Dr. Jayme Smith

Principal Scientist
Biogechemistry Department
Southern California Coastal Water Research Project

Education

Ph.D., biology, University of Southern California, Los Angeles, CA, 2018

B.S., biological sciences, Vanguard University of Southern California, Costa Mesa, CA, 2009

Professional Experience

Principal Scientist, Southern California Coastal Water Research Project (SCCWRP), Costa Mesa, CA, 2026-present

Senior Scientist, Southern California Coastal Water Research Project (SCCWRP), Costa Mesa, CA, 2021-2026

Scientist, Southern California Coastal Water Research Project (SCCWRP), Costa Mesa, CA, 2019-2021

Joint Postdoctoral Scientist, Southern California Coastal Water Research Project (SCCWRP) and University of Southern California, Costa Mesa, CA and Los Angeles, CA, 2018-2019

Graduate Research Assistant, University of Southern California, Los Angeles, CA, 2012-2018

Adjunct Laboratory Instructor, Vanguard University, Costa Mesa, CA, 2010-2012

Laboratory Assistant, Monarch Labs, Irvine, CA, 2010-2012

Instructor, Biola University Youth, La Mirada, CA, 2010-2011

Honors and Awards

Young Alumnus of the Year, VUSC, 2022

WiSE Travel Grant, USC, 2017
Turner Designs Student Travel Stipend Award, USC, 2017
WiSE Travel Grant, USC, 2013
Tyler Environmental Fellowship, USC, 2012
Summer Undergraduate Research Fellowship, VUSC, 2007
Vanguard University Honor Roll, VUSC, 2006-2009
Academic Lion I Scholarship, VUSC, 2006-2009

Selected Presentations and Conference Proceedings

Smith, J., Deming, A., Palmer, L., Dover, R., Dover, S., Kudela, R., Negrey, K., Lillywhite, S., Lie, A., Shultz, D., Wood, S., Kelly, K., Anderson, C. Marine mammal stranding events caused by domoic acid: the role of bloom timing, longevity, and geographic extent on ecosystem impacts in Southern California. 12th U.S. Harmful Algal Bloom Symposium. Portland, Maine., USA. Oct 2024. (contributed talk).

Smith, J. Deming, A., Fire, S., Gibble, C., Miller, M. Moriarty, M., Parker-Graham, C. Pease, S. A One Health regional response plan for wildlife stranding events associated with harmful algal blooms: a California pilot study. 12th U.S. Harmful Algal Bloom Symposium. Portland, Maine., USA. Oct 2024. (poster).

Smith, J., Deming, A., Berndt, M., Cram, J., Sutula, M., Kessouri, F. Building a toolbox to predict domoic acid related stranding events of California Sea Lions (*Zalophus californiaus*) in Southern California. Ecological Society of America. Long Beach, CA., USA. Aug 2024. (contributed talk).

Smith, J., Eggleston, E., Howard, M.D.A., Ryan, S., Gichuki, J., Kennedy, K., Tyler, A., Beck, M., Huie, S., Kalra, I., and Caron, D.A., Harmful Algal Blooms in Clear Lake: Historical Observations and Future Perspective. Joint California Aquatic Bioassessment Workgroup Meeting & California Chapter Society for Freshwater Science Meeting. Costa Mesa, CA. Nov 2023. (contributed talk).

Smith, J., M. Sutula, C. Nilson, M. Van Dyke. Statewide Framework and Strategy for Freshwater HAB Monitoring. Delta Harmful Algal Blooms Workshop. Sacramento, CA. Nov 2022. (contributed talk).

Smith, J., J. Cram, V. Hoard, M. Berndt, D. Shultz, A. Deming. Linking Regional Monitoring Observations to Domoic Acid Related Marine Mammal Stranding Events in Southern California. 11th U.S. Harmful Algal Bloom Symposium. Albany, New York., USA. Oct 2022. (contributed talk).

Smith, J., D. Shultz, K. Langlois, E. Duncan, S. Theroux. Molecular Approaches to Identify and Monitor Toxigenic Cyanobacteria in California Lakes. Joint California Aquatic Bioassessment Workgroup Meeting & California Chapter Society for Freshwater Science Meeting. Sacramento, CA. Oct 2022. (contributed talk).

Smith, J., S. Theroux. DNA-based methods used to identify toxin-producing cyanobacteria in California waterbodies. California Aquatic Bioassessment Workgroup & California Chapter of Society for Freshwater Science Annual Meeting. Oct 13, 2021. (contributed talk via webinar).

