

## Curriculum vitae

### PERSONAL INFORMATION

\*Family name, First name: Lauvset, Siv K.

\*Date of birth: 07.02.1980

\*Sex: Female

\*Nationality: Norwegian

Researcher unique identifiers: ORCID: 0000-0001-8498-4067

URL for personal web site: <https://www.norceresearch.no/personer/siv-kari-lauvset>

### KEY QUALIFICATIONS

#### EDUCATION

- 2011 PhD in Chemical Oceanography: **Disputation date: 11.03.2011.**  
Geophysical Institute, University of Bergen, Norway  
Supervised by Dr. Are Olsen
- 2007 Master of Science in Geophysics  
Geophysical Institute, University of Bergen, Norway

#### CURRENT AND PREVIOUS POSITIONS

- 2018-present Forsker II (100%)  
NORCE Norwegian Research Centre, NORCE Climate, Norway
- 2015-2017 Forsker II (60%)  
Uni Research Climate, Norway
- 2016-present Forsker II (40%)  
Geophysical Institute, University of Bergen
- 2014-2015 Forsker II (100%)  
Geophysical Institute, University of Bergen
- 2012-2014 Post-Doc  
Geophysical Institute, University of Bergen
- 2011-2012 Forsker II  
Geophysical Institute, University of Bergen

#### GRANTS

- 2018-present Coordinator: Integrated Carbon Observation System (ICOS)-Norway and Ocean Thematic Centre, RCN project number 245927
- 2017-present NORCE PI for NorArgo2, coordinated by Kjell Arne Mork at IMR
- 2012-2014 Coordinator: Decadal trends in global ocean pH: From data and methods to analysis and understanding, DECApH, RCN project number 214513.

#### MOBILITY

- 2012-2013 Visiting researcher at ETH Zürich hosted by Dr. Nicolas Gruber (9 months)

#### PEER-REVIEWED ACADEMIC AND PROFESSIONAL PUBLICATIONS

- Sulpis, O., Jeansson, E., Dinauer, A., Lauvset, S. K., and Middelburg, J. J., 2021. Calcium carbonate dissolution patterns in the ocean, *Nature Geoscience*, 10.1038/s41561-021-00743-y.
- Carter, B.R., Feely, R.A., Lauvset, S.K., Olsen, A., DeVries, T., Sonnerup, R., 2021. Preformed Properties for Marine Organic Matter and Carbonate Mineral Cycling Quantification. *Global Biogeochemical Cycles* 35 (1), e2020GB006623. doi:<https://doi.org/10.1029/2020GB006623>.
- Keppler, L., Landschützer, P., Gruber, N., Lauvset, S.K., Stemmler, I., 2020. Seasonal Carbon Dynamics in the Near-Global Ocean. *Global Biogeochemical Cycles* 34 (12), e2020GB006571. doi:<https://doi.org/10.1029/2020GB006571>.

