

From: [Campus Climate Proposal form](#)
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Subject: New submission from Campus Climate Proposals
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What is your affiliation with UW-Madison? For group submissions, please respond for main contact.

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Describe the concept. If already in use here or elsewhere, please indicate this.

We aim to increase the recruitment and retention of underrepresented students and enhance their success in graduate programs by implementing a multifaceted, translational initiative that builds an inclusive and supportive community of learners by supplementing existing discipline-specific infrastructure with evidence-based, high-impact practices. This initiative, called Catalyst, will have four highly-integrated cornerstones that will holistically address the academic, social and psychosocial components found to be critical in the persistence of students. These will include: 1) strategic partnerships with selected minority-serving institutions; 2) undergraduate and graduate student peer mentorship; 3) professional development and skill-based supplementary program for graduate students; and 4) transformative department-wide modules for educating, supporting and engaging in diversity-related practices. Individually, each of these items have shown success in many other departments. We are unaware of any equivalent holistic program aimed specifically at the retention and recruitment of graduate students. This program will be developed with the lens of designing a highly effective program that can easily be translated and implemented in other departments on campus and through the US using a collective impact approach.

1) Developing Strategic Partnerships: The UW-Madison Chemistry Department implemented a diversity recruiting program in 2012 called Chemistry Opportunities (CHOPS) that has successfully inspired several underrepresented and underserved students, including URM, women and students from low socio-economic backgrounds, to enroll in Ph.D. programs across the U.S. Over 76% of the eligible CHOPS participants from the past three years of the programs have applied to and are now attending postgraduate programs. The overall impact of this program is embodied by a quote from Daniel Hinton, a 2012 CHOPS participant who is currently enrolled in his third year of our chemistry PhD program, "CHOPS was an incredible opportunity for me to make the next step in my chemistry career" (Southern Miss Now, Nov. 11th, 2012). The department is committed to continuing this program due to its success; however, many of the underrepresented and underserved students recruited through this pathway have struggled both academically and socially upon beginning their graduate programs. In addition to continuing the highly successful CHOPS program, we will address the academic preparation and motivation of these students by incorporating a two-fold approach to form strategic partnerships between selected institutions that have a high population of URM, first-generation and/or low-income students.

Firstly, by scheduling research and career seminars on the campuses of our partners, our faculty and staff will have the opportunity to learn more about the challenges and the motivations that persist in URM populations. These visits will also serve to motivate and encourage students at partner institutions to pursue graduate degrees upon meeting approachable research faculty, staff and students. Secondly, we will hold a periodic conference at UW-Madison inviting select faculty from these institutions to discuss the academic requirements, standards and preparations that are needed for students to be successful in graduate school. These meetings will not only serve to strengthen ties between partner institutions, but also allow partner institutions to learn about ways to better academically prepare their students for advanced degrees. These partnerships will address the overarching goal of strengthening the academic preparation of URM students for graduate school life and disseminating clear expectations for the students' graduate courses, teaching requirements, and research. Overall, this cornerstone will help students to be more readily prepared both academically and psychosocially for their graduate career.

2) Peer mentors: To help navigate the socialization process, every underrepresented and underserved first-year student will be paired with a non-URM peer mentor in the summer before their graduate program. The peer mentors will be carefully selected from upper-level underrepresented and/or underserved graduate students in the department. We understand that the success of this cornerstone lies with our selected mentors; therefore, we will be thorough in the selection and mentor-mentee pairing. All mentors will be required to attend a mentor training workshop hosted by an experienced master facilitator from the NIH-funded National Research Mentoring Network (NRMN). The mentors must commit to meeting with their mentee at least twice a semester during the academic year. A small stipend will be available to encourage meetings outside the department such as over lunch or coffee. The mentors will be required to provide their mentee with their email address to be available for any questions the mentee might have about moving to and getting adjusted to Madison, how to navigate the culture and socialization that new students will encounter and/or any questions about graduate life on our campus. We envision the mentee URM students becoming future mentors for our program, which will serve to increase the retention rate of our mentors as they become more invested and integrated into the fabric of the department. The opportunity to mentor will also take advantage of and increase the self-efficacy of the professional skills that URM students often feel are overlooked and undervalued such as organizational, communication, emotional intelligence and leadership skills.

