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### Bio

#### LINKS

- Ocean Biogeochemistry: <http://ocean.stanford.edu>

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### Publications

#### PUBLICATIONS

- **Southern Ocean net primary production influenced by seismically modulated hydrothermal iron** *NATURE GEOSCIENCE*  
Schine, C. M. S., Lund Snee, J., Lyford, A., Van Dijken, G., Arrigo, K. R.  
2025
- **Unveiling the contribution of particle-associated non-cyanobacterial diazotrophs to N<sub>2</sub> fixation in the upper mesopelagic North Pacific Gyre.** *Communications biology*  
Reeder, C. F., Filella, A., Voznyuk, A., Coët, A., James, R. C., Rohrer, T., White, A. E., Berline, L., Grosso, O., van Dijken, G., Arrigo, K. R., Mills, M. M., Turk-Kubo, et al  
2025; 8 (1): 287
- **Vertical Carbon Export During a Phytoplankton Bloom in the Chukchi Sea: Physical Setting and Frontal Subduction** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*  
Pickart, R. S., Spall, M. A., Bahr, F., Lago, L., Lin, P., Pacini, A., Mills, M., Huang, J., Arrigo, K. R., van Dijken, G., McCraven, L. T., Roberts, S.  
2024; 129 (11)
- **Response of indicator species to changes in food web and ocean dynamics of the Ross Sea, Antarctica** *ANTARCTIC SCIENCE*  
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- **Pan-Arctic analysis of the frequency of under-ice and marginal ice zone phytoplankton blooms, 2003-2021** *ELEMENTA-SCIENCE OF THE ANTHROPOCENE*  
Payne, C. M., van Dijken, G. L., Arrigo, K. R.  
2024; 12 (1)
- **Rapid climate change alters the environment and biological production of the Indian Ocean.** *The Science of the total environment*  
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2023: 167342
- **Spatial and Interannual Variability of Antarctic Sea Ice Bottom Algal Habitat, 2004-2019** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*  
Lim, S. M., van Dijken, G. L., Arrigo, K. R.  
2023; 128 (9)
- **Sensitivity of the Relationship Between Antarctic Ice Shelves and Iron Supply to Projected Changes in the Atmospheric Forcing** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*

- Dinniman, M. S., St-Laurent, P., Arrigo, K. R., Hofmann, E. E., van Dijken, G. L.  
2023; 128 (2)
- **Linking multiple stressor science to policy opportunities through network modeling** *MARINE POLICY*  
Wedding, L. M., Green, S. J., Reiter, S., Arrigo, K. R., Hazen, L., Ruckelshaus, M., van der Grient, J. A., Bailey, R. M., Cameron, M. A., Leape, J., Levi, M., Merkl, A., Mills, et al  
2022; 146
  - **Wildfire aerosol deposition likely amplified a summertime Arctic phytoplankton bloom** *COMMUNICATIONS EARTH & ENVIRONMENT*  
Ardyna, M., Hamilton, D. S., Harmel, T., Lacour, L., Bernstein, D. N., Laliberte, J., Horvat, C., Laxenaire, R., Mills, M. M., van Dijken, G., Polyakov, I., Claustre, H., Mahowald, et al  
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  - **North-South Differences in Under-Ice Primary Production in the Chukchi Sea From 1988 to 2018** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*  
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  - **Springtime phytoplankton responses to light and iron availability along the western Antarctic Peninsula** *LIMNOLOGY AND OCEANOGRAPHY*  
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  - **Increases in Arctic sea ice algal habitat, 1985-2018** *Elementa: Science of the Anthropocene*  
Lim, S. M., Payne, C. M., van Dijken, G. L., Arrigo, K. R.  
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  - **Warming of the Indian Ocean and its impact on temporal and spatial dynamics of primary production** *PROGRESS IN OCEANOGRAPHY*  
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  - **UCYN-A/haptophyte symbioses dominate N<sub>2</sub> fixation in the Southern California Current System.** *ISME communications*  
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  - **Response of Lower Sacramento River phytoplankton to high-ammonium wastewater effluent** *Elementa: Science of the Anthropocene*  
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  - **Dissolved Trace Metals in the Ross Sea** *FRONTIERS IN MARINE SCIENCE*  
Gerringa, L. J. A., Alderkamp, A., van Dijken, G., Laan, P., Middag, R., Arrigo, K. R.  
2020; 7
  - **Comparison of Cloud-Filling Algorithms for Marine Satellite Data** *REMOTE SENSING*  
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  - **Summer High-Wind Events and Phytoplankton Productivity in the Arctic Ocean** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*  
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- **Iron from melting glaciers fuels the phytoplankton blooms in Amundsen Sea (Southern Ocean): iron biogeochemistry (vol 71, pg 16, 2012)** *DEEP-SEA RESEARCH PART II-TOPICAL STUDIES IN OCEANOGRAPHY*  
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- **The organic complexation of iron in the Ross sea** *MARINE CHEMISTRY*  
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- **Effects of iron and light availability on phytoplankton photosynthetic properties in the Ross Sea** *MARINE ECOLOGY PROGRESS SERIES*  
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Lewis, K. M., Arntsen, A. E., Coupel, P., Joy-Warren, H., Lowry, K. E., Matsuoka, A., Mills, M. M., van Dijken, G. L., Selz, Arrigo, K. R.  
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- **Publisher Correction: Ecological control of nitrite in the upper ocean.** *Nature communications*  
Zakem, E. J., Al-Haj, A. n., Church, M. J., van Dijken, G. L., Dutkiewicz, S. n., Foster, S. Q., Fulweiler, R. W., Mills, M. M., Follows, M. J.  
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- **Nitrogen Limitation of the Summer Phytoplankton and Heterotrophic Prokaryote Communities in the Chukchi Sea** *FRONTIERS IN MARINE SCIENCE*  
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2018; 123 (10): 7037–52

