

## Henry L. Alder Awards

### Selenne Bañuelos

*California State University Channel Islands (CSUCI)*

Dr. Selenne Bañuelos of California State University Channel Islands (CSUCI) has an impressive record of teaching and mentoring students, improving the mathematics curriculum at CSUCI, and providing professional development opportunities for other mathematics teachers at her institution and beyond.

In her own teaching, Dr. Bañuelos uses active learning techniques and mastery-based assessment. When designing her courses, she takes extra care to ensure that her teaching practices will enable everyone to feel comfortable participating, especially students from groups that traditionally have been underrepresented in the mathematical sciences. One former student remarked that Dr. Bañuelos “presented mathematics not as a pretentious person atop the discipline hierarchy” but as a subject that is studied by “a community of people passionate about solving problems.”

Dr. Bañuelos created a new Transition to Higher Mathematics course and convinced her department to add the course to their required curriculum. Since it was introduced, students have reported that the course has been tremendously helpful in enabling them to transition from more computational courses to proofs-based courses. Dr. Bañuelos also co-developed a topics course in topology that was not previously offered in her department, improving the preparation of students who are interested in pursuing graduate studies.

Dr. Bañuelos has mentored several undergraduate research projects, having obtained funding for one such project from the Preparing Undergraduates through Mentoring toward PhDs program and funding for another from the Center for Undergraduate Research in Mathematics. One former research student who went on to graduate school discussed how transformative the experience was. “Before that research experience, I was just a student who was good at math, but, when we were done, my curiosity and hunger for the subject had expanded beyond what I ever could have expected.”

Perhaps most impressively, Dr. Bañuelos is on the leadership team of Project PROMESAS, a 5-year, \$6 million Hispanic-Serving Institution-STEM grant to CSU Channel Islands funded by the U.S. Department of Education (Title III). Through this grant, Dr. Bañuelos and her teammates aim to make the calculus pipeline less “leaky” through intensive faculty development for faculty at her institution as well as three local community colleges. She facilitates workshops or gives presentations roughly 20 times each year for faculty on topics such as building classroom community and teaching with a student-centered lens.

Throughout all of her activities related to teaching, Dr. Bañuelos aims to humanize mathematics. She shares stories of her own successes and failures with her students and colleagues to help them understand that even successful mathematicians struggle. She creates an environment where her students feel comfortable sharing their own struggles with her. We enthusiastically recognize Dr. Bañuelos’ achievements and her fierce care for students with the 2020 Henry L. Alder Award.

### Response

I am deeply honored to be selected as a 2020 MAA Alder Awardee. I have had opportunities to learn and grow as an instructor through MAA’s Project NExT fellowship and as a campus lead of CSUCI’s PROMESAS SSC initiative. They have helped me move from an instructor that delivers content to one who places students as the centers and creators of knowledge. I am thankful for my CSUCI math colleagues, for our SSC initiative mathematics education expert, and for our colleagues in our partnering community colleges. The fact that they treat teaching as an ongoing process of their own education is incredibly refreshing. I recognize that the ability to transform my teaching, with all the bumps in the road that it includes, is pos-

sible because I have the privilege of their support. The 18-year-old CSUCI is the result of a 40-year effort to bring a public four-year university to the Ventura County region. I characterize my students as hard-working, humble, and revolutionary. Thank you all for reminding me every day of the transformational power of higher education.

### **Biographical Sketch**

Selenne Bañuelos is an Assistant Professor of Mathematics at California State University Channel Islands. She earned her B.S. in Mathematics from UC Santa Barbara in 2007 and her PhD in Applied Mathematics from the University of Southern California in 2013. She is a 2014 Linton-Poodry SACNAS Leadership Fellow and a 2015 MAA Project NExT Fellow. Selenne is also the campus lead for CSUCI's STEM-Service Courses Initiative – a regional, multi-year, faculty development program designed to examine and reconstruct the mathematics courses serving all the STEM fields to focus on faculty cultural competence and use of inclusive pedagogy.

Her research interests lie in the fields of differential and difference equations and dynamical systems and its applications to mathematical biology. She has mentored several undergraduate and Master's students in research projects.

Selenne is committed to increasing the access to higher education in STEM fields for women and historically underrepresented minorities. She is a co-advisor for the SACNAS at CI student chapter, a mentor for the national Math Alliance and the CSU Alliance PUMP program, and a regular judge/mentor for AWM programs at JMM, SIAM, and MAA MathFest.