

# CHRISTINA M. RICHARDSON

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## EDUCATION

2016-present Ph.D. candidate, Earth Sciences, University of California at Santa Cruz  
2014-2016 M.S., Geology and Geophysics, University of Hawai'i at Manoa  
2010-2012 B.S., Marine Biology, University of California at Santa Cruz

## PROFESSIONAL EXPERIENCE

2016-present Graduate Research Assistant, University of California at Santa Cruz  
2014-2016 Graduate Research Assistant, University of Hawai'i at Manoa  
2012-2014 Junior Research Technician, United States Geological Survey  
2011-2012 Undergraduate Researcher, University of California at Santa Cruz

## HONORS, AWARDS, AND GRANTS

2018 2<sup>nd</sup> Place, Student Poster Presentation, 2018 Bay-Delta Conference  
2018 Student Research Grant, International Association of Geochemistry  
2018 Student Research Grant, Geological Society of America  
2018 Future Leaders in Coastal Science Award, University of California at Santa Cruz  
2018 Graduate Research Internship Program, National Science Foundation  
2017 Robert L. Wiegel Scholarship for Coastal Studies, San Diego Foundation  
2017 Early Career Award, National Geographic Society  
2017 J. Casey Moore Award, University of California at Santa Cruz  
2017 Myers Oceanographic and Marine Biology Trust Award  
2017 Hydrogeology Division Specialized Award, Geological Society of America  
2017 Travel Grant, Geological Society of America  
2017 Graduate Research Internship Program, National Science Foundation  
2016 Regents Fellowship, University of California at Santa Cruz  
2015 Harold T. Stearns Grant, University of Hawai'i at Manoa  
2014 Graduate Research Fellowship Program, National Science Foundation  
2011 Research Experience for Undergraduates, National Science Foundation

## PEER-REVIEWED PUBLICATIONS

(4) Richardson, C., Dulai, H., Popp, B., Ruttenberg, K., and J. Fackrell. 2017. Submarine groundwater discharge drives biogeochemistry in two Hawaiian reefs. Limnology and Oceanography, <http://dx.doi.org/10.1002/lno.10654>

(3) Richardson, C., Dulaiova, H., and R. Whittier. 2015. Sources and spatial variability of groundwater-delivered nutrients in Maunalua Bay, Oahu, Hawai'i. Journal of Hydrology: Regional Studies, <http://dx.doi.org/10.1016/j.ejrh.2015.11.006>

(2) Nelson, C., Donahue, M., Dulaiova, H., Goldberg, S., La Valle, F., Lubarsky, K., Richardson, C., Silbiger, N., and F. Thomas. 2015. Fluorescent dissolved organic matter as a multivariate biogeochemical tracer of submarine groundwater discharge in coral reef ecosystems. *Marine Chemistry*, <http://dx.doi.org/10.1016/j.marchem.2015.06.026>

(1) Johnson, C., Swarzenski, P., Richardson, C., Smith, C., Kroeger, K., and P. Ganguli. 2013. Ground-truthing electrical resistivity methods in support of submarine groundwater discharge studies: Examples from Hawai'i, Washington, and California. *Journal of Environmental and Engineering Geophysics*, <http://dx.doi.org/10.2113/jeeeg20.1.81>

## **MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS**

2017-present Association for the Sciences of Limnology and Oceanography  
2016-present Geological Society of America  
2013-present American Geophysical Union

## **MENTORING ACTIVITIES**

2017-present Undergraduate Research Mentor, Carolyn Brady  
2017-2018 Undergraduate Research Mentor, Kaylee Glenney

## **OUTREACH ACTIVITIES**

2019 (+2013, 2018) Santa Cruz County Science Fair Judge at Westlake Elementary, Santa Cruz, CA

2018 (+2016, 2017) Led hands-on STEM activities for K-12 students at Expanding Your Horizons, Salinas, CA

2016 (+2015) Designed and led water pollution outreach activities at Bishop Museum's free public "Science Alive!" event, Honolulu, HI

2015 Designed and led a two-day water pollution outreach activity for K-12 students at the University of Hawai'i's Biennial Science Open House, Honolulu, HI

2012 Led public water quality monitoring event, Snapshot Day, as an intern at the Coastal Watershed Council, Santa Cruz, CA

2011 Volunteer trip leader and whitewater raft guide for at-risk youth, American River, Coloma, CA

2010 Assisted in capture and transport of local marine mammals at the Marine Mammal Rescue Center, Moss Landing, CA

## **SELECT PRESENTATIONS AND CONFERENCE PROCEEDINGS (\*mentee)**

Richardson, C., Fackrell, J., and A. Paytan. Sources and magnitude of lateral C losses from drained peatlands. ASLO 2019. Feb. 24-28, 2019.

