

Project Title: UC Merced – DEI in STEM

Project Manager (Person submitting the proposal).Dr. Sora Kim

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What are you proposing to do and how will you do it?

Drs. Arnold Kim, Erik Menke, and Sora Kim are proposing to build a hub of ongoing DEI efforts in STEM research and/or teaching. This hub will serve to connect, share, and build momentum in DEI efforts across campus within STEM research and teaching. We will bring one seminar speaker to UC Merced during this funding cycle and hold periodic lunches to help build capacity and momentum for DEI in STEM. The seminar speaker and lunches will give faculty and staff time and space to interact in regards to DEI efforts. Each lunch will have topics with structured prompts to address different aspects of DEI in STEM at UC Merced.

How will the program contribute to and enhance UC Merced's campus climate as a more equitable and inclusive place to study, research and work?

Currently, there is an array of DEI in STEM efforts by faculty and staff at UC Merced, but they are largely run independent of one another. Here, we propose to initiate a hub for faculty and staff to exchange and synergize ideas. This DEI in STEM hub will enhance UC Merced's campus climate in multiple ways. First, faculty and staff with similar teaching goals (i.e., reshaping introductory classes, introducing technology enabled active learning, etc.) or research projects (i.e., improved mentorship for underserved groups, building diversity capacity within research, etc.) can communicate with the intention to join efforts, learn tips, or pursue external funding. Next, faculty and staff participants in these lunches can help connect undergraduate and graduate students to potential programs, mentors, and opportunities on campus. This hub will hopefully help faculty when writing Broader Impacts when seeking external funding for research projects. Finally, increased communication will help build resources and capacity for DEI in STEM efforts across campus so that efforts are not isolated and more cohesive.

In September 2018, Dr. Kim organized a "pilot" event with NSF funds and brought Dr. Anne-Marie Núñez to UC Merced for a seminar and informal lunch. De Acker graciously coordinated the seminar and lunch logistics with funds from the Provost's office and noted the high acceptance rate for the lunch. During the lunch, the topics discussed were: What DEI initiatives and actions are in place at UC Merced? What are gaps in DEI initiatives and actions at UC Merced? What are resources to help implement DEI initiatives at UC Merced? The priorities and themes from the discussion were as follows: 1) Coordination and integration between all the moving parts 2) Diversity can't live in isolation with person, organization, office, etc. The torch needs to be carried by all. 3) To have a truly inclusive environment, we must be able to engage stakeholders.

The reality of UC Merced is that faculty demographics are different from the students. While the faculty is very receptive and well intentioned to serve the students, to fully embrace diversity, equity, and inclusion, especially within STEM, efforts need to go beyond intention. The 2016

Undergraduate Experience Survey (UCUES) results show that 60% of students know two or less professors well enough for a recommendation letter (Q31), only ~25% of students plan to pursue STEM professions on graduating (Q42), and 68% of students are first generation (Q58). However, 50% of students responded with hopes to achieve MS (academic focused), PhD, and/or MD degrees (Q43), which would need recommendation letters, a strong STEM foundation, and knowledge of navigating the graduate application process. How can we improve efforts at UC Merced to improve student retention within STEM and realize their dream of graduate school?

Describe how this project is a new, high impact, collaborative, experimental and/or sustainable approach to enhancing and/or addressing an area of campus climate.

Although there has been one event in the spirit of this proposal, funding would help launch this program as a reoccurring event on campus. To our knowledge, there are not currently any efforts to bring together faculty and staff working on DEI in STEM but instead pockets, which operate independently as many are spread between departments. This hub for DEI in STEM will allow cross-pollination among faculty and staff who have shared goals and priorities but are within different departments and programs. Connecting faculty and staff with similar DEI goals and priorities will help increase interdisciplinary collaboration. For example, as a result of the September 2018 lunch, Dr. Sora Kim in the School of Natural Sciences and Dr. Irene Beattie in the Schools of Social Sciences, Humanities, and Arts connected in regards to research experiences for STEM transfer students and submitted collaborative National Science Foundation grant in November 2018.

Describe the expected difference(s) the project will make on the issues addressed, the audience(s) it will serve and the number of people it will affect. (Proposals must describe and include supporting impact data from documented climate surveys, findings or statistics.)

This project will help relieve some of the overlap in DEI effort while also making DEI efforts more effective within STEM research and teaching at UC Merced. There are a limited number of faculty and staff deeply working on DEI in STEM but the sizeable needs for the student body. Reducing redundancies or leveraging efforts will increase the capacity of DEI in STEM efforts across campus and affect faculty and staff as well as undergraduate and graduate students from underserved groups.

How will the project bring together two or more campus entities, advance mutual goals and/or share knowledge? Specifically identify how the project will be integrated into the activities of teaching, research or public service.

