Dr. Kristen A. Davis

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ACADEMIC HISTORY

- Associate Professor, Stanford University, 2024 - present
- Associate Professor, University of California, Irvine, 2019 - 2024
- Assistant Professor, University of California, Irvine, 2012 - 2019
- Research Associate, Applied Physics Laboratory – University of Washington, 2010-2012
- Postdoctoral Scholar, Departments of Physical Oceanography and Biology, Woods Hole Oceanographic Institution, 2009-2010
- Ph.D., Civil and Environmental Engineering, Stanford University, 2009
- M.S., Civil and Environmental Engineering, Stanford University, 2004
- B.S., Environmental Engineering Sciences, University of Florida, 2000

PUBLICATIONS

Refereed Journal Articles (* denotes an advised or co-advised student/postdoc author)

52. *Kastner, S, G Pawlak, SN Giddings, *AE Adelson, R Collin, & **KA Davis**. (2024). The influence of Caribbean Current eddies on coastal circulation in the Southwest Caribbean Sea. *Journal of Physical Oceanography*, *54*(10), 2119-2132.
51. Cheng, YH, MH Chang, YJ Yang, S Jan, SR Ramp, **KA Davis**, & DB Reeder (2024). Insights into internal solitary waves east of Dongsha Atoll from integrating geostationary satellite and mooring observations. *Journal of Geophysical Research: Oceans*, *129*(8), e2024JC021109.
50. Bo, T, JC McWilliams, CA Frieder, **KA Davis**, & M Chamecki (2024). Nutrient replenishment by turbulent mixing in suspended macroalgal farms. *Geophysical Research Letters*, *51*(14), e2024GL109128.
49. Collin, R, *AE Adelson, AH Altieri, KE Clark, **KA Davis**, SN Giddings, *S Kastner, L Mach, G Pawlak, S Sjögersten, M Torres, & CP Scott (2024). Using forty years of research to view Bahía Almirante on the caribbean coast of Panama as an integrated social-ecological system. *Estuarine, Coastal and Shelf Science*, 108878.
48. Zheng, B, AJ Lucas, PJS Franks, T Schlosser, C Anderson, U Send, **KA Davis**, AD Barton, HM Sosik. (2023) Dinoflagellate vertical migration fuels an intense red tide. Accepted in the *Proceedings of the National Academy of Sciences*, 120 (36), e2304590120.
47. Fujita, R, S Augyte, J Bender, P Brittingham, AH Buschmann, M Chalfin, J Collins, **KA Davis**, JB Gallagher, R Gentry, RL Gruby, K Kleisner, M Moritsch, N Price, L Roberson, J Taylor, C Yarish (2023) Seaweed blue carbon: Ready? Or Not? *Marine Policy*, 155,105747.
46. Arzeno-Soltero, IB*, CA Frieder, BT Saenz, MC Long, J DeAngelo*, SJ Davis, and **KA Davis**. (2023) Biophysical potential and uncertainties of global seaweed farming. *Communications Earth & Environment*, 4(1), 185.

