Sara Jean **Reinelt**

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Research Interests

Sea Level Variability, Heat Storage, Global Ocean Circulation, CO_2 Flux, Southern Ocean Dynamics, Polar Oceanography, Climate Change.

Education

PhD in Marine Science — *Fall 2022 - Present*
University of South Florida — *St. Petersburg, FL*
Advisor: Dr. Don Chambers
Concentration: Physical Oceanography

Post-Baccalaureate Student — *2021*
California State University at Long Beach — *Long Beach, CA*
Major: Physics

Associate Degree — *2008, 2021*
Saddleback College — *Mission Viejo, CA*
Majors: Physics (Associate of Science) and Mathematics (Associate of Science): 2021
Major: Psychology (Associate of Arts): 2008

Bachelor of Science — *2011*
California State University at Fresno — *Fresno, CA*
Major: Enology; **Minor:** Chemistry
Study Abroad: Intensive 4-week oenology program with L'Ecole d'Ingénieurs de Changins (EIC) in Switzerland: 2010

Research Experience

Graduate Research Assistant — *June 2022 - Present*
University of South Florida — *St. Petersburg, FL*
Advisor: Dr. Don Chambers
Examining steric sea level and heat storage fluctuations over time by using Argo float data, satellite altimetry, and GRACE/GRACE-FO. Developed python-based program to match Argo data collection location with location on climatology map and calculate integrated steric sea level anomalies.

Undergraduate Research Assistant — *September 2021 - December 2021*
Shark Lab, California State University at Long Beach — *Long Beach, CA*
Advisor: Dr. Chris Lowe
Visualized and analyzed sonde data collected via AUV using python. Primarily focused on examining temperature, salinity, chlorophyll, and dissolved oxygen in relation to juvenile white shark movements.

Research Experience for Undergraduates (REU) — *June 2021 - August 2021*
Research Internship in Ocean Sciences (RIOS) at Rutgers University — *New Brunswick, NJ*
Advisor: Dr. Elisabeth Sikes
Increased stable isotope resolution in a sediment core from the Southern Ocean, created age model based on δ^{18}O analysis using stratigraphy, analyzed δ^{13}C in three cores to aid in pinpointing circulation changes and frontal changes since the last deglaciation.

Undergraduate Research Assistant — *August 2020 - May 2021*
Institute of Arctic and Alpine Research, University of Colorado Boulder — *Boulder, CO (Remote)*
Advisors: Drs. Alexandra Jahn and Hannah Zanowski
Analyzed new climate model simulation focusing on deglacial evolution of AMOC and created figures to be used on informational website using Python.

Robotics Team Member: Science Sub-Team — *August 2020 - June 2021*
Saddleback College — *Mission Viejo, CA*
Advisors: Drs. Tony Huntley, James Repka, and Mitchell Haeri
Aided in development and implementation of science package to be added to a Mars Rover for the University Rover Challenge, administered by The Mars Society.

Course-Based Research Experience — *Spring 2020*
Saddleback College — *Mission Viejo, CA*
Advisor: Dr. Tony Huntley
Research project examining COVID-19 infection and fatality rates by sex.

Other Relevant Technical Skills

Computational and Miscellaneous: Python programming language, LaTex, Mathematica, Microsoft Office, SCUBA certified.

Awards and Honors

2022 **Von Rosenstiel Endowed Fellowship Recipient** *$26,000/yr*
University of South Florida for 1 year

2021 **First Place STEM Poster** Infection Rate and Fatality Rate in Males vs. Females Due to COVID-19 in NYC
University of California Irvine Student Research Conference

2021 **STEM Program Award** Naval Horizons
Administered by the *American Society for Engineering Education*

Deans List Saddleback College - Spring 2021, Fall 2020, Spring 2020, Fall 2019; CSULB - Fall 2021

Conference Presentations

S. J. Reinelt, D. P. Chambers: Mapping steric sea level from satellite altimetry, GRACE/GRACE-FO, and Argo. Poster presentation at the Ocean Sciences Meeting. **February 2024 (planned)**.

S. J. Reinelt, D. P. Chambers: Mapping steric sea level from satellite altimetry, GRACE/GRACE-FO, and Argo. Oral presentation at the Ocean Surface topography Meeting. **November 2023 (planned)**.

S. J. Reinelt, E. L. Sikes, R. Glaubke, and R. Minor: Pinpointing circulation changes with δ^{18}O and δ^{13}C since the last glaciation in a core from the Indian Sector of the Southern Ocean. Oral Presentation at the Ocean Sciences Meeting. **March 2022**.

S. J. Reinelt, E. L. Sikes: Pinpointing circulation changes with δ^{18}O and δ^{13}C since the last glaciation in a core from the Indian Sector of the Southern Ocean. Poster Presentation at the end of program Rutgers RIOS REU poster presentation and session, Rutgers University. **August 2021**.