3) Professional development and skill-based program: Catalyst participants will have the opportunity to engage in team building exercises, career seminars, various panel and group discussions, healthy-living activities, community-engagement and social events that will serve to build a supportive and empowering network. The first meeting will be held during the week before the academic semester as a purely social event where the Catalyst participants will have the opportunity to meet each other and their mentors. This will be followed by monthly meetings held throughout the academic year, culminating in May for the last formalized meeting of the first year program. These meetings will include a social and added-value aspect. One example includes organizing a panel of successful URM community members that will talk about how they effectively navigated their way through graduate school. The panel will be followed by a meet-and-greet where the Catalyst participants would have the opportunity to network with the panel and reconnect with the rest of the group. Topics for panels and group discussions will be specific to underserved students such as the tendency to experience "covering" and/or the "imposter syndrome," social justice aspects including how research at UW-Madison can directly impact underrepresented or underserved communities, effective communication skills with non-scientists which can serve to build a stronger family and community support network, development of a healthy work-life balance, increasing your coping efficacy, and self-advocacy. It is hoped that by forming a cohesive support network where the participants are comfortable discussing issues that are important and relevant to them, these students will be able to more successfully navigate through many of the extrinsic factors that have been previously mentioned as barriers resulting in persistence in a timely manner through their degree program.

4) Transformative department-wide modules for educating, supporting and engaging in diversity-related practices. Every month, an informal workshop focused on diversity, inclusion, community building, mentoring, biases, and/or retention and recruitment will be organized in the department. Each colloquium will begin with a 30-min talk given by the speaker(s), panelists, etc., followed by a 30-min open-discussion, question-answer session where all attendees will have the opportunity to reflect and discuss what they learned. All members of the department including undergraduate, graduate, post-doctoral students, faculty and staff will be invited to attend. These seminars, aimed to increase the cultural competency in our department by generating a forum where issues related to diversity are

learned about and openly discussed, will be given by a variety of speakers from the department, on-campus or from the community. The first year of the forum will investigate 'who we are' by inviting various groups of individuals (i.e. Asian American, Puerto Rican, LGBT, African American, etc. departmental students, staff and faculty) to sit on a panel where they will be able to talk openly about their culture including any struggles they may individually face in the department, on-campus or in the greater community. These workshops will address the socialization aspect of our program by fostering a culturally aware community that is sensitive to the differences and needs of individuals that do not fit the cultural norm of the department. The following year, the organization of these workshops will be entrusted to the second-year Catalyst participants, giving these students the opportunity to take on leadership roles and networking opportunities. Focus areas for subsequent years will include; 1) inviting successful URM alumni to talk about their work and their career path, 2) inviting individuals to address social justice issues relevant to scientists. 3) inviting STEAM speakers to talk about facets of their career. In addition, a 6-hr workshop will be offered to all faculty, staff and student mentors of undergraduate and graduate students every summer to address how to effectively mentor diverse individuals. This workshop will be based off the cultural competency workshop developed by NRMN. Effective mentoring from faculty is paramount to the success of underserved and underrepresented students, and has been shown to enhance self-efficacy, increase persistence in STEM disciplines, increase research productivity, elevate career satisfaction and enhance recruitment of URM students in select disciplines.

How would this affect cultural change on campus?

The cultural change Catalyst could have on the campus community is limitless; in the chemistry department alone, our graduate students teach more than 10,000 undergraduate students enrolled in chemistry courses every year. By increasing the retention, satisfaction, cultural awareness and inclusivity of our faculty, staff and graduate students, undergraduates will have the opportunity to interact with dynamic, academically astute individuals increasing their self-efficacy, sense of belonging, success and their persistence at UW-Madison. Our graduate students, as a whole, will gain several key professional development skills by having the opportunity to work in a diverse, supportive campus that has set a precedence of investing in the success and skills of our underserved students.

For new ideas, how would you propose piloting this idea to see if it would work? If the idea is already in use at UW-Madison, how would you propose expanding or altering this program for greater impact?

