

Alejandra **Sanchez-Rios**
Curriculum Vitae

Assistant Professor
Department of Oceanography, SOEST
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EDUCATION

- Ph.D. College of Earth, Ocean and Atmospheric Sciences, Oregon State University (2019).
B.S. Facultad de Ciencias Marinas, Universidad Autónoma de Baja California, Mexico (2009)

PROFESSIONAL EXPERIENCE

- 2025- Assistant Professor. Department of Oceanography, SOEST, University of Hawai'i at Mānoa
2024-2025 Project Scientist. Scripps Institute of Oceanography, University of California San Diego
2021-2024 Postdoctoral Fellow, Scripps Institute of Oceanography, University of California San Diego
2019-2021 Postdoctoral Researcher, Institute of Oceanography at National Taiwan University

PUBLICATIONS

Peer Reviewed Journal Articles

- 2024 **Sanchez-Rios, A.**, Shearman, R. K., St. Laurent L., Lee L., Lucas A., Ijichi T., Simmons, H. L., and Sen Jan. Characterization of mixing at the edge of a Kuroshio intrusion into the South China Sea: analysis of thermal variance diffusivity measurements, *Journal of Physical Oceanography*, 54:5, 1121-1142
- 2023 Ballard, M., J. D. Sagers, P.-M. Poulain, J. MacKinnon, A. J. Lucas, and **A. Sanchez-Rios** Out-of-plane arrivals recorded by surface drifters during the Northern Ocean Rapid Surface Evolution experiment. *The Journal of the Acoustical Society of America*, 153, A217.
- Sanchez-Rios, A.**, Truong T.B., Wong-Ala, J.A.T.K., McCracken, M., and Treviño-Peña, M., Unpacking Diversity: a Grassroots Initiative and its Institutional Evolution, *Oceanography*, 36, 152-157

- 2020 **Sanchez-Rios, A.**, Shearman, R. K., Klymak, J., D'Asaro, E., & Lee, C. (2020). Observations of cross-frontal exchange associated with submesoscale features along the North Wall of the Gulf Stream. *Deep Sea Research Part I: Oceanographic Research Papers*, 163, 103342.

Submitted

- 2025 Ballard, M., **Sanchez-Rios, A.**, Taylor, R., Duda, T., Farrar, T., Simmons, H., Sagers, J., MacKinnon, J., Lucas, A., Johnson, L., Brakstad, A. and Fer, I. Hydrographic structure of the upper ocean in the central Nordic Seas and implications for acoustic propagation. *Submitted to Journal of Geophysical Research*
- 2025 Hilditch, J., Bergentz, K., Northcott, D., Dias Luko, C., Cohanin, K., Schlichting, D., **Sanchez-Rios A.**, Weiss, K., Hetland R., Mackinnon, J., Nash, J., Shearman, K., and Thomas, L. Observations of subduction, downward heat flux and dense filament collapse in the northern Gulf of Mexico. *Submitted to Journal of Geophysical Research*
- 2025 Dias Luko, Mackinnon, K., Waterhouse, A., Schlichting, D., Hetland, R., **Sanchez-Rios A.**, Moulin, A., Thomas, L., Shearman, K., Nash, J. and Taylor, J. Heat convergence at submesoscale salinity fronts boosts sea surface temperature, air-sea heat fluxes and downward heat transport *Submitted to Nature Communications*.

Opinion Article

- 2021 Cheng, S. J., Zaringhalam, M., Carvalho, A. P. S., Barnes, R. T., Goldman, G., Simonis, J. L., et al. (2021). *Moving Scientific Publishing toward Social Justice*. Washington, DC: Times Higher Education.

