

## Curriculum Vitae

### PERSONAL DATA

Name: Aud Larsen

Birth date: 18.11.62

Civil status: Single

Addresses:

Private: Sophus Pihlsgate 7, 5034 Bergen

Work: NORCE Norwegian Research Center AS Postboks 22 Nygårdstangen, 5838 Bergen, Norway

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**Aud Larsen:** [aula@norceresearch.no](mailto:aula@norceresearch.no) : Researcher I, NORCE (ISI: 79 publications cited >2100, times, h-index 28). Research interests: Mechanisms controlling abundances, biodiversity and activities of microbes in order to understand the structure and function of marine microbial food webs. Main focus: Single celled eukaryotes (especially phytoplankton) and their interactions with grazers and virus; integrated field and experimental studies of the lower levels of the marine pelagic community. Technical expertise: Flow cytometry, mesocosm experimental work and phytoplankton culturing.

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### EDUCATION AND QUALIFICATION

1998: Dr. scient., Department of Fisheries and Marine Biology, University of Bergen

1993: Pedagogic Seminary, University of Oslo

1992: Cand. scient., Marine Botany Section, Department of Biology, University of Oslo

### EMPLOYMENT POST PhD

- 2010 – : Research Director/Researcher I at Molecular Ecology and Paleogenomics (MEP), NORCE Norwegian Research Center (University Research Environment until Sept 30<sup>th</sup> 2018)
- 2016 – 2022: Associate Professor (20%) at University of Bergen
- 2008-2010: Science coordinator at Department of Biology with administration, promotion and coordination of research at UiB, fund raising, funding grants information; application procedures and quality control.
- 2005-2008: Researcher at the NRC financed projects "Bioprospecting Huge Marine Algal Viruses" UiB/UNIFOB and "DOC turnover in polar microbial food webs" BIO, UiB.
- 2001-2005: Postdoctor at BIO, UiB. Marine microbial research and teaching.
- 1999-2001: Researcher at Dept of Microbiol, UiB. Employed at the Strategic University Program "Marine Algal Viruses – Molecular Biology and Ecology"

### PROJECT acquisition and project leadership (current and previous)

2018-2021: NRC Research project: MIXs'TRUCT: Impact of MIXotrophs on the s'TRUCTure of the marine pelagic food Web (Project manager and PI (6.8 mill MOK)

- 2013-2017: NRC Research project: MikroPolar: Processes and Players in Arctic marine Pelagic Food Webs (Project manager and lead PI together with Prof Gunnar Bratbak) (31. 1 mill NOK).
- 2011-2014: Project manager and lead PI: NRC Research project: A novel cross-disciplinary approach to solve an old enigma: the food-web transfer of the mass-blooming phytoplankter *Phaeocystis* (8. 2 mill NOK).
- 2009-2010: Administrative project manager: MESOAQUA (4. 6 mill EUR = 36.8 NOK) - a FP7 EU Integrating Activity project.
- 2008-2011: NRC: Viral lysis and programmed cell death in marine phytoplankton (VIPMAP). Grant acquisition (4. 7 mill NOK)
- 2004-2008: NRC: Strategic University Project “Biodiversity patterns: Blooms versus stable coexistence in the lower part of marine food webs” (tot. 31.5 mill NOK). Research scientist leading Work Package 1: “Algal-virus interactions”, Dept. of Biology, UiB.

### **Active participation in other research Programs:**

- 2021-2024 NRC: ARCHIE: Late Quaternary Antarctic cryosphere interactions.
- 2021-2026: NRC: CONFECT: Connect and Infect – An interactive network to advance research and education in viral ecology and evolution
- 2021-2024: NRC: MetaBridge: Metabarcode data in marine environmental monitoring - bridging the gap between science and management Project nr 319885. (1200kNOK)
- 2021-2025: NRC: ViralICE: Viral diversity and Interactions in a Changing Environment on Kelp 2021-2024. Project 314108. (8700kNOK)
- 2020-2024: EU: AQUACOSM-plus (Network of Leading Ecosystem Scale Experimental AQUATIC MesoCOSM Facilities Connecting Rivers, Lakes, Estuaries and Oceans in Europe and beyond – Participant – H2020-INFRAIA-2019-1
- 2019-2024: EU: ERC-Consolidator Grant, 2019-2024, AGENSI, PI Dr Stijn De Schepper, budget 2.65 mEUR
- 2019-2021: NRC: HAVOC-MOSAIC (POLARPROGRAMMET)
- 2018-2020: NRC: High-throughput metabarcoding of eukaryotic diversity for environmental monitoring of marine sediments (Metamon) (PETROMAKS2)
- 2018-2021: VIROVAC: Filter-feeding mesozooplankton as uncharted accomplices in marine virus ecology.
- 2017-2019: NRC - Diversity, taxonomy and distribution of marine protists in a changing Arctic (TaxMArc)
- 2016-2020: H2020 – Research and Innovation Framework Program: Mesocosms facilities for research on marine and freshwater ecosystems (AQUACOSM)
- 2015-2018: NRC: Ice-algal and under-ice phytoplankton bloom dynamics in a changing Arctic icescape (Boom & Burst)
- 2013-2017: FP7- Collaborative project (EU): OCEAN-CERTAIN - Ocean Food-web Patrol – Climate Effects: Reducing Targeted Uncertainties with an Interactive Network
- 2010-2015: FP7-ERC: MINOS (Microbial Network Organization (European Research Council).
- 2009-2013: NRC: Diversity and dynamics of marine Haptophytes (HAPTODIV)
- 2011-2014: NRC: Sanntidsovervåkning av ballastvann med flow cytometry (MAROFF prosjekt)