The Catalyst program will be piloted within the chemistry department by CHOPS coordinators and the chemistry Diversity and Climate Committee members, Dr. Cheri Barta and Dr. Desiree Bates. We aim to build partnerships with selected universities using our CHOPS program to identify other institutions that have interest and need. We will also implement the peer mentoring program, the professional development and skill-building workshops and begin to offer mentor training for faculty. The success of the program will be tracked through interviews and written surveys given to all current chemistry graduate students, staff and faculty, including those involved in Catalyst, to assess the inclusivity of the department, the self-efficacy of the students, and the adequacy of the support given to faculty and staff to successfully engage in diversity-related activities. Graduation rates, time to degree and career choices of the Catalyst participants following the completion of their PhD will also be tracked. All four cornerstones of the program will be assessed yearly, and improved based on the reported deficiencies and continued successes. The best-practices of Catalyst will be disseminated through publications, conference presentations and on campus workshops to promote a modular program that is easily implemented throughout campus.

While similar initiations are being implemented across campus, to our knowledge there are no holistic frameworks within a department community. The Chemistry Department Diversity and Climate Committee exhaustively searched the campus for potential programs that our URM student community could easily be incorporated without the need of developing a program specific to our department. Through our time-demanding efforts, we found that all existing programs with similar goals were unavailable to a majority of the underserved students in our department. For example, the graduate students in chemistry are eligible for the L&S CGRS program only if they fit the AOF definition and receive AOF funding--the chemistry program typically only receives funding for 2 to 3 AOF students per year, thus only 2 to 3 of our 28 AOF-eligible students can participate in this program. Furthermore, while

these 2 to 3 students typically attend CGRS activities, they have not found it extremely beneficial in developing a supportive community of URM students within their own field. These students have been extremely candid in one-on-one meetings, group discussions and on departmental surveys expressing the need for a community-building program within the department. In addition, a community in their field is particularly imperative for underserved STEM students as it has been shown in multiple publications that persistence in STEM is strongly correlated with the scientific mentoring they receive and the support network they experience. It was also determined through our exhaustive searches that there are limited funding source available that could stimulate a program of this nature. Both the Graduate School and the Chemistry Department are currently not in a financial position to put any resources towards these efforts. We are hopeful, however, that once the program shows success, the department will be committed to funding Catalyst. We will also be proactive in seeking funding from industrial partners next year; however, we are currently reluctant to do so as the immediate campaigning priority of our department is focused on receiving donations for the new chemistry building.

What resources would be needed to implement your suggestion?

1. Financial Support: We estimate that this program will need \$25,000 per year to fund.
2. Top-Down Support: To create an inclusive community, we believe it is not only essential but necessary to have participation from students and key administrative members throughout campus.
3. Long-term Sustainability: Funding for a full time position within every school/college to organize, evolve, and facilitate the future of the Catalyst initiative.

If this proposal was developed in partnership with any other organizations, please list them below.

Catalyst was developed as a supplemental program to address retention concerns with the URM community. These issues were identified after several successful CHOPS annual events. Chemistry Opportunities (CHOPS) is a high-impact outreach program that invites 15-20 highly qualified underrepresented minorities, low-income or first generation prospective graduate students to the UW-Madison Chemistry Department for an all-expense paid weekend. While on campus, the students have the opportunity to experience life as a graduate student at a Research I institution. Scheduled activities to highlight the benefits of attending graduate school include brief summaries highlighting the breadth of cutting-edge research given by UW-Madison chemistry faculty members, an opportunity to participate in a hands-on workshop utilizing state-of-the-art instrumentation, and a tour of the chemistry facilities. Students will also have the opportunity to build relationships with current chemistry graduate students, discuss research opportunities with faculty, and meet with our graduate coordinator for insight into the graduate school application process. Upon exposure to the welcoming community at a large research institution, it is our goal that these students will be empowered to consider a top-tier graduate school as the next step in their educational career. This program, established in 2012, has an extremely successful track-record with many of the participants pursuing graduate degrees after their involvement with the CHOPS weekend including ten of the program participants that chose to pursue a Ph.D. in Chemistry at UW-Madison.

Please use this space for any additional information about your proposal that you wish to share:

The Catalyst program will largely impact the environment of the entire campus through a collective impact infrastructure by introducing a plethora of meaningful evidence-based practices, impactful interactions and a robust culture of inclusivity. In turn, Catalyst will generate well-trained, globally aware graduate and undergraduate students that will become highly contributing members of diverse academic institutions, governmental agencies and various companies, leading to an increase in the persistence and successful recruitment of URM and underserved individuals. Catalyst is in-line with the Forward Together framework outlined in the campus diversity plan and has the potential to be easily transferred to other departments on campus resulting in a prevalent cross-cultural community.