In Preparation

Sanchez-Rios, A., Chen S., Chang J., and Kida S. Ambient Circulation Driven by Entrainment Coastal Currents: Linkage to Arrested Topographic Wave, *Manuscript in preparation, copy upon request*

Sanchez-Rios, A., Rainville, L., Mackinnon, J., Ruiz-Angulo, A., Brenner, S. and Crews L., Understanding T-S structure evolution across ocean fronts: Observations of the Norwegian Atlantic Front Current Along the Mohn Ridge. *Manuscript in preparation*

FELLOWSHIP AND AWARDS

- 2021 Chancellor's Postdoctoral Fellowship at UC San Diego
 2018 Clara L. Simerville Award
 2018 OSU AYA award
 2015 CEOAS Outstanding Service to the College Award
 2014 Women's Center Student Leader Award
 2011 Diversity Advancement Pipeline Fellowship

PRESENTATIONS

Invited Talks

- 2025 "Exploring T-S Variability and Its Impact on Sound Propagation in the Jan Mayen Channel: Insights from the NORSE campaign". *Departmental seminar, CEOAS, Oregon State University, June 3*
- 2023 "Analysis of regional and global patterns of upper ocean spice and implications for acoustics". *Departmental seminar, Stennis US Naval Research Laboratory, July 26*
- 2023 Analysis of regional and global patterns of upper ocean spice and implications for acoustics *Departmental seminar, Woods Hole, February 25*
- 2022 The impact of freshwater outflow on shelf circulation. *Banse Early Career Scientist Seminar Series, University of Washington, Seattle, January 26*
- 2021 Procesos de Mezcla en Frentes Oceánicos: Su Impacto en la Variabilidad Termohalina y la Circulación Local. *Red de Investigadorxs en oceanografía Física., Mexico City, November 9.*
- 2020 Mixing at the Edge of the Kuroshio Branch Current in the South China Sea, *University of Alaska Fairbanks. January 28.*
- 2020 Latinx Activism and Advocacy in Earth and Planetary Sciences, *Stanford Earth panel discussion. October 14*
- 2019 Mixing at the Edge of a Kuroshio Intrusion into the South China Sea, *National Cheng Kung University. April 10*
- 2018 Mixing Characterization at the Edge of the Kuroshio Branch Current, *University of Washington. January 20*

Recent Conference Activity

- 2024 **Sanchez-Rios A. J.** MacKinnon, J. Nash, R. K. Shearman, J. Taylor, L Thomas, F. Hsu and J. Hilditch, Acoustic signals in the Nordic Sea., *Ocean Sciences, New Orleans USA, Feb 11-15*
- 2023 **Sanchez-Rios A. J.** MacKinnon, J. Nash, R. K. Shearman, J. Taylor, L Thomas, F. Hsu and J. Hilditch, What is the Turbulent Dissipation Signature of Subducted Warm Surface Water? *Warnemünde Turbulence Days, Rostock, Germany, Sept 18-21,*
- 2022 **Sanchez-Rios A.,** Savage, A., Rainville, L., Mackinnon, J., Ruiz-Angulo, A., Brenner, S. and Crews L. Understanding T-S structure evolution across ocean fronts: Observations of the Norwegian Atlantic Front Current Along the Mohn Ridge. *Ocean Sciences. Honolulu, HI, USA, Feb 24- Mar 4*

- 2020 **Sanchez-Rios A.**, Chen S., Chang J., and Kida S. Ambient Water Circulation Near a River Discharge: Investigating the Formation of a Topographic β -Plume. *Ocean Sciences. San Diego CA, USA, Feb 11-15*
- 2020 **Sanchez-Rios A**, McCracken M., Treviño-Peña M., Waite J., Chan A, Truong T. B., Wong Ala J. A. T. K., and Cosgrove C . Creating Spaces to Unpack Diversity in Physical Sciences: The CEOAS of a Professional Learning Community. *Ocean Sciences. San Diego CA, USA, Feb 12-15*

RESEARCH EXPERIENCE

- 2011- 2019 Graduate research assistant, Oregon State University| Investigated lateral and vertical mixing of heat, salt and energy across ocean fronts using high resolution measurements. Assisted in piloting Autonomous Underwater Vehicles
- 2010 Summer student fellow, Woods Hole Oceanographic Institute| Investigated physical processes affecting Diamond Shoal evolution, NC., in a 12 week summer intern- ship. Advisor: John Warner.
- 2008-2009 Summer student intern, University of California Santa Barbara, Assisted in measuring methane oxidation rates and ADCP data analysis. After summer 2008 Internship program, invited back to work for summer 2009