- Fransner, F., Fröb, F., Tjiputra, J., Chierici, M., Fransson, A., Jeansson, E., Johannessen, T., Jones, E., **Lauvset, S.K.**, Ólafsdóttir, S.R., Omar, A., Skjelvan, I., Olsen, A., 2020. Nordic Seas Acidification. *Biogeosciences Discuss.* 2020, 1-31. doi: 10.5194/bg-2020-339
- Olsen, A., Lange, N., Key, R.M., Tanhua, T., Bittig, H.C., Kozyr, A., Alvarez, M., Azetsu-Scott, K., Becker, S., Brown, P.J., Carter, B.R., Cotrim da Cunha, L., Feely, R.A., van Heuven, S., Hoppema, M., Ishii, M., Jeansson, E., Jutterström, S., Landa, C.S., Lauvset, S.K., Michaelis, P., Murata, A., Pérez, F.F., Pfeil, B., Schirnack, C., Steinfeldt, R., Suzuki, T., Tilbrook, B., Velo, A., Wanninkhof, R., Woosley, R.J., 2020. An updated version of the global interior ocean biogeochemical data product, GLODAPv2.2020. *Earth Syst. Sci. Data* 12 (4), 3653-3678. doi:10.5194/essd-12-3653-2020.
- Belgacem, M., Chiggiato, J., Borghini, M., Pavoni, B., Cerrati, G., Acri, F., Cozzi, S., Ribotti, A., Álvarez, M., **Lauvset, S.K.**, Schroeder, K., 2020. Dissolved inorganic nutrients in the western Mediterranean Sea (2004–2017). *Earth Syst. Sci. Data* 12 (3), 1985-2011. doi: 10.5194/essd-12-1985-2020
- Sulpis, O., **Lauvset, S.K.**, Hagens, M., 2020. Current estimates of K1\* and K2\* appear inconsistent with measured CO2 system parameters in cold oceanic regions. *Ocean Sci.* 16 (4), 847-862. doi: 10.5194/os-16-847-2020
- Lauvset, S.K.**, Carter, B.R., Perez, F.F., Jiang, L.-Q., Feely, R.A., Velo, A., Olsen, A., 2020. Processes Driving Global Interior Ocean pH Distribution. *Global Biogeochemical Cycles* 34 (1), e2019GB006229. doi: 10.1029/2019gb006229
- Kitidis, V., Shutler, J.D., Ashton, I., Warren, M., Brown, I., Findlay, H., Hartman, S.E., Sanders, R., Humphreys, M., Kivimae, C., Greenwood, N., Hull, T., Pearce, D., McGrath, T., Stewart, B.M., Walsham, P., McGovern, E., Bozec, Y., Gac, J.P., van Heuven, S., Hoppema, M., Schuster, U., Johannessen, T., Omar, A., **Lauvset, S.K.**, Skjelvan, I., Olsen, A., Steinhoff, T., Kortzinger, A., Becker, M., Lefevre, N., Diverres, D., Gkritzalis, T., Catrijsse, A., Petersen, W., Voynova, Y.G., Chapron, B., Grouazel, A., Land, P.E., Sharples, J., Nightingale, P.D., 2019. Winter weather controls net influx of atmospheric CO2 on the north-west European shelf. *Sci Rep* 9 (1), 20153. doi: 10.1038/s41598-019-56363-5
- Jiang, L.-Q., Carter, B.R., Feely, R.A., **Lauvset, S.K.**, Olsen, A., 2019. Surface ocean pH and buffer capacity: past, present and future. *Scientific Reports* 9 (1). doi: 10.1038/s41598-019-55039-4
- Friedlingstein, P. et al., 2019. Global Carbon Budget 2019. *Earth Syst. Sci. Data* 11 (4), 1783-1838. doi:10.5194/essd-11-1783-2019
- Olsen, A., Lange, N., Key, R.M., Tanhua, T., Álvarez, M., Becker, S., Bittig, H.C., Carter, B.R., Cotrim da Cunha, L., Feely, R.A., van Heuven, S., Hoppema, M., Ishii, M., Jeansson, E., Jones, S.D., Jutterström, S., Karlsen, M.K., Kozyr, A., **Lauvset, S.K.**, Lo Monaco, C., Murata, A., Pérez, F.F., Pfeil, B., Schirnack, C., Steinfeldt, R., Suzuki, T., Telszewski, M., Tilbrook, B., Velo, A., Wanninkhof, R., 2019. GLODAPv2.2019 – an update of GLODAPv2. *Earth Syst. Sci. Data* 11 (3), 1437-1461. doi:10.5194/essd-11-1437-2019
- Steinhoff, T., Gkritzalis, T., **Lauvset, S.K.**, Jones, S., Schuster, U., Olsen, A., Becker, M., Bozzano, R., Brunetti, F., Cantoni, C., Cardin, V., Diverres, D., Fiedler, B., Fransson, A., Giani, M., Hartman, S., Hoppema, M., Jeansson, E., Johannessen, T., Kitidis, V., Kortzinger, A., Landa, C., Lefèvre, N., Luchetta, A., Naudts, L., Nightingale, P.D., Omar, A.M., Pensieri, S., Pfeil, B., Castaño-Primo, R., Rehder, G., Rutgersson, A., Sanders, R., Schewe, I., Siena, G., Skjelvan, I., Soltwedel, T., van Heuven, S., Watson, A., 2019. Constraining the Oceanic Uptake and Fluxes of Greenhouse Gases by Building an Ocean Network of Certified Stations: The Ocean Component of the Integrated Carbon Observation System, ICOS-Oceans. *Frontiers in Marine Science* 6 (544). doi:10.3389/fmars.2019.00544
- Lebehot, A.D., Halloran, P.R., Watson, A.J., McNeill, D., Ford, D.A., Landschutzer, P., **Lauvset, S.K.**, Schuster, U., 2019. Reconciling Observation and Model Trends in North Atlantic Surface CO2. *Global Biogeochemical Cycles* 33 (10), 1204-1222. doi:10.1029/2019gb006186