45. Srednick, G*, PJ Edmunds, **KA Davis**. (2023) Asynchrony in coral community structure contributes to reef-scale community stability. *Scientific Reports*, 13(1), 2314.
44. DeAngelo, J*, BT Saenz, IB Arzeno-Soltero*, CA Frieder, MC Long, J Hamman, **KA Davis**, and SJ Davis. (2023) Economic and biophysical limits to seaweed farming for climate change mitigation. *Nature Plants* 9(1), 45-57.
43. Walter, RK, SA Huie, JCP Abraham, A Pasulka, **KA Davis**, TP Connolly, PLF Mazzini, and I Robbins. (2022) Seasonal controls on nearshore dissolved oxygen variability and hypoxia in a coastal embayment. *Estuarine, Coastal and Shelf Science*, 278, 108123.
42. Adelson, AE*, AH Altieri, X Boza, R Collin, KA Davis, A Gaul, SN Giddings, V Reed, and G Pawlak. (2022) Seasonal hypoxia and temperature inversions in a tropical bay. *Limnology and Oceanography*, 67 (10), 2174-2189.
41. Sinnett, G*, SR Ramp, YJ Yang, M-H Chang, S Jan, **KA Davis**. (2022) Large amplitude internal wave transformation into shallow water. *Journal of Physical Oceanography,* 52(10), p 2539–2554.
40. Rogers, J, F Mayer, **KA Davis**, O Fringer (2022) On internal tides driving residual currents and upwelling on an island. *Journal of Geophysical Research, Oceans,* 127, e2021JC018261.
39. Safaie, A*, G Pawlak, and **KA Davis**. (2022) Diurnal thermally-driven cross-shore exchange in steady alongshore currents. *Journal of Geophysical Research, Oceans,* 127 (4), e2021JC017912.
38. Ramp, SR, Y-J Yang, M-H Chang, **KA Davis**, G Sinnett*, FL Bahr, DB Reeder, DS Ko, and G Pawlak. Solitary Waves Impinging on an Isolated Tropical Reef: Arrival Patterns and Wave Transformation Under Shoaling. (2022) *Journal of Geophysical Research, Oceans,* 127(3), e2021JC017781.
37. Clark, KC*, VD Bravo, SN Giddings, **KA Davis**, G Pawlak, MA Torres, AE Adelson*, CI Cesar, X Boza, and R Collin. (2022) Land cover and land use shapes river water quality at the land-ocean interface along the Caribbean. *Frontiers in Water,* 4:737920.
36. Frieder, C*, C Yan*, M Chamecki, D Dauhajre*, J McWilliams, J Infante, M McPherson*, R Kudela, F Kessouri, M Sutula, I Arzeno*, and KA Davis. (2022) A macroalgal cultivation modeling system (MACMODS): Evaluating the role of physical-biological coupling on nutrients and farm yield. *Frontiers in Marine Science*, 214.
35. Shaddox, HR*, EE Brodsky, SR Ramp, **KA Davis**. (2021) Seismic detection of oceanic internal gravity waves from subaerial seismometers. *AGU Advances*, 2(3), e2021AV000475.
34. Coenen, W, AL Sánchez, R Félez, **KA Davis**, G Pawlak. (2021) Residual streaming flows in buoyancy-driven cross-shore exchange. *Journal of Fluid Mechanics, 920,* A1, doi:10.1017/jfm.2021.293
33. **Davis, KA**, ER Pawlak, SG Monismith. Corals and Turbulence. (2021) *Annual Reviews of Marine Science*, 13, 343-373.
32. Chang, M-H, Y-H Cheng, YJ Yang, S Jan, SR Ramp, DB Reeder, W-T Hsieh, DS Ko, **KA Davis**, H-J Shao, and R-S Tseng. (2021) Direct measurements reveal instabilities and turbulence within large amplitude internal solitary waves beneath the ocean. *Communications Earth & Environment, 2(1), 15.*