- 2012-2015: BIOFEEDBACK - Biogeochemical feedbacks in the climate system - from processes to largescale effects. CO: C. Heinze (UiB). A research program at Centre for Climate Dynamics (SKD)
- 2011-2012: European project on Ocean Acidification (EPOCA)
- 2007-2010: DOC turnover in polar microbial food webs (PAME-Nor)

### **ADMINISTRATIVE TASKS**

- 2017: Member of Scientific committee Arctic Frontiers 2017: Connecting the Arctic, Tromsø Norway 21-26 Jan 2017
- 2014-2015: Appointed member of the “Programplan committee” for developing MARINFORSK (successor program following the research program Havet & Kysten (Norwegian Research Council)).
- 2001-2004: Secretary, Association of Norwegian Oceanographers Society
- 2002-2003: Faculty of Mathematics and Natural Sciences, Substitute member of the board
- 2002: Member of the local Organizing Committee of the 7<sup>th</sup> Symposium on Bacterial Genetics and Ecology, Bergen Norway 15-19. June 2002.
- 2001-2006: ”Information and Discussion group (IDU)” , Union ”Akademikerne”, substitute member.
- 2000-2001 : Department of Microbiology, board member.

### **SUPERVISION AND CENCORSHIP**

#### **Supervision:**

- Presently: Liu Jie ((PhD student, University of Bergen, NORCE, SCLEC, and NIVA)  
Mathilde Lindivat (PhD student, University of Bergen & HVL)  
Lotta AI Landor (PhD student, UoB)
- 2017: Eliana Ruiz Martinez (Phd student, UiB, co-supervisor)  
Maria Lund Paulsen (Phd student, UiB, main supervisor),  
Ana Paulino (Phd student, UiB, co-supervisor)
- 2016: Bernadette Pree (PhD student, UiB, co-supervisor)
- 2015: Torill Vik Johannessen (PhD student, UiB, co-supervisor)
- 2012: Birte Töpper (Phd student, UiB, co-supervisor)
- 2011: Kriss W. R. Iversen (PhD student, University of Tromsø, co-supervisor)
- 2010: Daria Hinz (exchange PhD student, visiting on WUN grant from NOC, Southampton, U.K.)
- 2009: Jens Borgaard Larsen (Phd student, UiB, main supervisor)
- 2006: Joaquin Martinez-Martinez: (Phd student, Plymouth marine laboratories, UK, informal co-supervisor when he stayed one year in our lab)
- 2002: Runar Thyraug (Phd student, UiB, co-supervisor)
- 2020 : Anna Grytaas (MSc, UiB), Benedikte Pedersen Frøysa (MSc, UiB)
- 2017-2018 : Marti Amargant Arumi (MSc, UiT Norges Arktiske Universitet)
- 2016 : Emily Maria Olesin (MSc, UiB)
- 2014 : Ida Kessel Nordgård (MSc, UiB/UNIS)
- 2013 : Ram Poudel (MSc, UiB)
- 2007: André Sulen (MSc, UiB)
- 2006: Lena Omli (Cand. Scient, UiB)
- 2004: Birthe Thuesen Mathisen (Cand. Scient, UiB).

2003: Mona Brandsdal (Cand. Scient., UiB).  
2003: Kriss Wenche Rokkan Iversen (Cand. Scient., UiB).

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2008: Sergio Martínez Sistac (Erasmus student).  
1996: Sarah L. Bryant. (Erasmus student).

### Censor

Lars Nersveen, University of Oslo, January 2011 (MSc)  
Tone Therese Nøklegaard, University of Oslo, January 2006 (MSc)

### REVIEWER

- Review tasks for following International Journals: Marine Biology Applied and Environmental Microbiology, Aquatic Microbial Ecology, Environmental Microbiology, Journal of Phycology, J Exp Mar Biol Ecol, Protist, European Journal of Phycology, FEMS Microbial Ecology, Journal of Heredity, J Mar Systems, L&O Methods, Polar Biology
- Review tasks for following Research Councils: United States-Israel binational science foundation; Earth & Life Sciences Council (The Netherlands); NSF (US); NERC (U.K).

### AWARDS

Awarded the Tyge Christensen prize for 1999 by The International Phycological Society for the paper: Larsen, A. & Edvardsen, B.: *Relative ploidy levels in Pymnesium parvum and P. patelliferum (Haptophyta) analyzed by flow cytometry* (Phycologia 37: 412-424).

