

PhD in Physical Biology/Ecology (Alfred Wegener Institute & University of Hamburg Dep. of Biology)

Thesis Title: *Spatial Variability of Arctic Sea Ice Algae*

8 February 2017

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### RELEVANT EXPERIENCE & LEADERSHIP SKILLS

#### PROJECT MANAGEMENT EXPERIENCE

**Project Lead:** Fram Centre Flagnsip project **PHOTA** (3 yrs funding, 750k/1000k/1000k NOK, 2020/21/22) Jan 2020 – present

Physical drivers of ice algal **HOT**spots in a changing Arctic Ocean (**PHOTA**)

**Review Editor for *Frontiers in Earth Science: Ocean Observations***

Nov 2018 – present

**Topic Editor for *Frontiers in Earth Science***

Aug 2017 – present Special

topic: [“Sea ice: Bridging Spatial-Temporal Scales and Disciplines”](#)

**Principal Investigator Sensor Subsystem & Project Manager**

Nov 2010 – Nov 2013

University of Alberta’s “AlbertaSat-1” Student Nanosatellite Project, Canadian Satellite Design Challenge (CSDC).

**Owner/Operator “Frontier Environmental Consulting”**

April – Oct 2008

#### RESEARCH EXPERIENCE

**Lead Field Program Coordinator (Project PI) PHOTA field work Tempelfjorden and Van Mijenfjorden** Mar-April 2021

**Researcher during MOSAiC leg 4** (Team ICE lead during transit/instrument recovery phase: 3 weeks in Aug) April – August 2020

**Lead Field Program Coordinator/Researcher (participant in 2019)** April – June 2018 & 2019

Joint DFO/AWI land-based campaign MAP Last-ice

**Researcher (3 \* cruises)**

June – July 2017, Dec 2013 – March 2014 & Aug – Oct 2012

RV Polarstern cruises: PS106.2, PS82, & PS80

**Researcher (5 \* land-based campaigns)**

May 2009/10/11/12/13

Canadian Arctic Sea Ice Mass Balance Observatory (CASIMBO)

**Lead Airborne Survey Researcher (1\* cruise)**

Aug – Sept 2009

Canadian Arctic Through Flow (CATs) campaign 2009, oceanographic and sea ice cruise

#### TEACHING EXPERIENCE

**Teaching Assistant** (University of Alberta, Edmonton, AB, Canada)

Sept 2008 – April 2012

Courses taught: *Biology, Geophysics Field School, G.I.S. & Remote Sensing, Geology, Biogeography field school*

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#### PRIMARY AUTHOR PUBLICATIONS

Lange, B. A., et al. (2021), Contribution of Snow to Arctic First-Year and Multi-Year Sea Ice Mass Balance Within the Last Ice Area, *Journal of Geophysical Research: Oceans*, 126(5), <https://doi.org/10.1029/2020jc016971>.

Lange, B. A., et al., (2020), Editorial: Sea Ice: Bridging Spatial-Temporal Scales and Disciplines, *Frontiers in Earth Science*, 8, <https://doi.org/10.3389/feart.2020.00119>.

Lange, B. A., et al. (2019) Contrasting ice algae and snow-dependent irradiance relationships between first-year and multi-year sea ice. *Geophysical Research Letters*, <https://doi.org/10.1029/2019GL082873>.

Lange, B. A., et al. (2018). Airborne observations of summer thinning of multi-year sea ice originating from the Lincoln Sea. *Journal of Geophysical Research: Oceans*, <https://doi.org/10.1029/2018JC014383>.

Lange B. A., et al. (2017). Characterizing spatial variability of ice algal chlorophyll a and net primary production between sea ice habitats using horizontal profiling platforms. *Frontiers in Marine Science: Ocean Observation*, 4: 349, <https://doi.org/10.3389/fmars.2017.00349>

Lange, B. A., et al. (2017). Pan-Arctic sea ice-algal chl a biomass and suitable habitat are largely underestimated for multi-year ice. *Global Change Biology*, <https://doi.org/10.1111/gcb.13742>.

Lange, B. A., et al. (2016). Sea ice algae chlorophyll a concentrations derived from under-ice spectral radiation profiling platforms, *Journal of Geophysical Research: Oceans*, 123, 8511-8534, <https://doi.org/10.1002/2016JC011991>.

Lange, B. A., et al. (2015). Comparing springtime ice-algal chlorophyll a and physical properties of multi-year and first-year sea ice from the Lincoln Sea, *PLoS One*, 10(4), e0122418, <https://doi.org/10.1371/journal.pone.0122418>.

#### CO-AUTHOR PUBLICATIONS

1. Katlein et al., 2021; <https://doi.org/10.1029/2021gl093207> 2. David et al., 2021; <https://doi.org/10.1007/s00300-021-02868-7> 3. Kohlbach et al., 2020 <https://doi.org/10.1525/elementa.2020.054> 4. Castellani, G., et al. 2020, <https://doi.org/10.3389/fmars.2020.00536>. 5. Forrest et al., 2019 <https://doi.org/10.3389/feart.2019.00169>. 6. Massicotte et al., 2019 <https://doi.org/10.1029/2019JC015007>. 7. Flores et al. 2019 <https://doi.org/10.1007/s00300-019-02526-z>. 8. Kohlbach et al., 2019 <https://doi.org/10.1007/s00227-019-3527-z>. 9. Yurkowski et al., 2019 <https://doi.org/10.1007/s00300-019-02499-z>. 10. Meiners & Vancoppenolle et al., 2018 <https://doi.org/10.1029/2018JC014245>. 11. Kohlbach et al., 2018 <https://doi.org/10.1111/gcb.14392>. 12. Attard et al., 2018 <https://doi.org/10.1007/s00300-018-2350-1>. 13. Kohlbach et al., 2017 <https://doi.org/10.3389/fmars.2017.00310>. 14. Schaafsma et al., 2017 <https://doi.org/10.3354/meps12309>. 15. Castellani et al., 2017 <https://doi.org/10.1002/2017JC012828>. 16. Kohlbach et al., 2017 <https://doi.org/10.1016/j.poceano.2017.02.003>. 17. Hardge et al., 2017 <https://doi.org/10.1016/j.jmarsys.2016.10.004>. 18. Kohlbach et al., 2016 <https://doi.org/10.1002/ino.10351>. 19. Hatam et al., 2016 <https://doi.org/10.1038/ismej.2016.4>. 20. David et al., 2016 <https://doi.org/10.1007/s00300-016-1948-4>. 21. Schaafsma et al., 2016 <https://doi.org/10.1007/s00300-015-1877-7>. 22. David et al., 2015 <https://doi.org/10.1007/s00300-015-1774-0>. 23. David et al., 2015 <https://doi.org/10.3354/meps11156>. 24. Stecher et al., 2015 <https://doi.org/10.1080/09670262.2015.1077395>. 25. Hatam et al 2014 <https://doi.org/10.1111/1574-6941.12377>. 26. Backs et al., 2013 in *Innovative Ideas for Micro/Nano-satellite Missions*, pp. 40 - 62, International Academy of Astronautics.

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