

Pedro Morales-Almazan

Associate Teaching Professor, Mathematics Department, University of California, Santa Cruz

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Education

PHD	Baylor University , Mathematics	Jan 2008 – Aug 2012
	• <i>Spectral Zeta Functions for Generalized Piston Configurations</i> Adviser: Klaus Kirsten, PhD	
MSC	Baylor University , Mathematics	Jan 2008 - Dec 2009
BE	Universidad de San Carlos de Guatemala , Electronics Engineering	Jan 2003 – Aug 2008
	• <i>Reconstrucción de señales de audio</i> [Audio signals reconstruction] Adviser: Enrique Edmundo Ruiz Carballo, PhD	
	• Excellence Award, School of Engineering	
BS	Universidad de San Carlos de Guatemala , Applied Mathematics	Jan 2003 – May 2006
	• <i>Distribución de raíces de polinomios</i> [Polynomial root distribution] Adviser: Rodrigo Vásquez, MSc	
	• Excellence Award, School of Engineering	
	• Magna Cum Laude	

Academic Appointments

UCSC , Associate Teaching Professor (Tenured), Mathematics	Santa Cruz, CA
	Jul 2022 – Present
UCSC , Assistant Teaching Professor (Tenure-Track), Mathematics	Santa Cruz, CA
	Jul 2018 – Jun 2022
UT , Lecturer, Mathematics	Austin, TX
	Jan 2013 – Jun 2018
Baylor , Adjunct Professor, Mathematics	Waco, TX
	Aug 2012 – May 2013

Administrative Appointments

UCSC , Associate Dean, Physical and Biological Sciences Division Work with 9 departments in different tasks and projects including: improving hiring practices, departmental and divisional climate, student access and success, organizational infrastructure, among others.	Santa Cruz, CA 2024 – Present
UCSC , Organizer, Math Teachers' Circle of Santa Cruz Coordinate speakers for monthly sessions for middle school and high school math teachers in the Santa Cruz county.	Santa Cruz, CA 2022 – Present
UCSC , Vice-Chair for Undergraduate Affairs, Mathematics Department In charge of course articulations, curricular planning, teaching assistant allocation, collaborations with other departments, divisional planning, undergraduate programs assessment, among others.	Santa Cruz, CA 2022 – 2023
UT , Calculus coordinator, Mathematics Department Coordinate calculus for business and calculus for science sections including teaching assistant management, course logistics, exam design and grading, homework design, among others.	Austin, TX 2016 – 2018
UT , Organizer, Math Teachers' Circle of Austin Coordinate speakers for monthly sessions for middle school and high school math teachers in the Austin area.	Austin, TX 2015 – 2018

Research Interests

Mathematics: Casimir Effect, Regularization, Zeta Functions, Quantum Field Theories, Asymptotic Analysis. MSC2010: Primary 11M36, 14G10, 11F72, 35J05 ; Secondary 35J15, 34L20, 11M45, 11M06

Education: Inquiry-Based Learning, Flipped Classroom, Experiential Learning, Math Outreach, Math Circles, Data Science.

Honors and Awards

Ron Ruby Teaching Award , Division of Physical and Biological Sciences	UCSC
	2023-2024
Excellence in Teaching Award , Campus wide	UCSC
	2023-2024
Guatemalteco Ilustre, Orator , Nationwide	Seguros Universales
	2018
Teaching Excellence Award , College of Natural Sciences	UT Austin
	2017