### PUBLICATION LIST

#### Published Peer reviewed Scientific publications

1. Müller O, Seuthe L, Pree B, Bratbak G, **Larsen A**, Paulsen ML. 2021. How Microbial Food Web Interactions Shape the Arctic Ocean Bacterial Community Revealed by Size Fractionation Experiments. *Microorganisms* 2021, 9, 2378. <https://doi.org/10.3390/microorganisms9112378>
2. Mayers KMJ, Lawrence J, Skaar KS, Töpfer JP, Petelenz E, Saltvedt MR, Sandaa R-A, **Larsen A**, Bratbak GB, Ray JL. 2021. Removal of large viruses and their dispersal through fecal pellets of the appendicularian *Oikopleura dioica* during *Emiliania huxleyi* bloom conditions. *Limnol. Oceanogr.* 66, 2021, 3963–3975 doi: 10.1002/lno.11935
3. Egge E, Elferink S, Vaultot D, John U, Bratbak G, **Larsen A**, Edvardsen B. 2021. An 18S V4 rDNA metabarcoding dataset of protist diversity in the Atlantic inflow to the Arctic Ocean, through the year and down to 1000 m depth. *Earth Syst. Sci. Data*, 13, 4913–4928, 2021 <https://doi.org/10.5194/essd-13-4913-2021>
4. Lindivat M, Bratbak G, **Larsen A**, Hess-Erga OK and Hoell IA 2021. Flow Cytometric Analysis of Bacterial Protein Synthesis: Monitoring Vitality After Water Treatment. *Front. Microbiol.* 12:772651. doi: 10.3389/fmicb.2021.772651
5. Mayers KMJ, Poulton AJ, Bidle K, Thamatrakoln K, Schieler B, Giering SLC, Wells SR, Tarran GA, Mayor D, Johnson M, Riebesell U, **Larsen A**, Vardi A and Harvey EL. 2020. The Possession of Coccoliths Fails to Deter Microzooplankton Grazers. *Front. Mar. Sci.* 7:569896. doi: 10.3389/fmars.2020.569896
6. Lindivat M, **Larsen A**, Hess-Erga OK, Bratbak G and Hoell IA 2020. Bioorthogonal Non-canonical Amino Acid Tagging Combined With Flow Cytometry for

- Determination of Activity in Aquatic Microorganisms. *Front. Microbiol.* 11:1929. doi: 10.3389/fmicb.2020.01929
7. Mausz MA, Segovia M, **Larsen A**, Berger SA, Egge JK, Phnert G 2020. High CO<sub>2</sub> concentration and iron availability determine the metabolic inventory in an *Emiliania huxleyi*-dominated phytoplankton community. *Environmental Microbiology* 22 (9): 3863-3882. <https://doi.org/10.1111/1462-2920.15160>
  8. Thingstad, TF, Våge S, Bratbak G, Egge, J, **Larsen A**, Nejtgaard JC, Sandaa R-A 2020. Reproducing the virus-to-copepod link in Arctic mesocosms using host fitness optimization. *Limnology and Oceanography* 66 doi: 10.1002/lno.11549.
  9. De Schepper S, Ray JL, Skaar KS, Sadatzki H, Ijaz UZ, Stein R, **Larsen A** 2019. The potential of sedimentary ancient DNA for reconstructing past sea ice evolution. *The ISME Journal*. <https://doi.org/10.1038/s41396-019-0457-1>
  10. Olsen RO, Lindivat M, **Larsen A**, Thuestad G, Hoell IA 2019- Incubation in light versus dark affects the vitality of UV-irradiated *Tetraselmis suecica* differently: A flow cytometric study. *Marine Pollution Bulletin*. Vol149, 110528. <https://doi.org/10.1016/j.marpolbul.2019.110528>
  11. Sandaa R-A, Storesund JE, Olesin E, Paulsen ML, **Larsen A**, Bratbak G, Ray JL 2018. Seasonality drives microbial community structure, shaping both eukaryotic and prokaryotic host-viral relationships in an Arctic marine ecosystem. *Viruses* 2018, 10 (12): 715. doi: 10.3390/v10120715
  12. Paulsen ML, Müller O, **Larsen A**, Middelboe M, Møller E, Sejr M, Stedmon C. 2018. Biological transformation of Arctic dissolved organic matter in a NE Greenland fjord. *Limnology and Oceanography* 9999, 2018, 1–20 doi: 10.1002/lno.11091
  13. Paulsen ML, Seuthe L, Reigstad M, **Larsen A**, Cape MR and Vernet M 2018. Asynchronous Accumulation of Organic Carbon and Nitrogen in the Atlantic Gateway to the Arctic Ocean. *Front. Mar. Sci.* 5:416. doi: 10.3389/fmars.2018.00416
  14. Peperzak L, Zetsche E-M, Gollasch S, Artigas L F, Bonato S, Creach V, de Vré P, Dubelaar GBJ, Henneghien J, Hess-Erga O-K, Langelaar R, **Larsen A**, Maurer BN, Mosselaar A, Reavie ED, Rijkeboer M & Tobiesen A 2018. Comparing flow cytometry and microscopy in the quantification of vital aquatic organisms in ballast water, *Journal of Marine Engineering & Technology*, DOI: 10.1080/20464177.2018.1525806
  15. Tsagaraki T, **Larsen A** et al. & Thingstad 2018 . Bacterial community composition responds to changes in copepod abundance and alters ecosystem function in an Arctic mesocosm study 2018. *The ISME Journal* <https://doi.org/10.1038/s41396-018-0217-7>
  16. Våge S, Bratbak G, Egge J, Heldal M, **Larsen A**, Norland S Paulsen ML, Pree B, Sandaa R-A, Skjoldal EF, Tsagaraki T, Øvreås L. & Thingstad 2018. Simple models combining competition, defence and resource availability have broad implications in pelagic microbial food webs *Ecology Letters*. *Ecology Letters* 21: 1440-1452. doi: 10.1111/ele.13122
  17. Lorenzo M R, Iñiguez C, Egge JK, **Larsen A**, Berger SA, García-Gómez C, Segovia M 2018. Increased CO<sub>2</sub> and iron availability effects on carbon assimilation and calcification on the formation of *Emiliania huxleyi* blooms in a coastal phytoplankton community. *Environmental and Experimental Botany* 148: 47-58. [doi.org/10.1016/j.envexpbot.2017.12.003](https://doi.org/10.1016/j.envexpbot.2017.12.003)
  18. Paulino AI, **Larsen A**, Bratbak G, Evens D, Erga SR, Bye-Ingebrigtsen E & Egge JK 2018. Seasonal and annual variability in the phytoplankton community of the Raunefjord, west coast of Norway from 2001–2006, *Marine Biology Research*, DOI: 10.1080/17451000.2018.1426863