- **Ice algal communities in the Chukchi and Beaufort Seas in spring and early summer: Composition, distribution, and coupling with phytoplankton assemblages** *LIMNOLOGY AND OCEANOGRAPHY*  
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- **Exploring the Potential Impact of Greenland Meltwater on Stratification, Photosynthetically Active Radiation, and Primary Production in the Labrador Sea** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*  
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- **Early Spring Phytoplankton Dynamics in the Western Antarctic Peninsula** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*  
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- **Spatial analysis of trends in primary production and relationship with large-scale climate variability in the Ross Sea, Antarctica (1997-2013)** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*  
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- **Impacts of low phytoplankton NO<sub>3</sub>- :PO<sub>4</sub>- utilization ratios over the Chukchi Shelf, Arctic Ocean** *DEEP-SEA RESEARCH PART II-TOPICAL STUDIES IN OCEANOGRAPHY*  
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- **Characterizing the subsurface chlorophyll a maximum in the Chukchi Sea and Canada Basin** *DEEP-SEA RESEARCH PART II-TOPICAL STUDIES IN OCEANOGRAPHY*  
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- **Phytoplankton blooms beneath the sea ice in the Chukchi sea** *DEEP-SEA RESEARCH PART II-TOPICAL STUDIES IN OCEANOGRAPHY*  
Arrigo, K. R., Perovich, D. K., Pickart, R. S., Brown, Z. W., Van Dijken, G. L., Lowry, K. E., Mills, M. M., Palmer, M. A., Balch, W. M., Bates, N. R., Benitez-Nelson, C. R., Brownlee, E., Frey, et al  
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- **Response of marine bacterioplankton to a massive under-ice phytoplankton bloom in the Chukchi Sea (Western Arctic Ocean)** *DEEP-SEA RESEARCH PART II-TOPICAL STUDIES IN OCEANOGRAPHY*  
Ortega-Retuerta, E., Fichot, C. G., Arrigo, K. R., van Dijken, G. L., Joux, E.  
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2013; 27 (1): 11-20
- **Photoacclimation and non-photochemical quenching under in situ irradiance in natural phytoplankton assemblages from the Amundsen Sea, Antarctica** *MARINE ECOLOGY PROGRESS SERIES*  
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- **Patterns and controlling factors of species diversity in the Arctic Ocean** *JOURNAL OF BIOGEOGRAPHY*  
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- **Annual changes in sea ice and phytoplankton in polynyas of the Amundsen Sea, Antarctica** *DEEP-SEA RESEARCH PART II-TOPICAL STUDIES IN OCEANOGRAPHY*  
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