provide compute resources to our members. Over the 21 years that the consortium has been in existence, we have obtained six NSF-MRI grants to support our work. These resources have been used to host our annual student and faculty symposium, to purchase computational hardware, and to provide system administrative support. Currently, we have 68 nodes with 2504 CPU and 13 GPU nodes (1x NVIDIA P100, 4x NVIDIA GTX2080 and 8x NVIDIA RTX6000), with 100 TB of networked storage and 480 TB of BeeGFS scratch storage. We are very grateful that, starting in 2020, Clemson University has agreed to house our hardware in their Palmetto High Performance Computing resource free of charge and has provided excellent support and training to our students and faculty.

These resources provide an unparalleled level of support to our faculty, who are often the only computational scientist in their department and whose institutions may not have centralized computing resources. It is not uncommon for PUI faculty to have limited access to start-up funds or for their institution to have little or no linux or system administrative support. These limitations prevent faculty from pursuing cutting edge projects that are publishable and of interest to the scientific community. This, in turn, limits the PIs ability to effectively train students in the way "real" science is done. MERCURY faculty routinely share that the computing capacity available to them as part of the consortium is what allows them to provide their students with meaningful experiences, which in turn leads to greater outcomes for students such as retention in science, multiple years working in the same lab, graduate school placements, fellowships, scholarships, and enhanced career prospects. Faculty also benefit from access to increased compute cycles and the ability to pursue more impactful projects, as this leads to publications, invited lectures, external grant funding, tenure, and promotion. In addition, faculty frequently cite their access to the expertise available in the Clemson Palmetto team as benefiting their science as well as their training of students.

The Annual MERCURY Conference Provides Regular Opportunities for Networking and Scientific Inspiration. The annual MERCURY meeting is a supportive venue in which undergraduates have an opportunity to network and practice the art of scientific exchange. The annual meeting is often a student's first experience presenting their work. Student confidence is bolstered as they present their work to a friendly and supportive audience of invited speakers, other faculty members, and fellow students. Aurelia Ball (Skidmore College) notes how the meeting boosts student confidence, especially the confidence of women undergraduates. It has also been a source of inspiration for faculty in their research, teaching, and work-life balance. With a higher percentage of women faculty than is typical in the scientific and computational communities and with very supportive colleagues, MERCURY women feel embraced by the community. Kedan He (Eastern Connecticut

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State University) notes that connections made through MERCURY with other early career women faculty has been especially welcomed, given that many science departments are still primarily white and male dominated. Aime'e Tomlinson (University of North Georgia) credits Maria Nagan (Stony Brook University) with the Tomlinson group's increased growth and productivity when Nagan mentored Tomlinson in pursuing additional compute cycles via application to the XSEDE program. MERCURY interactions have also led to new approaches to teaching physical chemistry. For instance, Kelly Anderson (Roanoke College) noted how much her teaching benefitted from discussions with Tricia Shepherd regarding Shepherd's POGIL experiences.[27] Faculty routinely comment that attending the annual MERCURY conference has had a rejuvenating effect on their research and teaching, and the opportunity to engage with their students in discussions with other computational chemists inspires and propels forward their work.

MERCURY faculty value the opportunity to form writing and accountability groups, gaining useful feedback on manuscripts and proposals and brainstorming new research ideas with supportive colleagues. This has allowed many to increase their scholarly output and external funding rate. The collegiality and free sharing of ideas spans research, funding, running a PUI research group, teaching, and work-life balance. As an example of the latter, Maria Gomez (Mount Holyoke College) recalls that one summer, she and her husband booked themselves at different simultaneous meetings, creating a child-care dilemma. Thankfully one of the meetings was the annual MERCURY meeting, and George Shields (Furman University) arranged for the local day care center to host the child during the day, and at the evening events, the child was welcomed into the consortium. MERCURY leadership recognizes the importance of work-life balance and works to provide solutions. The MERCURY consortium is a family friendly environment, and faculty parents find inspiration in the success stories of other MERCURY faculty who are raising children.

The MERCURY Consortium Provides Faculty Mentoring. As the consortium has grown, we have formalized the mentoring process to ensure that each member has a small network to which they belong in addition to being supported by the larger consortium. Activities for each mentoring group may include monthly virtual meetings, writing groups, presubmission review of manuscripts and grant proposals, and in-person meetings at national conferences. Strategies for improving and balancing teaching, research, and service obligations have been helpful for all faculty. The consortium in general and mentoring groups in particular ameliorate the isolation that many PUI computational chemists experience. Mentoring networks have been shown to improve career success at all stages of an academic career[28] and are an important contributor to the career satisfaction and productivity of MERCURY consortium members.