19. Lawrence J, Toepper J, Petelenz-Kurdziel E, Bratbak G, **Larsen A**, Thompson E, Troedsson C, Ray JL 2018. Viruses on the menu: The appendicularian *Oikopleura dioica* efficiently removes viruses from seawater. *Limnol. Oceanogr*- 63: S244-S253. doi:10.1002/lno.10734
20. Sandaa R-A, Pree B, **Larsen A**, Våge S, Töpper B, Töpper JP, Thyrrhaug R, Thingstad TF. 2017. The Response of Heterotrophic Prokaryote and Viral Communities to Labile Organic Carbon Inputs Is Controlled by the Predator Food Chain Structure. *Viruses* 2017, 9, 238; doi:10.3390/v9090238
21. Paulsen ML, Nielsen SEB, Muller O, Møller EF, Stedmon CA, Juul-Pedersen T, Markager S, Sejr, MK, Huertas AD, **Larsen A**, Middelboe M 2017. Carbon Bioavailability in a High Arctic Fjord Influenced by Glacial Meltwater, NE Greenland *Frontiers in Marine Sciences* June 2017 volume 4 doi: 10.3389/fmars.2017.00176
22. Hoel, Ingunn Alne, Olsen RO, Hess-Erga O-K, Thuestad G, **Larsen A** 2017. Application of flow cytometry in ballast water analysis – biological aspects. *Management of Biological Invasions* (2017) Volume 8
23. Johannessen TV, **Larsen A**, Bratbak G, Pagarete A, Edvardsen B, Egge ED, Sandaa R-A 2017. Seasonal dynamics of haptophytes and dsDNA algal viruses suggest complex virus-host relationship. *Viruses* 2017, 9: 84; doi:10.3390/v9040084
24. Schultz KG Bach LT, Bellerby RGJ, Bermudez R, Buedenbender J, Boxhammer T, Czerny J, Engel A, Ludwig A, Meyerhoefer M, **Larsen A**, Paul A, Swat M, Riebesell U. 2017 Phytoplankton blooms at increasing levels of atmospheric carbon dioxide: experimental evidence for negative effects on prymnesiophytes and positive on small picoeukaryotes. *Frontiers in Marine Science* 22 March 2017 <https://doi.org/10.3389/fmars.2017.00064>
25. Ruiz E, Oosterhof M, Sandaa RA, **Larsen A**, Pagarete A 2017 Emerging Interaction Patterns in the *Emiliana huxleyi*-EhV System. *Viruses* 2017, 9, 61; doi:10.3390/v9030061
26. Segovia M, Lorenzo MR, Maldonado MT, **Larsen A**, Berger SA, Tsagaraki TM, Lázaro FJ, Iñiguez C, García-Gómez C, Palma A, Mausz MA, Gordillo FJL, Fernández JA, Ray JL, Egge JK 2017. Iron availability modulates the effects of future CO<sub>2</sub> levels within the marine planktonic food web. *Mar Ecol Prog Ser*. doi: 10.3354/meps12025
27. Riebesell U Bach LT, Bellerby RGJ, Bermúdez Monsalve JR, Boxhammer T, Czerny J, **Larsen A**, Ludwig A Schulz KG 2017. Ocean acidification can impair competitive fitness of a predominant pelagic calcifier. *Nature Geoscience* Vol 10 p19-24 DOI: 10.1038/NGEO2854
28. Pree B, **Larsen A**, Egge JK, Simonelli P, Madhusoodhanan R, Tsagaraki TM, Våge S, Erga SR, Bratbak G, Thingstad TF 2016. Dampened copepod-mediated trophic cascades in a microzooplankton dominated microbial food web: A mesocosm study. *Limnol. Oceanogr* doi: 10.1002/lno.10483
29. Ray JL, Althammer J, Skaar KS, Simonelli P, **Larsen A**, Stoecker D, Sazhin A, Ijaz UZ, Quince C, Nejtgaard JC, Frischer M, Pohnert G, Troedsson C. 2016. Metabarcoding and metabolome analysis of copepod grazing reveals feeding preference and linkage to metabolite classes in dynamic microbial plankton communities. *Molecular Ecology* (2016) doi: 10.1111/mec.13844
30. Paulsen ML, Doré H, Garczarek L, Seuthe L, Müller O, Sandaa R-A, Bratbak G, **Larsen A** 2016. *Synechococcus* in the Atlantic gateway to the Arctic. *Frontiers in Marine Science* 3:191. doi: 10.3389/fmars.2016.00191