31. Reid, EC*, SJ Lentz, TM DeCarlo, AL Cohen, **KA Davis**. (2020) Physical processes determine spatial structure in water temperature and residence time on a wide reef flat. *Journal of Geophysical Research, Oceans*, 125(12).
30. Sinnett, G*, **KA Davis**, A Lucas, SN Giddings, EC Reid*, M Harvey*, I Stokes. (2020) Distributed temperature sensing for oceanographic applications. *Journal of Atmospheric and Oceanic Technology*, 37(11), 1987-1997.
29. **Davis, KA**, RS Arthur, EC Reid*, JS Rogers, OB Fringer, TM DeCarlo*, and AL Cohen. (2020) Fate of internal waves on a shallow shelf. *Journal of Geophysical Research Oceans.* 125(5), e2019JC015377.
28. Kealoha, AK*, KEF Shamberger, E Reid*, **KA Davis**, S Lentz, RE Brainard, T Oliver, MS Rappé, B Roark, YM Rii (2019) Heterotrophy of oceanic particulate organic matter elevates net ecosystem calcification. *Geophysical Research Letters*, 46(16), DOI: doi.org/10.1029/2019GL083726.
27. Reid, E*, TM DeCarlo*, A Cohen, GTF Wong, S Lentz, A Safaie*, A Hall*, and **KA Davis**. (2019) Internal waves influence the thermal and nutrient environment on a shallow coral reef. *Limnology & Oceanography,*125(12), e2020JC016543.
26. Ulloa, HN*, **KA Davis**, SG Monismith, ER Pawlak. (2018) Temporal variability in thermally-driven cross shore exchange: the role of semidiurnal tides. *Journal of Physical Oceanography,* 48(7), 1513-1531.
25. Lentz, SJ, J Churchill, **KA Davis**. (2018) Coral reef drag coefficients – surface gravity wave enhancement. *Journal of Physical Oceanography,* 48, 1555-1566.
24. Safaie, A* NJ Silbiger*, TR McClanahan, ER Pawlak, DJ Barshis, JL Hench, JS Rogers*, GJ Williams, and **KA Davis**. (2018) High-frequency temperature variability reduces the risk of coral bleaching. *Nature Communications,* 9, 1671.
23. Sorte, CJB, LM Pandori, S Cai* and **KA Davis**. (2018) Predicting persistence in advective current systems: linking upwelling dynamics to dispersal direction and tolerance phenotypes. *Marine Biology,* 165, 1-12.
22. Nezlin, NP, K McLaughlin, JAT Booth, CL Cash, DW Diehl, **KA Davis**, A Feit, R Goericke, JR Gully, MDA Howard, S Johnson, A Latker, MJ Mengel, GL Robertson, A Steele, L Terriquez, L Washburn, SB Weisberg. (2018) Spatial and temporal patterns of chlorophyll concentration in the Southern California Bight. *Journal of Geophysical Research, 123(1), 231-245.*
21. Lentz, SJ, **KA Davis**, J Churchill, TM DeCarlo*. (2017) Coral reef drag coefficients - water depth dependence. *Journal of Physical Oceanography*, 47(5), 1061-1075.
20. DeCarlo, TM*, AL Cohen, GTF Wong, **KA Davis**, G Lohmann, K Soong. (2017) Mass coral mortality under local amplification of 2°C ocean warming. *Scientific Reports,* 7, 44586.
19. Walter, RK, E Reid*, **KA Davis**, KJ Armenta, K Merhoff, and NJ Nidzieko. (2017) Local diurnal wind-driven variability and upwelling in a small coastal embayment. *Journal of Geophysical Research, Oceans*, 122(2), 955-972.
18. DeCarlo, TM*, AL Cohen, GTF Wong, F Shiah, SJ Lentz, **KA Davis**, KEF Shamberger, and G Lohmann. (2017) Community production modulates coral reef pH and the sensitivity of ecosystem calcification to ocean acidification. *Journal of Geophysical Research, Oceans*, 122(1), 745-761.
17. Hemati, A*, MA Rippy, SB Grant, **KA Davis**, and D Feldman. (2016) Deconstructing Demand: The Anthropogenic and Climatic Drivers of Urban Water Consumption. *Environmental Science & Technology*, 50(23), 12557-12566.