The formal mentoring groups have been particularly helpful in expanding the horizons of MERCURY faculty at all career stages. Chrystal Bruce (John Carroll University) explains that her mentoring group encouraged her "to reach for things I would not have necessarily had the confidence to try" such as a promotion, awards, a year-long sabbatical, and national leadership positions. More importantly, she notes that participating in the mentoring group made her aware that she was, in fact, qualified, prepared, and deserving of those career successes. Similarly, Ashley McDonald (California Polytechnic State University) found that her mentoring group particularly helped her define her career path after her promotion to associate professor. The group encouraged her to pursue a shift in the focus of her work and to seek out new leadership opportunities. Mentoring groups have also helped early career faculty. For example, Aurelia Ball (Skidmore College) noted that her mentoring group provided helpful advice on the tenure process and that MERCURY was also a good resource for identifying external reviewers for evaluation of her tenure materials.

Formal mentoring groups also enabled faculty to move forward in their research. For example, Ball's mentoring group gave her helpful advice throughout the publication process, from reading a draft of a paper to responding to editors and reviewers. Heidi Hendrickson (Lafayette College) shared that the formal MERCURY writing group, formed over the summer of the pandemic, was helpful for making progress on a publication. She found it helped her set deadlines for herself so she could make progress on the data analysis and determine further calculations she needed for the paper. Furthermore, the mentoring groups enabled faculty members to branch out of their comfort zone. For example, Patricia Soto (Creighton University) found it rewarding to get to know the other faculty in her mentoring group. She reflects, "the conversations became VERY interesting to me because I learned the perspective of faculty with whom I would hardly interact otherwise".

In addition to formal mentoring groups, MERCURY faculty have also benefited from the informal mentoring that takes place within the consortium. Many consortium members teach in small departments and are the only computational scientists at their colleges. Sarah Arradondo (Washington College) notes that it can be challenging to discuss computational programs, projects, and teaching tools with her colleagues. However, the MERCURY consortium grants her access to a variety of computational scientists from across the nation. She has been able to learn about POGIL-PCL, to invite computational speakers to present to her classes, to discuss what programs she can use for tutorials, and to discuss research with current MERCURY members. Furthermore, many consortium members share advice about computational resources, how to manage their own cluster, and information on how to use new computational methods.

MERCURY faculty consistently share advice to encourage, support, and enable the success of their colleagues. Heidi Hendrickson remembers advice shared by more experienced faculty during the MERCURY conference, such as "work on something related to a publication − EVERY DAY". MERCURY faculty learn the details of their colleague's research programs and often nominate them for national awards. Senior faculty share their experiences with early career faculty, helping them to navigate the "hidden" professional curriculum of academia. And faculty benefit from sharing best practices regarding running research groups, navigating departmental politics, pursuing involvement in professional scientific societies and not being afraid to ask for help. Patricia Soto (Creighton University) noted that learning how other faculty run their research group "helps me to adjust the group dynamics of my own group, that is, specific advice helps me cross the cultural, language, and generational barrier". Heidi Hendrickson (Lafayette College) also noted that more experienced MERCURY women faculty are typically open to talking about their career paths as well as opportunities and

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challenges along the way. She has found their advice empowering in the early stages of her own career, and as a result, aims to provide the same type of support to other early career faculty. Many MERCURY faculty feel this way − they find that the MERCURY consortium has enabled them to be part of a larger community and to avoid the professional isolation that sometimes comes with a career at a predominantly undergraduate institution.

The MERCURY Consortium Has Encouraged Collaborations. One result of our regular interactions via the annual MERCURY symposium and online meetings is that a number of our faculty have identified complementary and/or overlapping research interests. In many cases, those interests have led to fruitful collaborations and publications. A few of those partnerships are highlighted below.

Heidi Hendrickson (Lafayette College) and Patricia Soto (Creighton University) have collaborated on network centrality normal-mode analysis of protein conformations. This collaboration began during the COVID-19 pandemic, when Soto's students were working remotely. Hendrickson had the expertise to implement and interpret the network centrality analysis, and Soto had the conformational data set and student workforce. Hendrickson helped to train Soto and her students in the use of the method, but had not yet incorporated network theory practices into her own work with undergraduates. Discussions with Soto enabled Hendrickson to envision how undergraduates could be involved in using and improving these methods. Together they applied the analysis to a new set of proteins, supported one another during a global pandemic, and benefitted from an exchange of expertise.

Juan Navea (Skidmore College), George Shields (Furman University), and their students collaborated on a review article that outlines how quantum chemical calculations have been used to understand particle formation and heterogeneous surface processes in atmospheric aerosols.[29] The chemical and physical complexity of atmospheric aerosols results in large uncertainties in their climate and health effects. In their article, they described computational models for prenucleation, secondary organic aerosol formation, and aerosol interface phenomena. They also discussed the modeling of relative humidity effects, aerosol surfaces, and chemical kinetics of reaction pathways.

Another productive collaboration arose between MERCURY members Kelling Donald (University of Richmond) and Jim Phillips (University of Wisconsin, Eau Claire). In concert with their students, they performed a systematic characterization of the structural, electronic, and thermodynamic properties of RMX_3-NH_3 systems, where M = Si and Ge and X = halogens.[30] The Phillips group had used theoretical investigations and low-temperature IR measurements to probe the existence of the Si and Ge complexes and, in partnership with the Donald lab, applied various other computational measures to these and other weakly bound complexes to show that, in some cases, the NH_3 coordinates with an H in MCl_3CH_3 rather than the M center. Together their collaboration provided insights into the bonding preferences of RMX_3-NH_3 structures and the impact of the inert matrix on sigma−hole interactions.