Smith, J., D. Shultz, M.D.A. Howard, B. Du, S. Theroux, D. Caron. Diversity of cyanobacteria and cyanotoxins in Southern California recreational waterbodies. World Microbe Forum. Jun 2021. (contributed talk via webinar).

Smith, J., M. Sutula, K. Bouma-Gregson, M. Van Dyke. Development of a Multifaceted Statewide Strategy for the Monitoring and Assessment of Freshwater Harmful Algal Blooms in California. National Recreational Water Quality Workshop. Apr 2021. (contributed talk via webinar).

Roethler, M., M.D.A. Howard, D.A. Caron, R. Kudela, K. Negrey, A.O. Tatters and J. Smith. Marine and Freshwater Algal Toxins Co-occur at the Land-Sea Interface in Coastal California. Ocean Sciences Meeting. Feb 2020. San Diego, CA. (poster)

Hoel, P., D. Bianchi, C. Anderson, R. Kudela, F. Kessouri, M. Sutula, C.A. Deutsch, J. Smith and A. Moreno. Integrated Modeling of Harmful Algal Genus *Pseudo-nitzschia* to Support Ecosystem Prediction and Environmental Management in the Southern California Current System. Ocean Sciences Meeting. Feb 2020. San Diego, CA. (poster)

Smith, J., Tatters, A.O., Howard, M.D.A., Kudela, R.M., Negrey, K., Roethler, M., Caron, D.A. King Tides Result in Episodic Cross-Contamination of a California Coastline with Cyanobacterial and Algal Toxins. AGU Fall Meeting Dec 2019. San Francisco, CA. (contributed talk)

Smith, J., Howard, M.D.A, Kudela, R, McLaughlin, K., Caron, D.A., Roethler, M., Schultz, D., Hayashi, K, Robertson, G.,Terriquez, L., Sakamoto, K., Renick, V., Phonsiri, V., Haggin, B., Larsen, C.D. Persistent Domoic Acid in the Sediments and Benthic Infauna in California. 10th U.S. Harmful Algal Bloom Symposium. Orange Beach, Alabama, USA. Nov 2019. (contributed talk)

Mehinto, A.C, Smith, J., Wenger, E., Howard, M.D.A, Linville, R., Stanton, B., Brooks, B.W., Sutula, M. Ecotoxicity of Cyanotoxins in Freshwater Habitats - A Systemic Review of the Literature. 10th U.S. Harmful Algal Bloom Symposium. Orange Beach, Alabama, USA. Nov 2019. (poster)

Eggleston, E. J., Smith, J., Ryan, S., Gichuki, J., Kennedy, K., Tyler, A., Meredith Howard, M.D.A., Caron, D.A. Determining the Trends and Drivers of CyanoHABs in Clear Lake. 10th U.S. Harmful Algal Bloom Symposium. Orange Beach, Alabama, USA. Nov 2019. (poster)

Smith, J. Examining Potential Triggers of Algal Blooms and Harmful Algae in the Southern California Bight Southern California Branch of the American Society for Microbiology Annual Meeting. 2019. La Jolla, CA. (invited presentation)

Smith, J., Connell, P., Evans, R.H, Gellene, A.G., Howard, M.D.A., Jones, B.H., Kaveggia, S., Palmer, L., Schnetzer, A., Seegers, B.N., Seubert, E. L., Tatters, A. O., and Caron, D.A. 2017. A decade and a half of *Pseudo-nitzschia* spp. and domoic acid along the coast of southern California. 9th Symposium on Harmful Algae, California, USA. Nov 2017. (contributed talk + poster)

Smith, J. 2017. Examining Potential Triggers of Toxic *Pseudo-nitzschia* Blooms in the Southern California Bight Region. USC Women in Science and Engineering Bytes Seminar, California, USA. Oct 2017. (invited talk)

Smith, J., A.G. Gellene, C. Cash, M. Dojiri, and D.A. Caron. 2017. A "Natural" Experiment in Santa Monica Bay, California: Potential Changes in the Microbial Loop in Response to Anthropogenic Nutrient Input. Aquatic Sciences Meeting, Hawaii, USA. Feb 2017. (poster)