16. Lentz, SJ, JH Churchill, **KA Davis**, JT Farrar, J Pineda, and V Starczak. (2016) The characteristics and dynamics of wave-driven flow across a platform coral reef in the Red Sea. *Journal of Geophysical Research: Oceans*, 121(2), 1360-1376.
15. Lentz, SJ, JH Churchill, **KA Davis**, and JT Farrar. (2016) Surface gravity wave transformation across a platform coral reef in the Red Sea. *Journal of Geophysical Research*, 121(1), 693-705.
14. DeCarlo, TM*****, KB Karnauskas, **KA Davis**, and GTF Wong. (2015) Climate modulates internal wave activity in the Northern South China Sea. *Geophysical Research Letters,* 42(3), 831-838.
13. Siedlecki, SA, NS Banas, **KA Davis**, SN Giddings, BM Hickey, P MacCready, T Connolly, S Geier. (2015) Seasonal and interannual oxygen variability on the Washington and Oregon continental shelves. *Journal of Geophysical Research: Oceans*, 120(2), 608-633.
12. Rippy, M*****, R Stein, B Sanders, **KA Davis**, K McLaughlin, J Skinner, J Kappeler, and S Grant. (2014) Small Drains, Big Problems: The Impact of Dry Weather Runoff on Shoreline Water Quality at Enclosed Beaches. *Environmental Science & Technology* 48(24), 14168-14177.
11. **Davis, KA**, NS Banas, SN Giddings, SA Siedlecki, P MacCready, EJ Lessard, RM Kudela, BM Hickey. (2014) Estuary-enhanced upwelling of marine nutrients fuels coastal productivity in the US Pacific Northwest. *Journal of Geophysical Resesarch: Oceans* 119(12), 8778-8799.
10. Giddings, SN, P MacCready, BM Hickey, NS Banas, **KA Davis**, SA Siedlecki, V Trainer, RM Kudela, N Pelland, and T Connolly (2014), Hindcasts of potential harmful algal bloom transport on the Pacific Northwest coast., *J. Geophys. Res.*, 119(4), 2493-2461.
9. Pineda, J, V Starczak, A Tarrant, J Blythe, **KA Davis**, JT Farrar, M Berumen, and J da Silva. (2013) Two spatial scales in a bleaching event: Corals from the mildest and most extreme environments escape mortality. *Limnology and Oceanography*, 58(5), 1531-1545.
8. **Davis, KA** and SG Monismith. (2011) The modification of bottom boundary layer turbulence and mixing by internal waves shoaling on a barrier reef. *Journal of Physical Oceanography*, 41(11), 2223-2241.
7. **Davis, KA**, SJ Lentz, JP Pineda, JT Farrar, VR Starczak, and JH Churchill. (2011) Observations of the thermal environment on Red Sea platform reefs: A heat budget analysis. *Coral Reefs*, 30, 25-36.
6. Magalhaes, JM, IB Araújo, JCB da Silva, RHJ Grimshaw, **KA Davis**, and JP Pineda, (2011) Atmospheric gravity waves in the Red Sea: a new hotspot. *Nonlinear Processes in Geophysics*, 18, 71-79.
5. Monismith, SG, **KA Davis**, GG Shellenbarger, JL Hench, NJ Nidzieko, AE Santoro, MA Reidenbach, JH Rosman, R Holtzman, CS Martens, NL Lindquist, MW Southwell, and A Genin, (2010) Flow effects on benthic grazing on phytoplankton by a Caribbean reef. *Limnology and Oceanography*, 55, 1881-1892.
4. **Davis, KA**, JJ Leichter, JL Hench, SG Monismith. (2008) Effects of western boundary current dynamics on the internal wave field of the Southeast Florida shelf. *Journal of Geophysical Research*, 113, C09010.
3. Paytan, A, GG Shellenbarger, JH Street, ME Gonneea, **KA Davis**, MB Young, and WS Moore. (2006) Submarine groundwater discharge: An important source of new

nutrients to coral reef ecosystems. *Limnology and Oceanography*, 51(1), 343-348.

2. Boehm, AB, A Paytan, GG Shellenbarger, and **KA Davis**. (2006) Composition and flux of groundwater from a California beach aquifer: Implications for nutrient supply to the surf zone. *Continental Shelf Research*, 26, 269-282.
1. Boehm, AB, DG Lluch-Cota, **KA Davis**, CD Winant, and SG Monismith. (2004) Covariation of coastal water temperature and microbial pollution at interannual to tidal periods. *Geophysical Research Letters*, 31(6).

BOOKS & REPORTS

3. Coleman, A, **KA Davis**, *J DeAngelo, T Saltiel, B Saenz, L Miller, K Champion, E Harrison, and A Otwell (2024). *Macroalgae*. In 2023 Billion-Ton Report. M. H. Langholtz (Ed). Oak Ridge, TN: Oak Ridge National Laboratory. doi: 10.23720/BT2023/2316176.
2. Roberson, LM, GS Grebe, IB Arzeno-Soltero*, D Bailey, S Chan, **KA Davis**, CA Goudey, H Kite-Powell, S Lindell, D Manganelli, and M Marty-Rivera. (2024) "Developing Cultivation Systems and Better Management Practices for Caribbean Tropical Seaweeds in US Waters." In *Tropical Phyconomy Coalition Development: Focus on Eucheumatoid Seaweeds* (pp. 121-141). Cham: Springer International Publishing.
1. Churchill, J, **KA Davis**, E Wurgaft, Y Shakhed. (2019) "Environmental Setting for Reef Building in the Red Sea." *Corals Reefs of the Red Sea*. (pp. 11-32) Eds. C Voolstra and M Berumen, Springer, Cham.