S. J. Reinelt: Meltwater Impacts AMOC Evolution During the Last Deglaciation. Oral presentation at the 2021 Earth System and Space Science Conference, CU Boulder. **March 2021**.

S. J. Reinelt: Infection Rate and Fatality Rate in Males vs. Females Due to COVID-19 in New York, New York. Oral and Poster presentation at the UCI Student Research Conference, University of California Irvine, **March 2021**.

S. J. Reinelt, Thomas A, and Bearup M: Infection Rate and Fatality Rate in Males vs. Females Due to COVID-19 in New York, New York. Poster presentation at the Saddleback College 2020 Spring Undergraduate Research Conference, Saddleback College, **May 2020**

Outreach

Letters to a Pre-Scientist *September 2022 - April 2023*

PenPal program pairing young students with STEM professionals to help demystify and encourage careers in STEM.

Project AWARE / Dive Against Debris *2019, 2022*

2019: Deerfield Beach Pier, FL. Guinness Book of World Record Largest Underwater Cleanup in History.
2022: Johns Pass Marina, FL.

Relevant Coursework

Physics: 3 courses in General Physics (Calculus-based): Intro to Classical Mechanics of Solids & Fluids; Intro to Thermodynamics, Light, & Modern Physics; Intro to Classical Electromagnetism. Thermodynamics. Analytic Mechanics. Physics w/ Symbolic Algebra Software.

Chemistry: General Chemistry I and II. Elementary Organic Chemistry. General Biochemistry. Quantitative Analysis.

Mathematics: Calculus I, II, III (multivariate). Introduction to Statistics. Introduction to Linear Algebra. Elementary Differential Equations. Ordinary Differential Equations.

Other: Introduction to Physical Geology. Programming with Python. General Biology I. Data Analysis Methods.

Oceanography: Introduction to Oceanography. Physical Oceanography. Biological Oceanography. Geological Oceanography. Fluid Dynamics. Geophysical Fluid Dynamics (Fall 2023). Chemical Oceanography (Fall 2023).

Professional Experience

Staff Brewer *June 2018 - October 2019*
The Bruery *Placentia, CA*

Recipe creation and wort production. Cold side production. Implementation of *Pink Boots Society* collaboration in benefit of women in beer industry.

Lead Brewer *December 2016 - June 2018*

Barebottle Brewing Company *San Francisco, CA*

Recipe creation and wort production. Substituted for head brewer for 1˜month. Inventory and ordering. Brew scheduling based on inventory and expected sales. Managed and trained two assistant brewers. Implementation of *Pink Boots Society* collaboration in benefit of women in beer industry.

Assistant Brewer *March 2016 - September 2016*

State Brewing Company *Gardena, CA*

Vintage Vineyard Assistant and Winemaker *April 2015 - October 2015*

Csányi Pincészet *Villány, Hungary*

Vintage Enologist *August 2014 – October 2014*

Foxen Vineyard and Winery *Santa Maria, CA*

Vintage Enologist *January 2014 - May 2014*

Kooyong Winery *Mornington Peninsula, Australia*

Winemaking Intern *September 2013 - November 2013*

Medlock Ames Winery *Healdsburg, CA*

Enologist *January 2012 - July 2013*

The Wine Group (TWG) *California and Australia*

Managed wine production, storage, and bottling for three wineries in California and two in Australia. Substituted for Senior Winemaker for three months.

Winemaking Intern *July 2011 - December 2011*

The Wine Group (TWG) *Fresno, CA*

Managed various wine production operations. Made all decisions for the production of 1.2 million gallons of cabernet sauvignon.

Memberships and Affiliations

2022 - Present	**Member**, American Geophysical Union (AGU)
2021	**Member**, Society of Physics Students, CSU Long Beach
2021	**Member**, Women in Physics, CSU Long Beach
2021 - Present	**Member**, European Geosciences Union (EGU)
2020 - Present	**Member**, Phi Theta Kappa International Honor Society
2020 - Present	**Member**, Alpha Gamma Sigma Honor Society
2020 - 2022	**Member**, Science Sub-Team, Saddleback College Robotics Team
2020 - Present	**Member**, Association of Polar Early Career Scientists (APECS)
2019 - Present	**Member**, The Oceanography Society (TOS)
2019 - Present	**Member**, American Physical Society (APS)
2017 - 2019	**Member**, Pink Boots Society
2010 - 2015	**Member**, American Society of Enology and Viticulture (ASEV)
2010 - 2011	**Project Director**, California Association of Viticulture and Enology Scholars, CSU Fresno
2009 - 2011	**Member**, Enology Society, CSU Fresno
2009 - 2011	**Member**, Viticulture Club, CSU Fresno
2007 - 2008	**Vice President**, Psi Beta Honor Society, Saddleback College