Smith, J. 2016. Coastal Anthropogenic Nutrient Input and Algal Blooms: A "Natural" Experiment in Santa Monica Bay, California. USC Marine Biology and Biological Oceanography Department Seminar, California, USA. Jan 2016. (invited talk)

Smith, J., A.G. Gellene, A. Booth, M. Dojiri, J.C. Ohlmann, A.J. Lucas, C. Cash, and D.A. Caron. 2015. Coastal Anthropogenic Nutrient Input and Harmful Algal Blooms: A 'Natural' Experiment in Santa Monica Bay, California. 8th Symposium on Harmful Algae, California, USA. Nov 2015. (contributed talk)

Caron, D.A., A.O. Tatters, A.G. Gellene, J. Smith, M.D.A Howard, C. Nagoda, and L. Busse. 2015. "Go West, Young Haptophyte": Fish Kills Attributable to *Prymnesium parvum* Spread to Southern California. 8th Symposium on Harmful Algae, California, USA. Nov 2015. (contributed talk)

Ryan, J., J. Birch, H.A. Bowers, D.A. Caron, G. Doucette, A.G. Gellene, K. Hubbard, R. Kudela, R. Martin III, C. Mikulski, K. Negrey, C. Scholin, G.J. Smith, J. Smith, A. Woods. 2015.Ecological Dynamics in California HAB Hotspots: Eddy Incubation, Retention, and Subsurface Refugia. 8th Symposium on Harmful Algae, California, USA. Nov 2015. (contributed talk)

Smith, J, A.G. Gellene, P. Connell, V. Campbell, E.L. Seubert, D.A. Caron. 2013. The influence of nutrient and light perturbations on natural phytoplankton assemblages containing the toxin-producing diatom *Pseudo-nitzschia*. 7th Symposium on Harmful Algae, Florida, USA. Oct 2013.

(poster)

Journal Articles

Kessouri, F., M. Sutula, J. Smith, J. McWilliams, M. Sandoval-Belmar, D. Bianchi, P. Damien, M. Ho, R. Kudela, C. Anderson. 2026. Anthropogenic, climate, and meso and submesoscale influences on diatom productivity in the Southern California Bight, with implications for domoic acid producing harmful algal blooms. *Frontiers in Marine Science* 13:1729816.

Sandoval-Belmar, M., F. Kessouri, J. Smith, A.R. Moreno, C. Anderson, R.M. Kudela, M. Sutula, M. Ho, P. Damien, C. Benitez-Nelson, J.C. McWilliams, D. Bianchi. 2026. Urban eutrophication enhances domoic acid production by Pseudo-nitzschia in the Southern California Bight. *Harmful Algae* 151:103023.

Lie, A.A.Y., M.M. Coffer, M. Van Dyke, C. Nilson, J. Smith. 2026. California's approach to standardizing cyanobacterial bloom metrics derived from satellite imagery. *Ecological Indicators* 182:114492.

Caron, D.A., A.A.Y. Lie, B. Stewart, A. Tinoco, I. Kalra, S. Smith, A.L. Willingham, S. Sneddon, J. Smith, E. Webb, K. Florea, M.D.A. Howard. 2025. Spatial Structure and Temporal Dynamics in Clear Lake, CA: The Role of Wind in Promoting and Sustaining Harmful Cyanobacterial Blooms. *Water* 17:3265.

Kalra, I., B.P. Stewart, K.M. Florea, J. Smith, E.A. Webb, D.A. Caron. 2025. Temporal and spatial dynamics of harmful algal bloom-associated microbial communities in eutrophic Clear Lake, California. *Applied and Environmental Microbiology* DOI:10.1128/aem.00011-25.

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.

Smith, J., J.A. Cram, M.P. Berndt, V. Hoard, D. Shultz, A.C. Deming. 2023. Quantifying the linkages between California sea lion (Zalophus californianus) strandings and particulate domoic acid concentrations at piers across Southern California. *Frontiers in Marine Science* 10:1278293.

Smith, J., E. Eggleston, M.D.A. Howard, S. Ryan, J. Gichuki, K. Kennedy, A. Tyler, M. Beck, S. Huie, D.A. Caron. 2023. Historic and recent trends of cyanobacterial harmful algal blooms and environmental conditions in Clear Lake, California: A 70-year perspective. *Elementa: Science of the Anthropocene* DOI:10.1525/elementa.2022.00115.