COURSES TAUGHT

- ENGRCEE 178/278, Hydraulics of Open Channel Flow. Upper-level undergraduate and first-year graduate students at UC, Irvine. *2013-2022*
- ENGRCEE 277, Fundamentals of Hydrologic Transport. Graduate class at UC, Irvine. *2013-2023*
- ENGRCEE 21, Computational Problem Solving. Required Undergraduate class at UC, Irvine. *2015-2023*
- ENGRCEE 295, Environmental Engineering Seminar, Graduate class at UC Irvine, *Fall 2013/Winter and Spring 2014/Winter 2015/Winter 2016/Winter 2020*

GRADUATE STUDENTS SUPERVISED

- Madolyn Kelm, Ph.D. in Oceans, Stanford and previously Earth System Science at UC Irvine, Fall 2022.
- Jared Brzenski, Ph.D in the Joint UCI-SDCU Ph.D. program in Computational Science, Fall 2020.
- Sarah Merrigan, Ph.D. in Environmental Engineering at UC Irvine, started Fall 2018.
- Shukai Cai, M.S. in Environmental Engineering, graduated in 2017.
- Emma Reid, Ph.D. in Environmental Engineering at UC Irvine, graduated in 2021.
- Aryan Safaie, Ph.D. in Civil Engineering at UC Irvine, graduated in 2021.

POSTDOCTORAL RESEARCHERS SUPERVISED

- Griffin Srednick, 2024 – present.
- Samuel Kastner, 2020-2022.
- Isabella Arzeno-Soltero, 2020-2021.
- Gregory Sinnett, 2019-2021.

- Christina Frieder, 2018-2020.

PROFESSIONAL ASSOCIATIONS

- American Geophysical Union
- American Society of Limnology and Oceanography
- International Society for Reef Studies
- American Physical Society
- American Academy of Environmental Engineers and Scientists

AWARDS AND HONORS

- Samueli School of Engineering Faculty Innovation in Teaching Mid-Career Award, 2020.
- National Science Foundation CAREER Award, 2018
- Elected as Chair of the Gordon Research Conference on Coastal Ocean Dynamics in 2023, June 2017
- Woods Hole Postdoctoral Scholarship, 2009 – 2010
- Achievement Rewards for College Scientists (ARCS) Fellowship, 2007 – 2008
- National Defense Science and Engineering Graduate Fellowship, 2004 – 2007
- John K. Vennard Civil Engineering Fellowship, 2002
- University of Florida Undergraduate Research Scholarship, 1999
- Wentworth Scholarship Award, 1997

GRANTS

15.	Stanford Doerr School of Sustainability GHG Accelerator; "Farming for Blue Carbon: Assessing Seaweed Cultivation for CO2 Removal". Role: Co-I.	$500,000 *2024-2025*
14.	Department of Energy, Advanced Research Projects Agency – Energy (ARPA-E); "SLEUTH: Spectroscopy of Oceanic Liquid Environments Using Towed Optical Sensor Heads". Role: Co-I (Sole PI at Stanford)	$251,918 *2024-2025*
13.	MACMODS Simulations and Analysis for Contribution to the Macroalgae Chapter of the US Department of Energy Billion Ton Report. Role: Sole-PI	$111,260 *2023*
12.	Office of Naval Research; "Refraction and Reflection of Nonlinear Internal Waves from Steep Topography"; #N00014-22-1-2040 Role: Co-I (Sole PI at UCI)	$433,256 *2022-2025*
11.	ClimateWorks Foundation; "Marine Macroalgae Cultivation and Utilization."; Role: Co-I	$123,818 *2021-2022*