Fackrell, J., Richardson, C., A. Paytan, C. Kendall, and T. Kraus. Stable isotope values of C, N, P, and S compounds in treated wastewater effluent from facilities of varying capacities and treatment practices. ASLO 2019. Feb. 24-28, 2019.

Serrano, A., Richardson, C., and A. Fisher. Leaching of redox sensitive elements from vadose zone sediments. UC Water Conference. Oct. 24-27, 2018.

\*Brady, C., Richardson, C., Fackrell, J., and A. Paytan. Dissolved N species concentrations in agricultural drainage in the Sacramento-San Joaquin Delta. Biennial Bay-Delta Science Conference, Sept. 9-12, 2018.

\*Glenney, K., Richardson, C., Fackrell, J., and A. Paytan. Variability in dissolved inorganic and organic C concentrations in agricultural drainage in the Sacramento-San Joaquin Delta. Biennial Bay-Delta Science Conference, Sept. 9-12, 2018.

Richardson, C., Fackrell, J., and A. Paytan. Characterization of redox sensitive elements in agricultural drainage in the Sacramento-San Joaquin Delta. Biennial Bay-Delta Science Conference, Sept. 9-12, 2018.

Richardson, C., Dulai, H., and R. Whittier. A multi-proxy approach for determining the sources and spatial variability of groundwater-delivered nutrients. AGU Fall Meeting (H11F-1414). Dec. 14-18, 2015.

Richardson, C., Dulai, H., and R. Whittier. Wastewater's role in coastal nutrient loading: Maunalua Bay, O'ahu. Water Resource Sustainability Issues on Tropical Islands Conference. Dec. 1-3, 2015.

Richardson, C. Nutrient sources and spatial variability in Maunalua Bay, O'ahu. University of Hawai'i Sea Grant, Hanauma Bay Education Program. Nov. 22, 2015.

Nelson, C., Donahue, M., Dulaiova, H., Goldberg, S., La Valle, F., Lubarsky, K., Miyano, J., Richardson, C., Silbiger, N., Thomas, F. Developing fDOM as an efficient method of tracking contaminated groundwater in coastal reef ecosystems. 2015 Pacific Islands Climate Science Symposium. Feb. 26 – 27, 2015.

Ganguli, P., Swarzenski, P., Dimova, N., Merckling, J., Kehrlin, N., Hohn, R., Richardson, C., Johnson, C., Fisher, A., Lamborg, C., and R. Flegal. The dynamics of mercury speciation and transport at a central California coastal lagoon. AGU Fall Meeting (OS51F-06). Dec. 15-19, 2014.

Richardson, C. Exploring groundwater's connection to coastal ecosystems: Maunalua Bay, O'ahu, Hawai'i. University of Hawai'i Sea Grant, Hanauma Bay Education Program. Nov. 30, 2014.

Richardson, C., Swarzenski, P., and C. Johnson. Quantifying groundwater exchange rates in a beach barrier lagoon using a radioisotopic tracer and geophysical methods. AGU Fall Meeting (H41F-1308). Dec. 9-13, 2013.

Lurz, I., Ganguli, P., Swarzenski, P., Richardson, C., Merckling, J., Johnson C., Hibdon, S., and R. Flegal. Assessing geochemical controls on mercury transformations and transport at a coastal lagoon site. SACNAS, Strengthening the Nation Through Diversity, Innovation and Leadership in STEM. Oct. 3-6, 2013.

Richardson, C., and P. Swarzenski. On the physics of groundwater exchange in a beach barrier lagoon system: Younger Lagoon, Santa Cruz, CA. NIWR Annual Conference: Sustaining Water Resources and Ecological Functions in Changing Environments. June 11-14, 2013.

## **NEWS AND OTHER MEDIA**

2018 [National Geographic Explorer profile.](#)

2018 State of Hawai'i, Department of Health, "[Report to the 29<sup>th</sup> Legislature Relating to Cesspools and Prioritization for Replacement](#)".

2016 University of Hawai'i Sea Grant, Ka Pili Kai, "[Wastewater's influence on coastal groundwater quality and the health of coral reefs in Maunalua Bay, O'ahu](#)".

2015 Honolulu Civil Beat and Environment Hawai'i, "[DOH, UH studies find growing evidence of cesspool impacts to coast, potable wells](#)".

2015 State of Hawai'i, Department of Health, Presentation on "[Proposed Amendments to Chapter 11-62 Wastewater Systems Rules](#)".

2014 National Science Foundation Graduate Research Fellowship Program, "[From source to sea: my pathway to graduate school](#)".

## **EXTRACURRICULAR CERTIFICATIONS**

2014-present	Emergency Medical Technician, National Registry of EMTs (#E3137569)
2014-present	Basic Life Support for Healthcare Professionals, AHA
2012	River Rescue Certification, Sierra Rescue International
2011	Open Water Diver, Professional Association of Diving Instructors