31. Bach LT, Boxhammer T, **Larsen** Hildebrandt N, Schulz KG, Riebesell U. 2016. Influence of plankton community structure on the sinking velocity of marine aggregates, *Global Biogeochem. Cycles*, 30,1145–1165, doi:10.1002/2016GB005372.
32. Olsen RO, Hess-Erga O-K, **Larsen A**, Hoffmann F, Thuestad G, Hoell IA. 2016. Flow cytometry analysis is applicable to evaluate vitality of UV irradiated *Tetraselmis suecica* dual stained with CFDA-AM and SYTOX Blue. *Aquatic Biology* 25: 39-52 doi: 10.3354/ab00662
33. Bermúdez, J. R., Riebesell U, **Larsen A**, Winder, M. 2016. Ocean acidification reduces transfer of essential biomolecules in a natural plankton community. *Sci. Rep.* 6, 27749; doi: 10.1038/srep27749
34. Ray JL, Skaar KS, Simonelli P, **Larsen A**, Sazhin A, Jakobsen H, Nejstgaard JC, Troedsson C 2016. In situ molecular gut content analysis demonstrates that *Calanus* grazing on *Phaeocystis pouchetii* and *Skeletonema marinoi* in mesocosms is uncoupled from prey density but sensitive to bloom phase. *Marine Ecology Progress Series*. 542: 63-77. DOI: 10.3354/meps11560.
35. Olsen RO, Hoffmann F, Hess-Erga O-K, **Larsen A**, Thuestad G, Hoell I. 2016. Ultraviolet radiation as a ballast water treatment strategy: Inactivation of phytoplankton measured with flow cytometry. *Marine Pollution Bulletin* 103: 270-275 [10.1016/j.marpolbul.2015.12.008](https://doi.org/10.1016/j.marpolbul.2015.12.008)
36. Webb AL, Malin G, Hopkins FE, Ho KL, Riebesell U, Schulz KG, **Larsen A**, Liss PS 2015. Ocean acidification has different effects on the production of dimethylsulfide and dimethylsulfoniopropionate measured in cultures of *Emiliana huxleyi* and a mesocosm study: a comparison of laboratory monocultures and community interactions. *Environ. Chem.* <http://dx.doi.org/10.1071/EN14268>
37. Olsen RO, Hess-Erga O-K, **Larsen A**, Thuestad G, Tobiesen A, Hoell IA. 2015. Flow cytometric applicability to evaluate UV inactivation of phytoplankton in marine water samples. *Marine Pollution Bulletin*.96: 279-285. <http://dx.doi.org/10.1016/j.marpolbul.2015.05.012>
38. Stoecker, DK, Nejstgaard JC, Madhusoodhanan R, Pohnert G, Wolfram S, Jakobsen HH, Šulčius S, Simonelli P, **Larsen A**. 2015. Under-estimation of microzooplankton grazing in dilution experiments due to inhibition of phytoplankton growth. *Limnol. Oceanogr.* doi: 10.1002/lno.10106.
39. Egge, E. S., Andersen, T., Eikrem, W., Johannessen, T.V., Bittner, L., **Larsen, A.**, Sandaa, R.-A. & Bente Edvardsen. 2015. Seasonal dynamics of haptophytes in Skagerrak explored by 454 pyro sequencing of SSU. *Molecular Ecology* 24: 3026-3042. DOI: 10.1111/mec.13160
40. Pree, B, Kuhlisch, C, Pohnert, G, Sazhin, A, Jakobsen, HH, Lund Paulsen, M, Frischer, ME, Stoecker, D, Nejstgaard, JC, **Larsen, A**. 2015. A simple adjustment to test reliability of bacterivory rates derived from the dilution method. *Limnol. Oceanogr Methods* doi: 10.1002/lom3.10076.
41. **Larsen A**, Egge JK, Nejstgaard JC, Capua ID, Thyrraug R, Bratbak G, Thingstad TF. 2015. Contrasting response to nutrient manipulation in Arctic mesocosms are reproduced by a minimum microbial food web model. *Limnol. Oceanogr.* 60: 360–374. doi:10.1002/lno.10025
42. Johannessen TV, Bratbak G, **Larsen A**, Ogata H, Egge ES, Edvardsen B, Eikrem W, Sandaa R-A. 2014. Characterisation of three novel giant viruses reveals huge diversity among viruses infecting Prymnesiales (Haptophyta). *Virology*, 476, 180-188. doi:10.1016/j.virol.2014.12.014
43. Ray, JL, Haramaty L, Thyrraug R, Fredricks, HF, Van Mooy BAS, **Larsen A**, Bidle KD, Sandaa R-A. 2014. Virus infection of *Haptolina ericina* and *Phaeocystis pouchetii*