Kenitz, K.M., E.C. Orenstein, C.R. Anderson, A.J. Barth, C. Briseno-Avena, D.A. Caron, M.L. Carter, E. Eggleston, P.J.S. Franks, J.T. Fumo, J.S. Jaffe, K.A. McBeain, A. Odell, K. Seech, R. Shipe, J. Smith, D.A.A. Taniguchi, E.L. Venrick, A.D. Barton. 2023. Convening Expert Taxonomists to Build Image Libraries for Training Automated Classifiers. *Limnology and Oceanography Bulletin* DOI:10.1002/lob.10584.

Sandoval-Belmar, M., J. Smith, A.R. Moreno, C. Anderson, R.M. Kudela, M. Sutula, F. Kessouri, D.A. Caron, F.P. Chavez, D. Bianchi. 2023. A cross-regional examination of patterns and environmental drivers of Pseudo-nitzschia harmful algal blooms along the California coast. *Harmful Algae* 126:102435.

Kenitz, K.M., C.R. Anderson, M.L. Carter, E. Eggleston, K. Seech, R. Shipe, J. Smith, E.C. Orenstein, P.J.S. Franks, J.S. Jaffe, A.D. Barton . 2023. Environmental and ecological drivers of harmful algal blooms revealed by automated underwater microscopy. *Limnology and Oceanography* 9999:1-18.

Kenkel, C.D., J. Smith, K.A. Hubbard, C. Chadwick, N. Lorenzen, A.O. Tatters, D.A. Caron. 2022. Reduced representation sequencing accurately quantifies relative abundance and reveals population-level variation in Pseudo-nitzschia ssp.. *Harmful Algae* 118:1-13.

Ollison, G.A., S.K. Hu, J.V. Hopper, B.P. Stewart, J. Smith, J.L. Beatty, L.K. Rink, D.A. Caron. 2022. Daily dynamics of contrasting spring algal blooms in Santa Monica Bay (central Southern California Bight). *Environmental Microbiology* 2022:1-19.

Howard, M.D.A., J. Smith, D.A. Caron, R.M. Kudela, K. Loftin, K. Hayashi, R. Fadness, S. Fricke, J. Kann, M. Roethler, A. Tatters, S. Theroux. 2022. Integrative monitoring strategy for marine and freshwater harmful algal blooms and toxins across the freshwater-to-marine continuum. *Integrated Environmental Assessment and Management* DOI:10.1002/ieam.4651.

Smith, J., D. Shultz, M.D.A. Howard, G. Robertson, V. Phonsiri, V. Renick, D.A. Caron, R.M. Kudela, K. McLaughlin. 2021. Persistent domoic acid in marine sediments and benthic infauna along the coast of Southern California. *Harmful Algae* DOI:10.1016/j.hal.2021.102103.

Wang, P., B. Du, J. Smith, W. Lao, C.S. Wong, E.Y. Zeng. 2021. Development and field evaluation of the organic-diffusive gradients in thin-films (o-DGT) passive water sampler for microcystins. *Chemosphere* 287:132079. DOI:10.3389/fmicb.2021.674214.

Mehinto, A.C., J. Smith, E. Wenger, B. Stanton, R. Linville, B.W. Brooks, M.A. Saluta, M.D.A. Howard. 2021. Synthesis of ecotoxicological studies on cyanotoxins in freshwater habitats – Evaluating the basis for developing thresholds protective of aquatic life in the United States. *Science of the Total Environment* DOI:10.1016/j.scitotenv.2021.148864.

Tatters, A.O., J. Smith, R.M. Kudela, K. Hayashi, M.D.A. Howard, A.R. Donovan, K.A. Loftin, D.A. Caron. 2021. The tide turns: Episodic and localized cross-contamination of a California coastline with cyanotoxins. *Harmful Algae* DOI:10.1016/j.hal.2021.102003.

Smith, J., A.A.Y. Lie, E.L. Seubert, N. Crowley, G. Robertson, D.A. Caron. 2019. Co-occurring Dissolved Algal Toxins Observed at Multiple Coastal Sites in Southern California via Solid Phase Adsorption Toxin Tracking. *Toxicon* DOI:10.1016/j.toxicon.2019.10.005.

Smith, J., P. Connell, R.H. Evans, A.G. Gellene, M.D.A. Howard, B.H. Jones, S. Kaveggia, L. Palmer, A. Schnetzer, B.N. Seegers, E.L. Seubert, A.O. Tatters, D.A. Caron. 2018. A decade and a half of Pseudo-nitzschia spp. and domoic acid along the coast of southern California. *Harmful Algae* DOI:10.1016/j.hal.2018.07.007.

