

School of Natural Sciences Faculty Awards 2023

Recognizing faculty efforts and achievements is central on all university campuses, and the UC Merced Faculty Senate has a well-established awards program that acknowledges faculty success in many key areas. These campus-wide awards are appropriate and fitting, but they don't speak to some more specific areas that are central to the success of the School of Natural Sciences. Therefore, I collaborated with the School Executive Committee to establish nine faculty awards and implement a new annual award process to recognize these often-unsung efforts.

Developing or Improving Academic Programs and Tracks

This award recognizes a faculty member who has taken the lead in developing academic programming that serves the changing needs of our students and supports the growth of our School. This year's award goes to **Gordon Bennett** for identifying and mitigating barriers that Biology Majors face in satisfying their degree requirements, including reorganizing the introductory Biology course sequence, increasing laboratory course offerings, and leading the team developing the Biology Bachelor of Arts program, which aims to broaden the number of students and career paths that the University's Biology degrees can serve. I especially commend Gordon's unflagging energy and enthusiasm in working to make important improvements that will affect a huge number of students.

Building Collaborations in Teaching

This award recognizes a faculty member who reaches across disciplinary boundaries to build collaborations that support innovative research and educational opportunities. This year's award goes to **Emily Jane McTavish and Erica Rutter**.

- **Emily Jane** was co-founder of the Data Science Working Group and played an important role on the team that developed the SNS's newest major, Data Science and Computation to which students are already applying. Emily Jane has also reached out to three other universities and colleges to create an intercampus collaboration that proposes to build pathways for students to transfer between their data science programs and develop a shared learning community among central California data science students.
- **Erica** has been a part of many research and teaching collaborative programs since she started in 2019 including the Data Science Working Group, and the interdepartmental BII-INSITE Program for which she is a co-PI. Additionally, Erica is a co-PI on a UC-HBCU grant with Benedict College on Machine Learning and Mathematical Biology and is Co-PI on two Learning Lab Grants in Data Science Education with UC Berkeley and Laney Community College. I'm especially pleased that one of our newest faculty has taken on these leadership roles in both teaching and research.

Community Engagement

This award recognizes a faculty member who partners with communities to bring scientific solutions to challenges that they face. This year's award goes to **Ryan Baxter**. **Ryan** developed a science communication workshop for graduate students. Attendees subsequently participated as volunteers for outreach events showing off fun yet educational demos to hundreds of Merced City School District students. I believe that this sort of outreach to our community is essential to strengthening the relevance of UC Merced to our region and will help to continue to grow student body, especially in STEM fields.

Exceptional Service

This award recognizes a faculty member whose unsung service has broadly benefited the School of Natural Sciences. This year's award goes to **Noemi Petra**. **Noemi** has served as faculty advisor for the Society for Industrial and Applied Mathematics (SIAM) Student Chapter at UC Merced since 2015. In addition to the herculean task of managing the chapter, Noemi created and has sustained the annual SIAM Central Valley Conference, which brings together faculty, researchers, undergraduates, and graduate students from nearby institutions (such as CSU Fresno, CSU Stanislaus, UC Davis, UC Santa Cruz, and the Naval Postgraduate School) for a one-day research and networking conference at UC Merced. Finally, Noemi is working to create a new Northern and Central California Section of SIAM. An important part of the promise of UC Merced is that it will create new scholarly activities and opportunities in our underserved region, and Noemi's hard work on these projects is an important step towards fulfilling that promise.

Contributions to Inclusive Excellence in STEM

This award recognizes a faculty member who not only understands that excellence is an emergent property of the combination of a multitude of diverse voices but also takes concrete steps to create a culture in which individuals feel included and empowered to participate. This year's award goes to **Laura Beaster-Jones, Marcos Garcia-Ojeda, Jennifer Manilay, and Petra Kranzfelder**. This team of MCB faculty have been leading the HHMI Inclusive Excellence in STEM grant awarded to UC Merced in 2018. Among the many important accomplishments of this program have been faculty training workshops in inclusive teaching practices, the development and implementation of new pedagogies, the development of course-based undergraduate research experiences (CUREs) in the Biology program, the Biology Bobcat Mentoring Program, and a good publication record in science education research.

Innovations in Undergraduate Education

This award recognizes an individual whose efforts extend beyond the walls of their own classroom and are propagated across SNS curricula. This year's award goes to **Mayya Tokman**. **Mayya** led a group of 3 CSU Fresno and 5 UC Merced faculty in the development of a "Why, What and How" Calculus (WWHC) project that was funded by a \$1.4M grant from California Education Learning Lab. The project reforms calculus courses by focusing on conceptual understanding and practical experiences with solving problems from authentic STEM applications. The data collected during the first two years of the project demonstrated that students taking Calculus in the reformed WWHC classrooms experience a number of positive improvements in psychosocial factors such as decreased math anxiety, increased math interest and STEM self-efficacy, and more defined

STEM identity. This work, in addition to her central role in the founding and ongoing success of the CalTeach program is having important impact across our campus, and in our community's K-12 schools. Also, those of you with young children probably know about the Kids Discovery Station on Yosemite Avenue which is another product of Mayya's boundless energy in creating new educational opportunities in the region.

Partnership with Staff

This award recognizes a faculty member who has forged a strong working relationship with staff to amplify the research, teaching, or service missions of our School. This year's award goes to **Michael Dawson**. Since he became Chair of the Faculty Advisory Committee on Sustainability in 2018, **Mike** has been purposefully building partnerships across all campus constituencies to advance more sustainable campus operations. Recent examples include FACS' funding of sustainability micro-projects proposed by joint staff-faculty-student teams. Sustainability is truly one of this campus's hallmarks and a large and growing part of our research portfolio, therefore I believe Mike's work in building partnerships between faculty, staff, and students is especially appropriate for recognition.

Supporting Shared Research Infrastructure

This award recognizes a faculty member whose efforts result in the establishment or sustainability of research infrastructure that is shared across multiple research groups. This year's award goes to **Jessica Blois**. **Jessica's** leadership of both the UC Merced Natural Reserve System and the Neotoma Database demonstrates her ongoing efforts to sustain shared research infrastructure for the School and the wider scientific community. An important sign of the maturity of a research university is establishing and maintaining parts of the research base for the national and global research community. **Jessica's** work on our Natural Reserve System and the Neotoma Database are helping to put UC Merced on the map among the wider scientific community.

Undergraduate Research Mentoring

This award recognizes a faculty member who makes exceptional contributions to training undergraduate researchers. This year's award goes to **Aurora Pribram-Jones**. **Aurora** has transformed the undergraduate mentoring program of the chemistry program, by acquiring funding for and leading undergraduate-focused programs that include partnerships with other universities and national laboratories. Additionally, **Aurora** has an excellent record of mentoring undergraduate researchers who have all moved on to graduate school or positions in STEM research. We often cite undergraduate research opportunities as a reason for students to come to UC Merced, and it is the hard work of faculty like **Aurora** that makes that potential opportunity a reality for our students.