- implicates evolutionary conservation of programmed cell death induction in marine haptophyte-virus interactions. *J Pl Res* doi: 10.1093/plankt/fbu029
44. Pagarete A, Lanzén A, Puntervoll P, Sandaa R-A, **Larsen A**, Larsen J, Allen MJ, Bratbak G. 2013. *Genomic sequence and analysis of EbV-99b1, a new coccolithovirus from the Norwegian fjords. Intervirology* 53: 60-66. DOI: 10.1159/000341611.
  45. Vardi A, Haramty L, Van Mooy B, Fredricks H, Kimmance S, **Larsen A**, Bidle K 2012. *Host–virus dynamics and subcellular controls of cell fate in a natural coccolithophore population* PNAS 109 (47): 19327–19332.
  46. Heldal M, Norland S, Erichsen ES, Sandaa R-A, **Larsen A**, Thingstad F Bratbak G 2012. *Mg<sup>2+</sup> as an indicator of nutritional status in marine bacteria*. The ISME Journal doi:10.1038/ismej.2011.130
  47. Bratbak G, Jacquet S, **Larsen A**, Pettersson LH, Sazhin AF, Thyrraug R. 2011 The plankton community in Norwegian coastal waters - abundance, composition, spatial distribution and diel variation. *Continental Shelf Research* doi:10.1016/j.csr.2011.06.014
  48. Töpper B, **Larsen A**, Thingstad TF, Thyrraug R Sandaa R-A. 2010. Bacterial community composition in an Arctic phytoplankton mesocosm bloom: the impact of silicate and glucose. 2011. *Polar Biology* DOI 10.1007/s00300-010-0846-4
  49. Thingstad TF, Strand E, **Larsen A**. 2010. Stepwise building of plankton functional type (PFT) models: A feasible route to complex models. *Progress in Oceanography* 84: 6-15.
  50. Iversen KR, Primicerio R, **Larsen A**, Egge JK, Peters F, Guadayol O, Jacobsen A, Havskum H & Marrase C 2010. Effects of small-scale turbulence on lower trophic levels under different nutrient conditions. *Journal of Plankton Research* 32: 197-208
  51. Egge JK, Thingstad TF, **Larsen A**, Engel, A, Wohlers J, Bellerby RGJ, Riebesell U. 2009. Primary production during nutrient-induced blooms at elevated CO<sub>2</sub> concentrations. *Biogeoscience* 6, 877–885.
  52. **Larsen A**, Tanaka, T., Zubkov, M. V. & Thingstad F. 2008. P-uptake measurements of specific osmotroph populations using cell-sorting flow cytometry. *Limnology and Oceanography Methods* 6: 355-363.
  53. Thingstad TF, R.G.J. Bellerby, G Bratbak, KY Børsheim, JK Egge, M Heldal, **A Larsen**, C Neill, J Nejtgaard, S Norland, R-A Sandaa, EF Skjoldal, T Tanaka, R Thyrraug, B Töpper. 2008. Counterintuitive food web response to organic carbon enrichment in an arctic pelagic ecosystem. *Nature* 455: 387-390 (doi:10.1038/nature07235).
  54. Larsen JB, **Larsen A**, Bratbak G, and Sandaa R.-A. 2008. Phylogenetic Analysis of Members of the *Phycodnaviridae* Virus Family, Using Amplified Fragments of the Major Capsid Protein Gene. *Applied and Environmental Microbiology* 74: 3048–3057.
  55. Paulino, A.I., Egge JK, **Larsen A**. 2008. Effects of increased atmospheric CO<sub>2</sub> on small and intermediate sized osmotrophs during a nutrient induced phytoplankton bloom. *Biogeoscience* 5, 739–748.
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### White papers, reports

Dunsha, Martellet al. 2021. Kunnskapsstatus for bruk av molekylære verktøy i kartlegging og overvåking av biologisk mangfold i marine miljø-Knowledge status for the use of molecular tools in mapping and monitoring biological diversity in marine environments. Miljødirektoratet. M-nummer 2062.