- Wanninkhof, R., Pickers, P.A., Omar, A.M., Sutton, A., Murata, A., Olsen, A., Stephens, B.B., Tilbrook, B., Munro, D., Pierrot, D., Rehder, G., Santana-Casiano, J.M., Müller, J.D., Trinanes, J., Tedesco, K., O'Brien, K., Currie, K., Barbero, L., Telszewski, M., Hoppema, M., Ishii, M., González-Dávila, M., Bates, N.R., Metzl, N., Suntharalingam, P., Feely, R.A., Nakaoka, S.-i., **Lauvset, S.K.**, Takahashi, T., Steinhoff, T., Schuster, U., 2019. A Surface Ocean CO<sub>2</sub> Reference Network, SOCONET and Associated Marine Boundary Layer CO<sub>2</sub> Measurements. *Frontiers in Marine Science* 6 (400). doi:10.3389/fmars.2019.00400
- Negrete-García, G., Lovenduski, N.S., Hauri, C., Krumhardt, K.M., **Lauvset, S.K.**, 2019. Sudden emergence of a shallow aragonite saturation horizon in the Southern Ocean. *Nature Climate Change* 9 (4), 313-317. doi:10.1038/s41558-019-0418-8
- Gruber, N., Clement, D., Carter, B.R., Feely, R.A., van Heuven, S., Hoppema, M., Ishii, M., Key, R.M., Kozyr, A., **Lauvset, S.K.**, Lo Monaco, C., Mathis, J.T., Murata, A., Olsen, A., Perez, F.F., Sabine, C.L., Tanhua, T., Wanninkhof, R., 2019. The oceanic sink for anthropogenic CO<sub>2</sub> from 1994 to 2007. *Science* 363 (6432), 1193-1199. doi:10.1126/science.aau5153
- Muri, H., Tjiputra, J., Otterå, O.H., Adakudlu, M., **Lauvset, S.K.**, Grini, A., Schulz, M., Niemeier, U., Kristjánsson, J.E., 2018. Climate Response to Aerosol Geoengineering: A Multimethod Comparison. *Journal of Climate* 31 (16), 6319-6340. doi:10.1175/jcli-d-17-0620.1
- Lauvset, S.K.**, Brakstad, A., Våge, K., Olsen, A., Jeansson, E., Mork, K.A., 2018. Continued warming, salinification and oxygenation of the Greenland Sea gyre. *Tellus A: Dynamic Meteorology and Oceanography* 70 (1), 1-9. doi:10.1080/16000870.2018.1476434
- Tjiputra, J.F., Goris, N., **Lauvset, S.K.**, Heinze, C., Olsen, A., Schwinger, J., Steinfeldt, R., 2018. Mechanisms and early detections of multi-decadal oxygen changes in the interior subpolar North Atlantic. *Geophysical Research Letters*. doi:10.1029/2018gl077096
- Goris, N., Tjiputra, J.F., Olsen, A., Schwinger, J., **Lauvset, S.K.**, Jeansson, E., 2018. Constraining Projection-Based Estimates of the Future North Atlantic Carbon Uptake. *Journal of Climate*, 31, 3959-3978, doi:10.1175/jcli-d-17-0564.1.
- Yasunaka, S., Siswanto, E., Olsen, A., Hoppema, M., Watanabe, E., Fransson, A., Chierici, M., Murata, A., **Lauvset, S.K.**, Wanninkhof, R., Takahashi, T., Kosugi, N., Omar, A.M., van Heuven, S., Mathis, J.T., 2018. Arctic Ocean CO<sub>2</sub> uptake: an improved multiyear estimate of the air-sea CO<sub>2</sub> flux incorporating chlorophyll a concentrations. *Biogeosciences* 15 (6), 1643-1661. doi:10.5194/bg-15-1643-2018
- Fröb, F., Olsen, A., Pérez, F. F., García-Ibáñez, M. I., Jeansson, E., Omar, A., and **Lauvset, S. K.** 2018. Inorganic carbon and water masses in the Irminger Sea since 1991, *Biogeosciences*, 15, 51-72, doi:10.5194/bg-15-51-2018.
- Lauvset, S. K.**, Tjiputra, J., and Muri, H. 2017. Climate engineering and the ocean: effects on biogeochemistry and primary production, *Biogeosciences*, 14, 5675-5691, doi:10.5194/bg-14-5675-2017.
- Turk, D., Dowd, M., **Lauvset, S. K.**, Koelling, J., Alonso-Pérez, F., and Pérez, F. F. 2017. Can Empirical Algorithms Successfully Estimate Aragonite Saturation State in the Subpolar North Atlantic?, *Frontiers in Marine Science*, 4, doi:10.3389/fmars.2017.00385.
- Bakker, D. C. E., et al. 2016. A multi-decade record of high quality fCO<sub>2</sub> data in version 3 of the Surface Ocean CO<sub>2</sub> Atlas (SOCAT). *Earth System Science Data* 8: 383-413. doi:10.5194/essd-8-383-2016.
- Lauvset, S.K.**, Key, R.M., Olsen, A., van Heuven, S., Velo, A., Lin, X., Schirnick, C., Kozyr, A., Tanhua, T., Hoppema, M., Jutterström, S., Steinfeldt, R., Jeansson, E., Ishii, M., Perez, F.F., Suzuki, T., Watelet, S., 2016. A new global interior ocean mapped climatology: the 1°×1° GLODAP version 2. *Earth Syst. Sci. Data* 8 (2), 325-340. doi:10.5194/essd-8-325-2016.
- Olsen, A., Key, R.M., van Heuven, S., **Lauvset, S.K.**, Velo, A., Lin, X., Schirnick, C., Kozyr, A., Tanhua, T., Hoppema, M., Jutterström, S., Steinfeldt, R., Jeansson, E., Ishii, M., Pérez, F.F., Suzuki, T., 2016. The Global Ocean Data Analysis Project version 2 (GLODAPv2) – an internally consistent data product for the world ocean. *Earth Syst. Sci. Data* 8 (2), 297-323. doi:10.5194/essd-8-297-2016.