Caron, D.A., A.G. Gellene, J. Smith, E.L. Seubert, V. Campbell, G.S. Suhatme, B. Seegers, B.H. Jones, A.A.Y. Lie, R. Terrado, M.D.A. Howard, R.M. Kudela, K. Hayashi, J. Ryan, J. Birch, E. Demir-Hilton, K. Yamahara, C. Scholin, M. Mengel, G. Robertson. 2017. Response of phytoplankton and bacterial biomass during a wastewater effluent diversion into nearshore coastal waters. *Estuarine, Coastal and Shelf Science* 186:223-236.

Smith J., Gellene, A.G., Hubbard, K.A., Bowers, H.A., Kudela, R.M., Negrey, K., and Caron, D.A., 2018. Pseudo-nitzschia species composition affects domoic acid in the plankton during two consecutive years in the Southern California Bight. Journal of Plankton Research.

Seubert, E.L., Gellene, A.G., Campbell, V., Smith, J., Robertson, G. and Caron, D.A., 2017. Incubation experiments to determine the response of a natural plankton community to treated sewage effluent. Estuarine, Coastal and Shelf Science.

Trinh, R. C., Fichot, C.G., Gierach, M.M., Holt, B., Malakar, N. K., Hulley, G., Smith, J., 2017. Application of Landsat 8 for monitoring impacts of wastewater discharge on coastal water quality. Frontiers in Marine Science.

Technical Reports

McLaughlin, K., J. Smith, M. Sutula. 2026. Recommendations for co-located monitoring of marine harmful algal blooms, ocean acidification and hypoxia, September 14-15, 2023, workshop proceedings. Technical Report 1462. Southern California Coastal Water Research Project. Costa Mesa, CA.

Smith, J., M. Sutula, A.A.Y. Lie, S.B. Weisberg. 2026. Harmful Algal Bloom Control in California Coastal Waters: January 12-13, 2026 Workshop Proceedings. Technical Report 1463. Southern California Coastal Water Research Project. Costa Mesa, CA.

Smith, J., D. Shultz, A.A.Y. Lie, S. Theroux. 2023. Diversity and Prevalence of Cyanobacteria and Cyanotoxins in Los Angeles Region Recreational Lakes and Reservoirs. Technical Report 1309. Southern California Coastal Water Research Project. Costa Mesa, CA.

Florea, K., B. Stewart, E. Webb, D.A. Caron, J. Smith. 2022. Environmental Drivers of Cyanobacterial Harmful Algal Blooms and Cyanotoxins in Clear Lake: 2020-2021. Technical Report 1261. Southern California Coastal Water Research Project. Costa Mesa, CA.

Smith, J., M. Sutula, K. Bourma-Gregson, M. Van Dyke. 2021. California Water Boards' Framework and Strategy for Freshwater Harmful Algal Bloom Monitoring: Full Report with Appendices. Technical Report 1141.B. California State Water Resources Control Board. Sacramento, CA.

Smith, J., M. Sutula, K. Bourma-Gregson, M. Van Dyke. 2021. California Water Boards' Framework and Strategy for Freshwater Harmful Algal Bloom Monitoring: Executive Synthesis. Technical Report 1141.A. California State Water Resources Control Board. Sacramento, CA.

Smith, J., D. Shultz, M.D.A. Howard, G. Robertson, V. Phonsiri, V. Renick, D.A. Caron, R. Kudela, K. McLaughlin. 2021. Southern California Bight 2018 Regional Monitoring Program: Volume VIII. Harmful Algal Blooms. Technical Report 1170. Southern California Coastal Water Research Project. Costa Mesa, CA.

Du, B., J. Smith, K. Maruya, C.S. Wong. 2020. Comparison of Novel Passive Sampling Methods to Identify Cyanotoxins and their Sources. Technical Report 1123. Southern California Coastal Water Research Project. Costa Mesa, CA.

Schiff, K.C., E.D. Stein, S. Aminzadeh, A. Boehm, G. Hildebrand, L. Honeybourne, I. Nasseri, P. Ode, S. Taylor, D. Senn, J. Smith, C. Sommers, E. Strecker. 2014. Southern California Stormwater Monitoring Coalition 2014 Research Agenda. Technical Report 828. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.