10.	Department of Energy, Advanced Research Projects Agency – Energy (ARPA-E); "The Development of Techniques for Tropical Seaweed Cultivation." #DE-AR0000924; Role: Co-I (Sole PI at UCI)	$306,341 *2020-2023*
9.	Department of Energy, Advanced Research Projects Agency – Energy (ARPA-E); "Blue Fields: Open-ocean single point mooring array for high-yield macroalgal culture." #DE-AR0000924; Role: Co-I (Sole PI at UCI)	$630,932 *2020-2025*
8.	Southern California Coastal Ocean Observing System/National Oceanic and Atmospheric Association (NOAA); "Technology demonstration for measuring nutrient fluxes and their role in bloom development in the nearshore region of southern California."; Role: Co-I (Sole PI at UCI)	$36,400 *2019-2020*
7.	National Science Foundation; "Collaborative Research: Physical processes in the formation and breakdown of hypoxia in a tropical bay." #OCE-1924664; Role: Co-I (Sole PI at UCI)	$373,273 *2019-2023*
6.	National Science Foundation; 2018 NSF CAREER Award, "CAREER: A new perspective on the transformation of internal waves on the inner shelf." #OCE-1753317; Role: Sole PI	$682,716 *2018-2023*
5.	Department of Energy, Advanced Research Projects Agency – Energy (ARPA-E); "MacroAlgae Cultivation MODeling System (MACMODS)." #DE-AR000920; Role: Lead PI	$3,265,352 *2017-2025*
4.	National Science Foundation; "National Research Training (NRT): A training incubator for addressing urban environmental change from Ridge to Reef (R2R)."; Role: Co-PI	$2,999,970 *2017-2022*
3.	National Science Foundation, Physical Oceanography Program; "Collaborative Research: Dynamics of Cross-shore Thermally Driven Exchange" #1436254; Role: Lead PI.	$385,508 *2015-2017*
2.	UC Irvine Henry Samueli School of Engineering Interdisciplinary Innovation Initiative (I3); "Coping with climate change: Integrating computational fluid dynamics and ecophysiology to assess poleward range shifts in an equatorward current system."; Role: Co-PI.	$49,975 *2015-2016*
1.	UC Irvine Academic Senate Council on Research, Computing, & Libraries (CORCL) Single Investigator Innovation Grant, #SIIG-2012-13-15; "Intrusions of hypoxic, low-pH water into the Southern CA Coastal Ocean"; Role: Lead PI.	$17,000 *2013-2014*

SERVICE ACTIVITIES

Professional Service

- **Conference Co-Chair** for the 2023 Coastal Ocean Dynamics Gordon Research Conference, elected at June 2017 meeting. Acted as Conference Vice Chair in 2019.

- **Conference Co-Chair** for the 2019 Internal Solitary Waves Experiment (ISWE-2019) in Kaohsiung, Taiwan, April 28-29, 2023.
- **Member of the Executive Committee** for the Southern California Coastal Ocean Observing System (2023-present)
- **Senior Leader** at first MPOWIR Virtual Conference honoring Susan Lozier MPOWIR conference, October 2022.
- **Session Co-Chair** for the "The Inner Shelf: Opening the Black Box Connecting the Coastal Ocean and the Surf Zone." At the 2020 American Geophysical Union Ocean Sciences Meeting.
- **Mentor Group Leader** for MPOWIR (Mentoring Physical Oceanography Women to Increase Retention) for six years (2017-2022) – Lead a 1-hour call per month to mentor physical oceanographers from late graduate school through early career.
- **Mentor for AGU Ocean Sciences Meeting –** Met with three graduate student and postdoctoral mentees assigned to me before, during, and after the 2022 Ocean Sciences Meeting (virtual) to answer questions, reflect on science sessions, discuss mentee presentation/poster, and introduce them to relevant colleagues.
- **Conference Co-Chair** for the Eastern Pacific Ocean Conference, September 2015, at Fallen Leaf Lake, South Lake Tahoe, CA.
- **Conference Co-Chair** for the "Building Partnerships for Ocean Health in Southern California", a conference in the *Toward a Sustainable 21st Century Series*, Arnold & Mabel Beckman Center, May 2015.
- **Session Organizer** Ocean Sciences Meeting 2012; Eastern Pacific Ocean Conference, 2013; Gordon Research Conference on Coastal Ocean Dynamics, 2017; Ocean Sciences Meeting 2018
- **Member of the Board of Governors** for the Southern California Coastal Ocean Observing System (2012-present)
- **Steering Committee Member** for the Ocean Observing Initiative Workshop at the National Science Foundation in January 2016.
- **Technical Reviewer** for scientific manuscripts and proposals in Marine Ecological Progress Series, Ocean Dynamics, Estuarine Coastal and Shelf Science, Estuaries and Coasts, Journal of Physical Oceanography, Limnology and Oceanography, Progress in Oceanography, Journal of Geophysical Research, Geophysical Research Letters, PLOS One, Scientific Reports (Nature), California Sea Grant, NOAA, and NSF.