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- Le Quéré, C., et al. 2015. Global Carbon Budget 2015, *Earth Syst. Sci. Data*, 7, 349-396. doi:10.5194/essd-7-349-2015.
- Lauvset, S. K.** and Tanhua, T. 2015. A toolbox for secondary quality control on ocean chemistry and hydrographic data, *Limnol. Oceanogr. Meth.*, 13, 601-608. doi:10.1002/lom3.10050.
- Lauvset, S. K.**, N. Gruber, P. Landschützer, A. Olsen, and J. Tjiputra. 2015. Trends and drivers in global surface ocean pH over the past 3 decades. *Biogeosciences* **12**: 1285-1298. doi:10.5194/bg-12-1285-2015.
- Lauvset, S.K.**, Gruber, N., 2014. Long-term trends in surface ocean pH in the North Atlantic. *Marine Chemistry* 162, 71-76. doi:10.1016/j.marchem.2014.03.009.
- Bakker, D.C.E., et al. 2014. An update to the Surface Ocean CO<sub>2</sub> Atlas (SOCAT version 2). *Earth Syst. Sci. Data* 6, 69-90. doi:10.5194/essd-6-69-2014.
- Lauvset, S.K.**, Chierici, M., Counillon, F., Omar, A., Nondal, G., Johannessen, T., Olsen, A., 2013. Annual and seasonal fCO<sub>2</sub> and air–sea CO<sub>2</sub> fluxes in the Barents Sea. *Journal of Marine Systems* 113–114, 62-74. doi: <http://dx.doi.org/10.1016/j.jmarsys.2012.12.011>.
- Pfeil, B., et al. 2013. A uniform, quality controlled Surface Ocean CO<sub>2</sub> Atlas (SOCAT). *Earth Syst. Sci. Data* 5, 125-143. doi:10.5194/essd-5-125-2013.
- Sabine, C.L., et al. 2013. Surface Ocean CO<sub>2</sub> Atlas (SOCAT) gridded data products. *Earth Syst. Sci. Data* 5, 145-153. doi:10.5194/essd-5-145-2013.
- Jeansson, E., Olsen, A., Eldevik, T., Skjelvan, I., Omar, A.M., **Lauvset, S.K.**, Nilsen, J.E.Ø., Bellerby, R.G.J., Johannessen, T., Falck, E., 2011. The Nordic Seas carbon budget: Sources, sinks, and uncertainties. *Global Biogeochem. Cycles* 25, GB4010. doi:10.1029/2010gb003961.
- Lauvset, S.K.**, McGillis, W.R., Bariteau, L., Fairall, C.W., Johannessen, T., Olsen, A., Zappa, C.J., 2011. Direct measurements of CO<sub>2</sub> flux in the Greenland Sea. *Geophys. Res. Lett.* 38, L12603. doi:10.1029/2011gl047722.

