Dr. Kylie Langlois

Senior Research Technician
Biology Department
Southern California Coastal Water Research Project

Education:

Ph.D., biological oceanography, School of Marine and Atmospheric Sciences, Stony Brook University, 2020

B.A., biology, College of Creative Studies University of California, Santa Barbara, 2012

Professional Experience:

Senior Research Technician, Southern California Coastal Water Research Project, 2021-present

Research Assistant, School of Marine and Atmospheric Sciences, Stony Brook University, 2015-2020

Teaching Assistant, School of Marine and Atmospheric Sciences, Stony Brook University, 2014-2015

Honors and Awards:

Maze-Landeau Travel Award, Maze-Landeau Graduate Student Fund for Excellence, 2020. School of Marine and Atmospheric Sciences, Stony Brook University, NY., 2020
Science Training & Research to Inform DEcisions (STRIDE) Fellowship, 2018. National Science Foundation award #1633299, Stony Brook University, NY.
Maze-Landeau Travel Award, Maze-Landeau Graduate Student Fund for Excellence, 2018. School of Marine and Atmospheric Sciences, Stony Brook University, NY.
Science Training & Research to Inform DEcisions (STRIDE) Fellowship, 2017. National Science Foundation award #1633299, Stony Brook University, NY.

Selected Presentations and Conference Proceedings

K. Langlois, J. Tupitza, D. Gillett, S. Theroux. 2024. Harnessing nontarget amplification to identity microbial biological indicators in marine sediment. Society for Industrial Microbiology and Biotechnology, Connecting Microbiome Communities, November 3-6, 2024, San Diego, CA (poster).

J.A. Steele, K. Langlois, K.C. Schiff, J.F. Griffith. 2023. Application of a microbial community sequencing approach to identify contamination from sewers in an urban watershed. American Microbial Society, Microbe 2023, June 15-19, 2023.

J. Smith, D. Shults, K. Langlois, E. Duncan, S. Theroux. 2022. Molecular approaches to identify and monitor toxigenic cyanobacteria in California lakes. CABW and Cal-SFS Meeting, California-EPA, October 11-12, 2022, oral.

K. Langlois, J.L. Collier. 2021. Characterization and ecology of nitrogen-removing on-site wastewater treatment system microbial communities. American Society for Microbiology, World Microbe Forum, June 20-24, 2021, virtual (iPoster).

K. Langlois, J.L. Collier. 2021. Microbial community colonization and assembly in a wastewater treatment sand biofilter. Ecological Society of America, Vital Connections in Ecology, August 2-6, 2021, virtual (oral).

K. Langlois*, M. Wang, X. Mao., J.L. Collie, 2020. Opening the microbial “black-box” of wastewater treatment. New York State Center for Clean Water Technology seminar series. August 3, 2020 (oral presentation, virtual) https://www.stonybrook.edu/cleanwater/seminar

K. Langlois*, J.L. Collier 2020. Best practices for opening the microbial “black-box” of nitrogen-removing biofilters (NRBs), an alternative on-site wastewater treatment system. “Protecting Public Health and the Environment,” New York Water Environmental Association (NYWEA) Spring Technical Meeting and Exhibition, June 8-10, 2020 (oral presentation, virtual conference).

K. Langlois*, J.L. Collier 2019. What Lurks Beneath the Surface of on-Site Wastewater Treatment Systems? an in-Depth Exploration of the Microbial Community of NitrogenRemoving Biofilters (NRBs). “Soils Across Latitudes,” SSSA 2019 International Soil Meeting, January 6-9, 2019, San Diego, CA (oral).

K. Langlois*, N. Volkenborn, M. Graffam*, J.L. Collier 2018. Characterization of the Microbial Community Driving On-Site Wastewater Treatment in Nitrogen Removing Biofilters (NRBs).

American Society for Microbiology Microbe 2018, June 7-11, 2018, Atlanta, GA (poster).

K. Langlois*, N. Volkenborn, X. Mao, M. Graffam*, J.L. Collier 2018 Environmental selection or ecological drift? Characterizing the microbial community of nitrogen removing biofilters (NRBs). Ecological Society of America (ESA) Mid-Atlantic Regional Meeting, April 7, 2018, Newark, NJ (oral).

K. Langlois, J.L. Collier. 2016. Characterizing the microbial communities of three nitrogen removing biofilters (NRBs). New York Marine Science Conference, October 22, SUNY Maritime, NY (poster).

K. Langlois*, N. Volkenborn, M. Graffam*, J.L. Collier 2018. Characterization of the microbial community driving on-site wastewater treatment in nitrogen removing biofilters (NRBs). American Chemical Society 225th National Meeting, March 18-22, 2018, New Orleans, LA (oral).