Selected Publications

- [1] Perone L. Improvising With and In Higher Education: All Together Now. Palgrave Studies In Play, Performance, Learning, and Development. Springer Nature Switzerland; 2025. Available from: <https://books.google.com/books?id=kC790AEACAAJ>.
- [2] Morales-Almazan P. Improv Practices in Mathematics Active Teaching. PRIMUS. 2022;32(9):1013-28. Available from: <https://doi.org/10.1080/10511970.2021.1978604>.
- [3] Dougherty S, Oggier F, editors. Discrete Mathematics Resources [Online Book]; 2022. Contributed chapter. Available from: <https://sites.google.com/view/discretemathematicsresources>.
- [4] Graham C, Kirsten K, Morales-Almazan P, Streit BQ. Functional determinants for Laplacians on annuli and elliptical regions. Journal of Mathematical Physics. 2018;59(1).
- [5] Cardona A, Morales P, Ocampo H, Paycha S, Lega AFR. Quantization, geometry and noncommutative structures in mathematics and physics. Springer; 2017.
- [6] Morales-Almazan P. A geometrical approach to measure irrationality. Functiones et Approximatio Commentarii Mathematici. 2017;56(2):165-79.

Grants

Building Data Science Communities, PI 2024-2026
Educational professional development grant with 6 programs: a year cohort of foundation scholars, a year cohort of interdisciplinary fellows, a course redesign mentorship program, an online resource for course redesign, a lecture series, an a webinar. The programs are aimed at faculty in the two awardee institutions and surrounding community colleges.

- Host: UCSC, Sub-award: CSU Monterey Bay
- Agency: California Learning Lab, \$350K

Improving Calculus Learning Outcomes for Student Success in Engineering, co-PI 2022-2024
Seed grant for incorporating active learning in secondary sessions paired with supplemental instruction, and experiential learning thorough group application projects in engineering.

- Agency: California Learning Lab, \$99K

Monterey Bay Area Math Project, PI 2019-present
Several grants supporting the work of the Monterey Bay Area Math Project in professional development of K-12 math teachers in the Monterey Bay Area.

Scholarship

Undergraduate Lower Division Online Course Redesigns	2023-2025
Coordinated redesign of four lower division mathematics courses in semi-flipped problem-based synchronously remote modality. Coordinated 4 graduate student fellows in researched-based design strategies, content creation, implementation, feedback, and improvement of these courses.	
Calculus with applications course redesigns	2020-2024
Coordinated redesigns for two courses incorporating project-based learning for high-stakes assessment focusing on life science and physical sciences applications. Coordinated cohorts of graduate fellows that conducted research and created class projects based on scientific papers in different fields.	
Mathematical Problems in Data Science Course Design	2022-2023
Created a new course on Mathematics in Data Science focusing on problems and theory arising from applications in Data Science.	
Industrial Mathematics Course Design	2019-2020
Created a new course on Industrial Mathematics including topics and techniques relevant for industry, following an experiential learning and group project-based learning approach.	
Pedagogy of Mathematics for Instructors Course Design	2018-2019
Created a new course on Pedagogy of Mathematics aimed at graduate student instructors of record. The course includes research-based course design and teaching methodologies.	
Pedagogy of Mathematics for Teaching Assistants Course Design	2018-2019
Created a new course on Pedagogy of Mathematics aimed at graduate student teaching assistants. The course includes an introduction to research-based teaching strategies and class management skills.	

Service

AI Council, campus-wide, UCSC	2025
Discussed, identified, and created Policies, Guidelines, FAQs for AI usage on campus relevant to academic affairs, research, and administration.	
Visiting Assistant Professor Search Committee, Mathematics Department, UCSC	2024-2025
Created a search plan and conducted the search for Visiting Assistant Professors with more than 150 applicants.	
Board of Directors, Center for Reimagining Leadership, UCSC	2024-Present
Member of the board of directors for the Center.	
Teaching Professor Search Committee, Physics Department, UCSC	2023-2024
Part of the search committee for a teaching professor (tenure-track) in the physics department with around 100 applicants.	
Teaching Professor Search Committee, Applied Mathematics Department, UCSC	2023-2024
Part of the search committee for a teaching professor (tenure-track) in the applied mathematics department with around 100 applicants.	
Competitions Editor, American Mathematics Competitions, Mathematical Association of America	2022-2024
Part of the editorial board of the AMC.	
Competitions Editor, American Mathematics Competitions, Mathematical Association of America	2020-Present
Part of the editorial board of the AMC.	