Generational Impact: MERCURY Students Becoming MERCURY Faculty. Over the years, MERCURY faculty have trained many students. 47% of these students have gone on to chemistry graduate school and approximately 18% have pursued careers in computational chemistry and related fields. Some students have even come back to MERCURY as faculty. Mychel Varner was the first undergraduate student in Maria Nagan's group at Truman State University and went on to become a faculty member at Iona College. Bill Miller (Truman State University) originally wanted to become a high school teacher, but after conducting research in the Nagan lab, he knew he wanted to become a faculty member at a PUI. After a postdoc with another MERCURY PI, Carol Parish (University of Richmond), Bill landed a tenure-track position at Truman State University. He is now a tenured associate professor and mentors a thriving group of approximately 20 undergraduate students. As an undergraduate, Caitlin Scott (Hendrix College) collaborated with the Gomez research group at Mount Holyoke and presented her work at the annual MERCURY meeting. Scott remembers the engaging conversations with faculty and keynote speakers while she was an undergraduate student. This type of support and encouragement is especially important for young, female scientists who often experience implicit bias and microaggressions. Scott is now an assistant professor at Hendrix College and a MERCURY member. Since joining MERCURY as a faculty member, Scott has collaborated with George Shields and received encouraging feedback for publications, grants, and presentations. Jeff Schriber was an undergraduate in the Parish lab when he attended his first MERCURY conference. Jeff went on to receive a Ph.D. in electronic structure theory and is now on the faculty at Iona College. Dom Sirianni worked with Parish as a postdoctoral fellow and is on the faculty at Daemen College. Dom and Jeff are two of the most recent members of MERCURY. Lindsey Madison, a consortium member and assistant professor at Colby College, attended her first MERCURY meeting as an undergraduate in Daniela Kohen's group in 2008 when MERCURY and Midwest Undergraduate Computational Chemistry Consortium (MU3C) held a joint meeting. Madison's undergraduate research experience was formative due to the broader computational chemistry community to which her advisor introduced her. The conference opened her eyes to the breadth and depth of computational chemistry research and gave her a multitude of examples of excellence in undergraduate research. During that meeting, discussions with faculty introduced her to role models who were striking a balance between research and teaching in a way that resonated with her career goals. Former MERCURY undergraduate students have also come back to MERCURY as speakers after starting their own research groups. These include Valentino R. Cooper (Oak Ridge National Laboratories), Saryu Fensin (Los Alamos National Laboratories), and Mai Anh Ha (National Renewable Energy Laboratories). For current undergraduates, seeing former MERCURY students returning as professional scientists with thriving research groups inspires them to pursue careers as scientists.

The MERCURY Consortium Provides Leadership Role Models and Coaches. Among the MERCURY membership, there are seven people who have served as department chairs or heads, two members who have served as associate dean, one member who is an associate provost, and one member who has served as both a dean and a provost. Additionally, several members have held or hold leadership positions in national professional societies, including serving as executive members of the ACS Computers in Chemistry (COMP) and PHYS technical divisions. Our members have also served on executive committees for their local ACS sections and served on journal advisory or editorial boards. This diverse range of leadership

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experiences provides role models and mentors within the consortium.

MERCURY members often catalyze their colleagues' involvement in leadership roles and provide valuable mentoring and guidance on career advancement and overcoming institutional challenges. For example, Maria Nagan (Stony Brook University) has served on the executive committee for the COMP division of the American Chemical Society, including serving as the organization's Chair in 2018. A newer consortium member, Ashley Ringer McDonald, was seeking opportunities for national-level professional service and sought Nagan's advice regarding ACS COMP. Nagan brought Ringer McDonald into the COMP Extended Executive Committee as the undergraduate programming chair. Ringer McDonald found this to be a great fit for her talents and interests and became very active with COMP activities, eventually running for and being elected Chair herself. These opportunities to take on leadership roles and serve the professional community are vital for career advancement, particularly the promotion from associate to full professor, and the Consortium helps members learn about avenues for professional development. Several consortium members highlight interactions with George Shields, who has served as a department chair, dean, and provost, in helping them to set priorities and goals. This, in turn, has allowed them to develop their strategic vision as a leader, to address challenges, and to make a difference at their own institution.

CONCLUSIONS

PUI computational faculty have benefitted enormously from the MERCURY consortium. Access to supportive colleagues, facile networks, increased compute cycles, and system administrative support has enabled us to support and grow our research groups, generating a bigger impact on the scientific and computational workforce. Our teaching has improved, and our scholarly outcomes exceed the national average for PUIs. MERCURY women have been especially productive: we are currently 14 women ranging in rank from assistant (5) to associate (4) to full (5) professor. It is notable that in contrast to national and international data, no MERCURY woman faculty member has spent more than 7 years at the associate rank; a testament to the career advancing power of peer networks.

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Notes

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