Dr. Alle Lie

Research Coordinator
Biogechemistry Department
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Education

Ph.D., biology, Marine Biology & Biological Oceanography, University of Southern California, 2017

M.Phil., biology, Chinese University of Hong Kong, 2008

B.S., biology, Chinese University of Hong Kong, 2006

Honors & Awards

Katrina Edwards Memorial Dissertation Award, USC, 2017

Turner Designs Student Travel Stipend Awards, 2017

Dissertation Completion Fellowship, USC, 2016-2017

William E. Trusten Award in Biological Sciences, USC, 2013

Biological Sciences Outstanding Teaching Assistant Award, USC, 2013

College Doctoral Fellowship, USC, 2010

Chung Chi College Mr. Ho Tim Memorial Scholarship, CUHK, 2005/2006

Dean's Honors List, CUHK, 2006

Bank of East Asia Golden Jubilee Scholarship, 2004/2005

Chung Chi College Ginling-Reeves Scholarship, CUHK, 2004/2005

Dean's Honors List, CUHK, 2005

Biology Advanced Training and Stipend Scheme Award, 2004

Dean's Honors List, CUHK, 2004

Selected Presentations and Conference Proceedings

Lie, A.A.Y., Liu, Z., Terrado, R., Tatters, A.O., Heidelberg, K.B., Caron, D.A. Bacterivory enhances the phototrophic capabilities of an obligate phototrophic *Ochromonas* sp. (Chrysophyta). The American Society of Limnology & Oceanography (Honolulu, USA), 2017 Mar. Poster Presentation.

Lie, A.A.Y., Liu, Z., Terrado, R., Tatters, A.O., Heidelberg, K.B., Caron, D.A. Gene expression of a mixotrophic chrysophyte under different resource availability. EMBO: A New Age of Discovery for Aquatic Microeukaryotes (Heidelberg, GER), 2016 Jan. Poster Presentation.

Lie, A.A.Y., Liu, Z., Terrado, R., Heidelberg, K.B., Caron, D.A. Gene expression of a mixotrophic nanoflagellate (Ochromonas, Chrysophyta) utilizing different nutritional modes. Protist 2014 (Banff, CAN), 2014 August. Poster Presentation.

Lie, A.A.Y., Kim, D., Schnetzer, A., Caron, D. Small-scale temporal and spatial variability in protistan community composition at the USC Microbial Observatory station off the coast of southern California. The American Association of Limnology & Oceanography (New Orleans, USA), 2013 Feb. Oral Presentation.

Lie, A.A.Y., Wong, C.K. Microzooplankton grazing on phytoplankton in two bays with different nutrient levels. The American Association of Limnology & Oceanography (Newfoundland, CAN), 2008 Jun. Oral Presentation.

Lie, A.A.Y., Tse, P., Wong, C.K. Diel vertical migration and diel feeding rhythm in Flaccisagitta enflata. The American Association of Limnology & Oceanography (Santa Fe, USA), 2007 Feb. Oral Presentation.

Journal Articles

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.

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., 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.

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.

Caron, D.A., Lie, A.A.Y., Buckowski, T., Turner, J., Frabotta, K. 2023. The effect of pH and salinity on the toxicity and growth of the golden alga, Prymnesium parvum. Protist, 174: 125927

Smith, J., Lie, A.A.Y., Seubert, E.L., Crowley, N., Robertson, G., Caron, D.A. 2019. Co-occurring dissolved algal toxins observed at multiple coastal sites in southern California via solid phase adsorption toxin tracking. Toxicon, 171:62-65.

Lie, A.A.Y., Liu, Z., Terrado, R., Tatters, A.O., Heidelberg, K.B., Caron, D.A. 2018. A tale of two mixotrophic chrysophytes: Insights into the metabolisms of two Ochromonas species (Chrysophyceae) through a comparison of gene expression. PLoS One, 13: e0192439.

Lie, A.A.Y., Liu, Z., Terrado, R., Tatters, A.O., Heidelberg, K.B., Caron, D.A. 2017. Effect of light and prey availability on gene expression of the mixotrophic chrysophyte, Ochromonas sp. BMC Genomics, 18:163.

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

Hu, S.K., Liu, Z., Lie, AA.Y., Countway, P.D., Kim, D.Y., Jones, A.J., Gast, R.J., Cary, S.C., Sherr,

E.B., Sherr, B.F., Caron, D.A. 2015. Estimating protistan diversity using high-throughput sequencing. Journal of Eukaryotic Microbiology, 62:688-693.

Lie, A.A.Y., Liu, Z., Hu, S.K., Jones, A.C., Kim, D.Y., Countway, P.D., Amaral-Zettler, L.A., Cary, S.C., Sherr, E.B., Sherr, B.F., Gast, R.J., Caron, D.A. 2014. Investigating microbial eukaryotic diversity from a global census: Insights from a comparison of pyrotag and full-length sequences of 18S rRNA gene sequences. Applied Environmental Microbiology, 80: 4363-4373.

Lie, A.A.Y., Kim, D., Schnetzer, A., Caron, D. 2013. Small-scale temporal and spatial variations in protistan community composition at the San Pedro Ocean Time-series station off the coast of southern California. Aquatic Microbial Ecology, 70: 93-110.

Lie, A.A.Y., Wong, L.C., Wong, C.K. 2013. Phytoplankton community size structure, primary production and copepod production in a subtropical coastal inlet in Hong Kong. Journal of the Marine Biological Association of the United Kingdom, 93: 2155-2166.

Tatters, A., Roleda, M., Schnetzer, A., Fu, F., Hurd, C., Boyd, P., Caron, D., Lie, A.A.Y., Hoffmann, L., David, H. 2013. Short-and long-term conditioning of a temperate marine diatom community to acidification and warming. Philosophical Transactions of the Royal Society B, 368: 20120437.

Tatters, A.O., Schnetzer, A., Fu, F., Lie, A.A.Y., Caron, D.A., Hutchins, D.A. 2013. Short- versus long-term responses to changing CO2 in a coastal dinoflagellate bloom: Implications for interspecific competitive interactions and community structure. Evolution, 67:1879-1891.

Lie, A.A.Y., Tse, P., Wong, C.K. 2012. Diel vertical migration and feeding of three species of chaetognaths (Flaccisagitta enflata, Aidanosagitta delicata and Aidanosagitta neglecta) in two shallow, subtropical bays in Hong Kong. Journal of Plankton Research, 34:670-684.

Wong, C.K., Yau, E.Y.W., Lie, A.A.Y. 2012. The seasonal distribution, diel vertical distribution and feeding behavior of Paraeuchaeta concinna in the shallow subtropical coastal waters of eastern Hong Kong. Aquatic Biosystems, 8:28.

Lie, A.A.Y., Wong, C.K., Lam, J.Y.C., Liu, J.H., Yung, Y.K. 2011. Changes in the nutrient ratios and phytoplankton community after declines in nutrient concentrations in a semi-enclosed bay in Hong Kong. Marine Environmental Research, 71: 178-188.

Lie, A.A.Y., Wong, C.K. 2010. Selectivity and grazing impact of microzooplankton on phytoplankton in two subtropical semi-enclosed bays with different chlorophyll concentrations. Journal of Experimental Marine Biology & Ecology, 390:149-159.

Technical Reports

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.