

## Carina B. Lange

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I am a Professor at the Department of Oceanography, University of Concepción (Chile) since 2001 in charge of advancing the area of geological oceanography. I use the records of plankton communities (mainly diatoms as well as organic biomarkers) encoded in the marine sediments to interpret past ocean productivity in relation to climatic conditions. To assess the quality and accuracy of the information preserved in the sedimentary record, I also focus on the transformations associated with the settling of biogenic material from the uppermost layers of the ocean to the seafloor. In coastal areas, I am also interested in the role of diatom resting stages in population dynamics. This kind of studies as well as comparing molecular and morphological phylogenetic analyses of diatom taxa have strengthened my collaboration with the SZN, specifically with colleagues Drs. Marina Montresor, Diana Sarno, Adriana Zingone and Dr. Wiebe Kooistra. Additionally, I have been a lecturer of the “Advanced Phytoplankton Course, Taxonomy and Systematics” (APC) since 1995.

### Five relevant publications

- Toyos, M.H., Lamy, F., **Lange, C.B.**, Lembke-Jene, L., Saavedra-Pellitero, M., Esper, O., Arz, H.W. (2020). Antarctic Circumpolar Current dynamics at the Pacific entrance to the Drake Passage over the past 1.3 million years. *Paleoceanography and Paleoclimatology*, 35(7), p.e2019PA003773. <https://doi.org/10.1029/2019PA003773>
- Cárdenas P., **Lange C.B.**, Vernet M., Esper O., Srain B., Vorrath M.E., Ehrhardt S., Müller J., Kuhn G., Arz H.W., Lembke-Jene L., Lamy F. (2019). Biogeochemical proxies and diatoms in surface sediments across the Drake Passage reflect oceanic domains and frontal systems in the region. *Progress in Oceanography* 174, 72--88. DOI: 10.1016/j.pocean.2018.10.004.
- Gaonkar, C. C., Kooistra, W. H. C. F., **Lange, C. B.**, Montresor, M., & Sarno, D. (2017). Two New Species in the *Chaetoceros socialis* Complex (Bacillariophyta): *C. sporotruncatus* and *C. dichatoensis*, and Characterization of Its Relatives, *C. radicans* and *C. cinctus*. *Journal of Phycology*, 53(4), 889-907. doi: 10.1111/jpy.12554

Aracena, C., **Lange, C. B.**, Iriarte, J. L., Rebolledo, L., & Pantoja, S. (2011). Latitudinal patterns of export production recorded in surface sediments of the Chilean Patagonian fjords (41-55 degrees S) as a response to water column productivity. *Continental Shelf Research*, 31(3-4), 340-355. doi: 10.1016/j.csr.2010.08.008

Montecino, V., **Lange, C.B.**, 2009. The Humboldt Current System: Ecosystem components and processes, fisheries, and sediment studies. *Progress in Oceanography* 83(1-4), 65-79.