FIELD EXPERIENCE

- 2024 R/V Thompson, Watch leader, Bay of Bengal, EKAMSAT ONR project
- 2023 R/V Kronprins Haakon, Science Crew, Norway sea, NORSE ONR project
- 2022 R/V Alliance, Science Crew, Norway sea, NORSE ONR project
- 2022 R/V Pelican, Co-Chief Scientist, Louisiana Shelf, SUNRISE NSF project
- 2021 R/V Neil Armstrong, Science Crew, Norway sea, NORSE ONR project
- 2021 R/V Pelican, Science Crew, Louisiana Shelf, SUNRISE NSF project
- 2018 R/V Sally Ride, Science Crew, California Coast, Casper ONR project
- 2017 R/V Roger Revelle, Science Crew, South China Sea, ONR grant,
- 2015 R/V Atlantic Explorer, Science Crew, Virginia Coast, Casper ONR project
- 2014 R/V Oceanus, Principal Investigator, Oregon Coast, student led cruise
- 2014 R/V Knorr, Science crew, Virginia Coast, Casper ONR project
- 2010 B/O Justo Sierra, technician, Gulf of Mexico, CONACYT funded
- 2009 R/B Atlantis, Undergraduate Volunteer, Santa Barbara Channel.

TEACHING EXPERIENCE

Teaching Appointment

Advance Mathematics | University of Hawai'i Mānoa, fall 2025, Undergraduate.
Introduction to Linear Algebra | Universidad Autónoma de Baja California, Winter 2009, spring 2010

Teaching Assistant

Polar Oceanography | Oregon State University, winter 2019, winter 2018, Undergraduate.
Fluid Earth | Oregon State University, fall 2019, Graduate
Introduction to Field Oceanography | Oregon State University, winter 2018, included 2-day cruise. Undergraduate
Math on the Beach | Oregon State University, summer 2012, Intensive 2-week math review, Graduate

Workshop Facilitator

Towards Inclusive Mentorship | Gordon Research Conference, Ocean Mixing, Jun 4, 2022
Navigating the Grad School Experience: Factoring in Social and Cultural Capital | Oregon State University, Spring 2018

COMMUNITY INVOLVEMENT

Leader, GeoLatinas Community, 2019- present
Mentor, Cientifico Latino Graduate School Mentorship Initiative, 2019- present
Co-Founder, Unpacking Diversity Discussion Series, 2018- 2024
Mentor and facilitator, Ocean Ambassador project, 2021-2023
Facilitator, STEMWow Summer Camp for middle school students, University of San Diego, summer 2018, and summer 2018.
Attendee, Social Justice Education Initiative, series of workshops from 2017-2019
Graduate Mentor, CEOAS Undergraduate Mentorship program, 2017-2019
Conference Abstract Reviewer, Society for Advancement of Chicanos/Hispanics and Native Americans in Science, 2019-2020

PROFESSIONAL SERVICE

Graduate Student Representative, Dean Search Committee, 2017

Steering Committee member, Women in Marine Sciences, 2016-2017

Graduate student representative, CEOAS Diversity Committee, 2015-2017

Chair, Graduate Students Committee, 2014

Volunteer exhibitor, OMSI Oceans After Dark, community event in science museum, 2017

PROFESSIONAL ASSOCIATIONS

American Geophysical Union, since 2011

GeoLatinas Unidas, since 2019

Mentoring physical Oceanography Women to Increase Retention, since 2016

Society for Advancement of Chicanos/Hispanics and Native Americans in Science, Since 2012

OTHER PROFESSIONAL EXPERIENCE

Translator Science Consultant, Squidbook, 2020-present

LANGUAGES

Spanish: Advanced reading, writing, speaking

English: Advanced reading, writing, speaking