The projects will bring together faculty and staff who are actively working to increase DEI in STEM across Schools and Departments. The project team includes faculty from the Departments of Applied Math (Dr. Arnold Kim), Chemistry (Dr. Erik Menke), and Life and Environmental Sciences (Dr. Sora Kim). Additional faculty from the School of Engineering and School of Social Sciences, Humanities, and Arts will be invited (i.e., Drs. Valerie Leppert and Irene Beattie) as well as administrators who are involved in projects or efforts across campus (i.e., Dr. Zulema Valdez – Associate Vice Provost for Faculty, Dr. Marjorie Zatz – Vice Provost and Graduate Division Dean, Dr. Jonathon Grady – Associate Vice Chancellor and Dean of Students). These

stakeholders have mutual goals and can share knowledge of their experiences and efforts in regards to DEI in STEM both within research and teaching capacities.

Describe the leadership, capacity and qualifications of the individual or group to implement the project. (Proposal specifically describes the leadership, capacity and qualifications of the individual or group to implement the project and specifically describes how each individual will implement the components of the project. Project Managers are in good standing with the University.)

Dr. Erik Menke is an associate professor of chemistry and has been a UC Merced faculty member for over 10 years, joining in 2008. He has served as the executive committee chair for the School of Natural Sciences as well as the undergrad and graduate chairs for chemistry and chemical biology, is the Principal Investigator for an NSF-funded project focused on improving undergraduate STEM education at Hispanic Serving Institutions (DUE-1832538), and is a lifetime member of the Society for the Advancement of Chicanos/Hispanics and Native Americans in Science.

Dr. Arnold Kim is Founding Professor of Applied Math and was the Founding Faculty Equity Advisor for the School of Natural Sciences. He has extensive experience in coordinating the development of the existing Applied Math undergraduate, graduate, postdoctoral training programs, as well as initiatives for supporting diversity, equity, and inclusion in the School of Natural Sciences. He currently serves as Director for the Data-enabled Science and Computational Analysis Research, Training and Education for Students (DESCARTES) undergraduate training program funded by the NSF (DMS-1331109). He was a guest speaker at the UC Office of the President Retreat of the Council of Vice Chancellors to discuss achieving gender equity in the Department of Applied Mathematics at UC Merced.

Dr. Sora Kim arrived to UC Merced in March 2018, but has immersed herself in DEI efforts on campus. Prior to her arrival, she attended a NSF sponsored Leadership in Diversity workshop titled "Sparks for Change Institute." Since her arrival, she participated in the working group to develop a DEI statement for the School of Natural Sciences; served as a search committee member for the inaugural Chief Diversity Officer at UC Merced; submitted an education grant aiming to increase STEM research experiences for transfer students at UC Merced; and is involved with the Undergraduate Research Opportunities Center.

Describe how likely the project is to be continued and incorporated or replicated by other organizations on campus and demonstrate why. (Demonstration of likelihood is supported with facts.)

This project will help increase the footprint and importance of DEI on campus. Once the Chief Diversity Officer begins their position, it will be advantageous to have multiple, visible DEI efforts dispersed throughout campus. Finally, the faculty and staff participating this DEI in STEM hub can help develop a campus-wide strategic plan.

Provide the full timeline – from start to completion – for the project.

There will be 5 lunches planned for the DEI in STEM hub. In addition, there will be one seminar with a speaker invited from UC Santa Cruz. The lunches will take place approximately once a month during the semester (i.e., February, March, April, September, October, November) and if possible, will be coupled with other diversity speakers invited to campus (i.e., Chancellor's Dialogue on Diversity and Interdisciplinarity).

What are your project goals and expected outcomes?

The sentiments shared by faculty and staff related to DEI in STEM present at the September 2018 lunch included:

- There should be a strategy to thoughtfully engage staff, faculty, and students that recognizes the power differential.
- These are scary conversations for many; how do we help navigate them?
- The acronym AIR was shared: Accountability, Infrastructure, Resources.
- The idea of 1st, 2nd, and 3rd order change
- How do we carve out opportunity to be creative in approaching diversity?

What is your definition of success? How will you measure it?

Our definition of success will be if faculty and staff continue to participate in the lunches and feel they gain ideas or opportunity from the meetings. Given the large number of meetings and time demands, it is unlikely that faculty and staff will continue participating in these meetings without some benefit gained.

What tools will you use to collect the data needed to measure the progress and success of each expected outcome? When will you use them?

A summary of discussion will be emailed to the larger group after each session to document the efforts and ideas shared. These summaries will serve as resources and references for faculty and staff in future teaching and research endeavors.

~~Project sponsoring unit~~Leave this field blank

UC Merced Sponsor: Office of Campus Climate and Compliance

Budget Manager: Administrator within the Office of Campus Climate and Compliance

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Budget form [2019-20_dei_grant_budget_form_template.xlsx](#)