Journal Articles

Grimm, S.L., J.A. Rothman, W.J. Bradshaw, K. Langlois, J.A. Steele, J.F. Griffith, J.T. Kaufman, K.L. Whiteson. 2026. Deep metatranscriptomic sequencing data of wastewater from Los Angeles, USA, 2023–2024. *Scientific Data* DOI:10.1038/s41597-025-06475-7.

Steele, J.A., A.G. Zimmer-Faust, T.J. Clerkin, A. Gonzalez-Fernandez, S.A. Lowry, A.D. Blackwood, K. Raygoza, K. Langlois, A.B. Boehm, R.T. Noble, J.F. Griffith, K.C. Schiff. 2025. Survey of pathogens and human fecal markers in stormwater across a highly populated urban region. *Environmental Science: Processes & Impacts* 27:1354-1367.

Rothman, J.A., A. Saghir, A.G. Zimmer-Faust, K. Langlois, K. Raygoza, J.A. Steele, J.F. Griffith, K.L. Whiteson. 2024. Longitudinal Sequencing and Variant Detection of SARS-CoV-2 across Southern California Wastewater. *Applied Microbiology* 4:635-649.

Lie, A.A.Y., A.G. Zimmer-Faust, R.E. Diner, E. Kunselman, Z. Daniel, K. Van Artsdalen, M.C. Salas Garcia, J.A. Gilbert, D. Shultz, J. Chokry, K. Langlois, J. Smith. 2024. Understanding the risks of co-exposures in a changing world: a case study of dual monitoring of the biotoxin domoic acid and Vibrio spp. in Pacific oyster. *Environmental Monitoring and Assessment* 196:447.

Rothman, J.A., A. Saghir, S. Chung, N. Boyajian, T. Dinh, J. Kim, J. Oval, V. Sharavanan, C. York, A.G. Zimmer-Faust, K. Langlois, J.A. Steele, J.F. Griffith, K.L. Whiteson. 2023. Longitudinal metatranscriptomic sequencing of Southern California wastewater representing 16 million people from August 2020–21 reveals widespread transcription of antibiotic resistance genes. *Journal of Water Research* 329:119421.

Kim, S., L.C. Kennedy, M.K. Wolfe, C.S. Criddle, D.H. Duong, A. Topol, B.J. White, R.S. Kantor, K.L. Nelson, J.A. Steele, K. Langlois, J.F. Griffith, A.G. Zimmer-Faust, S.L. McLellan, M.K. Schussman, M. Ammerman, K.R. Wigginton, K.M. Bakker, A.B. Boehm. 2022. SARS-CoV-2 RNA is enriched by orders of magnitude in primary settled solids relative to liquid wastewater at publicly owned treatment works. *Environmental Science Water Research and Technology* 8:757-770.

Rothman, J.A., T.B. Loveless, J. Kapcia III, E.D. Adams, J.A. Steele, A.G. Zimmer-Faust, D. Wanless, M.L. Griffith, L. Mao, J. Chokry, J.F. Griffith, K.L. Whiteson, K. Langlois. 2021. RNA Viromics of Southern California Wastewater and Detection of SARS-CoV-2 Single-Nucleotide Variants. *Applied and Environmental Microbiology* 87:e01448-21.

Waters, T., K. Langlois, Z. Gold, S. Theroux, and R.A. Eagle. In press. Hidden in plain sight: the invasive macroalga Caulerpa prolifera evades detection by environmental DNA methods. Environmental DNA.

Langlois, K., J.L. Collier. 2022. Matrix-Associated Microbial Communities In A Nitrogen Removing On-Site Wastewater Treatment System Are Largely Structured By Niche Processes. Journal of Environmental Quality. doi.org/10.1002/jeq2.20422

K. Langlois*, H. Walker, C. Gobler, J.L. Collier 2020. Microbial communities in the partially treated and fully treated effluent of three nitrogen-removing biofilters. Journal of Sustainable Water in the Built Environment Special Collection on Onsite and Decentralized Wastewater Management Systems. DOI: 10.1061/JSWBAY.0000912.

C. Gobler, Y. Kang, R. Wallace, J.L. Collier, T. Hattenrath, J. Goleski, F. Koch, M. Lusty*, J. Thickman, K. Langlois*, A. Stevens*, C. Young*, P. Curran* 2019. Accidental ecosystem restoration? Assessing the estuary-wide impacts of a new ocean inlet created by Hurricane Sandy. Estuarine, Coastal and Shelf Science.

Waugh S., R. Price, X. Mao, K. Langlois*, S. Roberts*, M. Graffam*, P. Clyde*, J. Collier, C. Gobler, H. Walker and J. Garvey. 2017. Nitrogen Removing Biofilters for Onsite Wastewater Treatment on Long Island: Current and Prospects. Clear Waters; New York Water Environment Association Newsletter. 47: 2.