

# Dr. Ryan Guillemette

Postdoctoral Scientist  
Biology Department  
Southern California Coastal Water Research Project

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## Education

Ph.D., marine biology, University of California, San Diego, 2018

B.S., biology and ecology, University of Maine, 2009

## Professional Experience

Joint Postdoctoral Scientist, Southern California Coastal Water Research Project. Costa Mesa, CA. 2023-present

Postdoctoral Researcher, United States Environmental Protection Agency, Hatfield Marine Science Center. Newport, OR. 2020-2023.

Postdoctoral Researcher, Massachusetts Institute of Technology. Cambridge, MA. 2019-2020.

## Honors and Awards

Director's Recognition Team Award, Diversity, Equity, & Inclusion, United States Environmental Protection Agency. 2022

Pathfinder Innovation Project Award, United States Environmental Protection Agency, Detecting rain deposition of viable and potentially harmful airborne-bacteria (competitive, agency-wide). 2020

Cold Spring Harbor Laboratory's Advanced Bacterial Genetics course, National Science Foundation Scholarship. 2017

# Selected Presentations and Conference Proceedings

Guillemette, R. 2022. Considerations for the Release of Genetically Engineered Bacteria in the Ocean. Pacific Ecological Systems Division Seminar Series, United States EPA.

Guillemette, R. 2022. Applied methods for microbial water quality of rainwater and its implications for rain harvesting. United States EPA Water Reuse Team. Via webinar.

Guillemette, R. 2021. Microbial water quality of freshly collected rainwater and its implications for rainwater harvesting. Hatfield Research Seminar Series, Newport, OR.

Guillemette, R., T. Samo, X. Mayali, and F. Azam. 2017. *Vibrio cholerae* predation on marine bacteria. ASM Conference on *Vibrio: The Biology of Vibrio*, Chicago, IL.

Guillemette, R., ..., F. Azam. 2017. Bacterioplankton drawdown of coral-mass spawn organic matter off Bocas del Toro, Panama. San Diego Coral Club, San Diego, CA.

Guillemette, R. 2017. Microbe and nutrient transport via rain. San Diego Microbiology Group, the University of California San Diego, La Jolla, CA.

Guillemette, R., ..., F. Azam. 2016. Heterotrophic bacteria contribute to rapid turnover of coral mass spawn organic matter. ISME16 Conference, Montreal, Canada.

## Journal Articles

Guillemette, R., M.C., Harwell, and C.A. Brown. 2023. Metabolically active bacteria detected with click chemistry in low organic matter rainwater. *Plos one* 18(5).

<https://doi.org/10.1371/journal.pone.0285816>

Patel, N., R. Guillemette, R. Lal, and F. Azam. 2022. Bacterial surface interactions with organic colloidal particles: Nanoscale hotspots of organic matter in the ocean. *Plos one* 17(8).

<https://doi.org/10.1371/journal.pone.0272329>

Zhou, Y., R. Guillemette, F. Malfatti, T. Zheng, X. Mao, X. Zhu, M. Medina, and F. Azam. 2021. Ectohydrolytic enzyme activities of bacteria associated with *Orbicella annularis* coral. *Coral Reefs* 40, 1899–1913. <https://doi.org/10.1007/s00338-021-02188-6>

Guillemette, R., B. Ushijima, M. Jalan, C.C. Håase and F. Azam. 2020. Insight into the resilience

and susceptibility of marine bacteria to T6SS attack by *Vibrio cholerae* and *Vibrio coralliilyticus*. *PloS one* 15(1). <https://doi.org/10.1371/journal.pone.0227864>

Yamada, Y., R. Guillemette, A.C. Baudoux, N. Patel, and F. Azam. 2020. Viral attachment to biotic and abiotic surfaces in seawater. *Applied and Environmental Microbiology* 86 (3). <https://doi.org/10.1128/AEM.01687-19>

Guillemette, R., R. Kaneko, J. Banton, J. Tan, M. Witt, S. Hamilton, E.E. Allen, M. Medina, K. Hamasaki, B.P. Koch, and F. Azam. 2018. Bacterioplankton drawdown of coral mass-spawned organic matter. *The ISME journal* 12 (9), 2238-2251.

Guillemette, R. 2018. Mechanisms in bacterial utilization of cellular debris in the ocean. University of California, San Diego. ProQuest Dissertations Publishing.

Nakajima, R., Y. Tanaka, R. Guillemette, and H. Kurihara. 2017. Effects of coral-derived organic matter on the growth of bacterioplankton and heterotrophic nanoflagellates. *Coral Reefs* 36, 1171-1179

Mitulla, M., J. Dinasquet, R. Guillemette, M. Simon, F. Azam, and M. Wietz. 2016. Response of bacterial communities from California coastal waters to alginate particles and an alginolytic *Alteromonas macleodii* strain. *Environmental microbiology* 18 (12), 4369-4377

Gong, M., J. Ma, R. Guillemette, M. Zhou, Y. Yang, Y. Yang, J.M. Hock, and X. Yu. 2014. miR-335 inhibits small cell lung cancer bone metastases via IGF-IR and RANKL pathways. *Molecular Cancer Research* 12 (1), 101-110

Alyokhin, A., R. Guillemette, and R. Choban. 2009. Stimulatory and suppressive effects of novaluron on the Colorado potato beetle reproduction. *Journal of economic entomology* 102 (6), 2078-2083