University Service

- **Faculty Member of the Boating Safety Committee, Stanford** (2024-present)
- **Environmental Engineering Faculty Lead of ABET (Accreditation Board for Engineering and Technology), UC Irvine** (2022-2024)
- **Engineering Faculty Representative on the Academic Senate Council on Equity and Inclusion, UC Irvine** (2021-2024)
- **Faculty Member of the Academic Planning Group Workshop on Reimagining Graduate Education, UC Irvine** (2021-2022)
- **UCI Faculty Chair of the UC Consortium Dive Control Board, UC Irvine** Attend regular meetings to discuss and advise on the required training, planning, and support for researchers conducting SCUBA dive operations in the field. (2021 – 2024)

- **Member of the Advisory Board of the Newkirk Center for Science & Society, UC Irvine.** In this role, I attend board meetings and advise the center on issues of science communication. (2020 – 2024)
- **Faculty Lead of the Anti-Racism Task Force in the Department of Civil & Environmental Engineering, UC Irvine.** (2020 – 2022)
- **Member of the UC Consortium Dive Control Board.** Attend regular meetings to discuss and advise on the required training, planning, and support for researchers conducting SCUBA dive operations in the field. (2019 – 2024)
- **Member of the Executive Committee for the joint UCI-SDCU Ph.D. program in Computational Science, UC Irvine.** Attend executive committee meetings, advise on the overall administration of the program, prepare recommendations regarding program requirements, courses, curriculum, and operation. (2018 – 2023)
- **Member of the Internal Advisory Board and Executive Committee for UC Irvine Engage Initiative**. In this role, I have attended board meetings to advise in the launch of UCI Engage and the establishment of City CORE. (2017 – 2020)
- **Member of the Executive Committee for UCI Oceans Initiative**. In this role, I have helped to create the website, foster integration across UCI, co-host UCI OCEANS-sponsored conferences at the Beckman Center, plan and attend "community" lunches to learn about how to connect academic research to local community partners; meet with local municipalities and stakeholders. (2014 – 2019)
- Advisor for **California Alliance for Minority Participation (CAMP) –** primary advisor to three undergraduate students participating in the program at UC, Irvine to support underrepresented students in the STEM fields.
- **UC Irvine Environmental Engineering Seminar Organizer**, *Fall 2013/Winter and Spring 2014/Winter 2015/Winter 2016/Winter 2017/Winter 2020*
- **UC Irvine Environmental** Engineering **Curriculum Coordinator**, *2013-2014, 2020-2023*

Outreach

- Invited speaker at the **Girls in Ocean Science Teen Conference** at the Ocean Institute in Dana Point, CA, 2018, 2022, and 2023.
- "STEM Superstar" for **Project Scientist** for a STEM summer camp for girls ages 5-12 years old, *2015-2020*
- My students and I led a booth at the 2016 & 2017 **Orange County Children's Water Festivals**, educating 4,000 3rd, 4th, and 5th, grade students about coastal ecosystems
- Conduct Elementary School Teacher Training through the "Watershed Education Program" at the **Ocean Institute** in Dana Point, CA, *2017*
- Supporting continued learning through presentation at the **Osher Lifelong Learning Institute** at UC Irvine in *March 2016*.
- Distinguished Faculty Speaker at 2016 & 2017 **California State Summer School for Math & Science (COSMOS)**