Ray et al 2020: UNIG (U.S.–Norway Intergovernmental Group on eDNA Implementation for Fisheries Stock Assessments and Management). 2020. Implementation of Environmental DNA (eDNA) as a Tool for Ecosystem-Based Fisheries Management. U.S. Department of Commerce, NOAA White Paper NMFS-NWFSC-WP-2020-01. <https://doi.org/10.25923/e736-vn83>

### Invited speaker

**Larsen, A.** *Microbes under climate change - or why copepods are important when permafrost melts.* Oceans, climate and society-Summer school 2016, University of Bergen.

**Larsen, A.** [*μP*] - *why, where, what?* Fort Hjort-seminar, Bergen 13. 02. 15.

**Larsen, A.,** Bødker, G. "Olje er en kilde til organisk karbon for mikroorganismer – Hvordan kan oljesøl påvirke strukturen til det mikrobielle næringsnett i nordområdene?" "Oljeforurensning i nordområdene med fokus på Barentshavet" UNI-Research WS Bergen 18. 01. 2011

**Larsen, A.** *The microbial loop and viruses.* ARCTOS (Arctic marine ecosystem research network) - all meeting October 7<sup>th</sup> 2008, University of Tromsø.

**Larsen, A.** *Flow Sorting in a Marine Microbial World.* BD FACS Users Meeting. Living Cells in Focus – Cell Function in Cytometry. Oslo, Norway. February 6-7, 2006.

**Larsen A.** Thyrhaug R, Sandaa R-A, Castberg T, Brussaard, CPD, Jacobsen A, Jacquet S, Heldal M, Thingstad TF, Bratbak G. *Marine Phytoplankton viruses – ecology, physiology and host virus interactions.* Ocean Science Meeting, ASLO (American Society of Limnology and Oceanography), Honolulu, Hawaii. 11-15. February 2002.

### Popular science

The Edge <https://www.orkana.no/product/at-the-edge/>: Chapter: Doing Everything Everywhere All the Time – The story about those that were thought to be unimportant in the Arctic Ocean. Lena Seuthe, Gunnar Bratbak, Aud Larsen 2018.

- Forskning.no - Forskeren forteller*. Nye bakterier beveger seg inn i arktiske farvann. Paulsen ML, Seuthe L, **Larsen A**. 3mars 2017.
- Schrodingers Katt*: De usynlige hjelperne. 26 November 2015:  
<https://tv.nrk.no/serie/schrodingers-katt/DMPV73002315/26-11-2015>
- “Micropolar – blog” (<http://micropolar.blogspot.no/>) and Facebook (<https://www.facebook.com/themicropolarproject?fref=ts>) reports on the NFR funded MicroPolar project (co-PI-ed by **Aud Larsen**)
- “Phaeocystis pouchetii bloom from the perspective of heterotrophic bacteria”. Pree B, **Larsen** et al. 2014. IMBER Newsletter No. 27, sept 2014.
- «*The secrets of the Sea*» - FOCUS Article in HUBRO International edition 2013/2014 (University of Bergen’s research and education magazine)
- ”Føling med fjæra” – På Høyden 12. 05. 2011. (**Larsen, A.** mfl.). Interview during participation in an international research project on ocean acidification ([http://nyheter.uib.no/?modus=vis\\_nyhet&id=48858](http://nyheter.uib.no/?modus=vis_nyhet&id=48858))
- ”Klimautslipp tar knekken på virus”- På Høyden 21.04.08 and forskning.no 23.04.08 (**Larsen, J. & Larsen, A.**) [http://nyheter.uib.no/?modus=vis\\_nyhet&id=40007](http://nyheter.uib.no/?modus=vis_nyhet&id=40007)  
<http://www.forskning.no/artikler/2008/april/179915>
- ”Av og til er en nanometer nok” Talk at ”Forskningsdagene 2007 i Bergen” 22.09.07 (Larsen, A. & Sandaa, R-A.)
- ”Maneter, virus og bakterier” - Participation at NRK P2 ”Verdt å vite” 20.08.04 [http://www.nrk.no/programmer/radioarkiv/verdt\\_a\\_vite/4012748.html](http://www.nrk.no/programmer/radioarkiv/verdt_a_vite/4012748.html) (**Larsen & Sandaa**)
- ”Alger og virus: Kampen for tilværelsen på mikronivå” - Lecture at ”Faglig Pedagogisk dag”, UiB, 02.02.01 (**Larsen, A & Thyraug, R**)

### Teaching material

- Egge J & **Larsen A**. 1999. *Marin Floristikk og faunistikk*. Compendium made for use at the course BFM 220 Marine flora and fauna at Department of Biology, University of Bergen. The compendium is still being used.

### Oral presentations at international conferences last ten years (presenting author underlined)

- Tatiana M Tsagaraki, JorunK Egge, Gunnar Bratbak, ØysteinLeikness, T. FredeThingstad, LiseØvreås, Ruth-Anne Sandaa, ElzbietaA. Petelenz-Kurdziel, Maria L. Paulsen, Colin A. Stedmon, SveinNorland, Mikal Heldal and **AudLarsen**. Microbial food web structure in a changing Arctic. Arctic Frontiers: White Space – blue future. Tromsø, Norway 21-26 Jan 2017.
- Ray JL, Enault F, Johannessen TV, Bratbak G, **Larsen A**, Sandaa R-A. From light to dark and shallow to deep. Arctic Frontiers: White Space – blue future. Tromsø, Norway 21-26 Jan 2017.
- Paulsen ML, Doré H, Garczarek L, Seuthe L, Muller O, Sandaa R-A, Bratbak, **Larsen A**. *Synechococcus* in the Atlantic gateway to the Arctic Ocean. Arctic Frontiers: White Space – blue future. Tromsø, Norway 21-26 Jan 2017.
- Egge E, Daniel Vaultot, **Aud Larsen**, Gunnar Bratbak, Uwe John, Bente Edvardsen. Protist community structure in Atlantic Arctic through the year as revealed by high throughput sequencing. Arctic Frontiers: White Space – blue future. Tromsø, Norway 21-26 Jan 2017.

- Larsen, A.** Predator's influence on osmotrophs' competition for mineral nutrients in arctic marine microbial pelagic food webs. ASLO Winter Meeting, Granada, Spain, Febr 12-27, 2015.
- Sandaa R-A**, Tøpper B, **Larsen A**, Våge S, Pree B. Differences in Top-down viral regulation as a result of competition between players in the microbial food-web. ASLO Winter Meeting, Granada, Spain, Febr 12-27, 2015.
- Edwardsen B**, Egge ES, Stadniczeňko SG, Johannessen, TV, **Larsen A**, Sandaa, R-A Andersen T. Diversity, seasonal dynamics and biotic interactions in marine phytoplankton and virus communities. ASLO Winter Meeting, Granada, Spain, Febr 12-27, 2015.
- Segovia M**, Lorenzo, MR, Maldonado, MT, **Larsen A**, Lazaro FJ, Iñiguez C, Palma A, Garcia-Gomez C, Bergenr SA. Effect of increased CO<sub>2</sub> and iron levels on the marine plankton food web during a mesocosm experiment. ASLO Winter Meeting, Granada, Spain, Febr 12-27, 2015.
- Stoecker D**, Nejstgaard JC, Madhusoodhanan R, Pohnert G, Wolfram S, Jakobsen HH, **Larsen A**. Inhibition of microzooplankton grazing during *Skeletonema* and *Phaeocystis* blooms: Fact or srtifact. ASLO Winter Meeting, Granada, Spain, Febr 12-27, 2015
- Pree B**, **Larsen A**, Thingstad TF, Frischer ME, Stoecker D, Sazhin AF, Jakobsen HH, Simonelli P, Nejstgaard JC. *Phaeocystis pouchetii* bloom from the perspective of heterotrophic bacteria. IMBER Open Science Conference (23-27 June 2014, Bergen, Norway).
- Ray JL**, Skaar KS, Simonelli P, **Larsen A**, Troedsson C: Prey-specific Q-PCR and pyrosequencing of universal 18S amplicons from seawater and copepod gut content. ASLO Winter Meeting, Granada, Spain, Febr 12-27, 2015
- Stoecker D**, Nejstgaard JC, Pohnert G, Wolfram S, Jakobsen HH, Madhusoodhanan R, Sulcius S, **Larsen A**. Under-estimation of microzooplankton grazing in dilution experiments during blooms of *Skeletonema marinoi* and *Phaeocystis pouchetii* IMBER Open Science Conference (23-27 June 2014, Bergen, Norway).
- Larsen, A.** *Two different mesocosm experiments – what did they teach us? Or the zooplankton predator chain as structuring force for the microbial food web dynamics.* Aquatic Mesocosm Research RMS, Crete-Greece 16-19 October 2012
- Bermúdez, J.R.**, **Larsen, A.**, Riebesell, U., Schulz, K.G., Winder, M. *CO<sub>2</sub> induced shifts in natural phytoplankton community composition and biochemical make-up.* Aquatic Mesocosm Research RMS, Crete-Greece 16-19 October 2012
- Sandaa R-A**, Tøpper B, **Larsen A**, Thingstad TF. *Viruses, a controlling force on prokaryotic diversity?* 14<sup>th</sup> International Symposium on Microbial Ecology. ISME Copenhagen 19-24 Aug 2012.
- Bidle KD**, Vardi, A., Haramaty, L., Van Mooy, B.A.S., Fredricks, H.F., **Larsen, A.**, Kimmance, S., Frada, M., Bibby, T., DiTullio, G.R. *A host-virus chemical arms race at sea: placing subcellular controls of cell fate into an ecological and biogeochemical context.* The 6<sup>th</sup> Algal Virus Workshop, Texel, Netherland 2011.