## SCIENTIFIC REPORTS AND THESIS

- Chierici, M., I. Skjelvan, M. Norli, E. Jones., K.Y. Børsheim, S. K. Lauvset, H.H. Lødemel, K. Sørensen, A.L. King, og T. Johannessen. 2017. Overvåking av havforsuring i norske farvann i 2016, Rapport, Miljødirektoratet, M-776|2017.
- Chierici, M., I. Skjelvan, M. Norli, K.Y. Børsheim, S. K. Lauvset, H.H. Lødemel, K. Sørensen, A.L. King, T. Kutti, A. Renner, A. Omar, T. Johannessen. 2016. Overvåking av havforsuring i norske farvann i 2015, Rapport, Miljødirektoratet, M-573|2016.
- Chierici, M., I. Skjelvan, M. Norli, H.H. Lødemel, L.F. Lunde, K. Sørensen, E. Yakushev, R. Bellerby, A.L. King, S. K. Lauvset, T. Johannessen, K.Y. Børsheim. 2015. Overvåking av havforsuring i norske farvann i 2014, Rapport, Miljødirektoratet, M-354|2015.
- Skjelvan, I., E. Jeansson, M. Chierici, A. Omar, A. Olsen, S. Lauvset, T. Johannessen, 2014. Havforsuring og opptak av antropogent karbon i de Nordiske hav, 1981-2013, Rapport, Miljødirektoratet, M244-2014.
- Lauvset, S.K., 2011. Transport of inorganic carbon through, within, and below the ocean surface. Article based PhD thesis, University of Bergen, Bergen. Available in BORA: <http://hdl.handle.net/1956/4774>

## SUPERVISION OF GRADUATE STUDENTS AND RESEARCH FELLOWS

- 2019-present* Supervision of PhD student Xabier Dávila
- 2011-2015* Supervision of three Master Students graduating in 2012, 2014, and 2015 respectively at the Geophysical Institute, University of Bergen, Norway

## **ORGANISATION OF SCIENTIFIC MEETINGS**

- 2019* Co-convenor of session OS3.1/BG3.6: Ocean biogeochemistry, climate and ecosystems: recent advances and novel approaches to synthesis and predictions at the 2018 EGU General Assembly meeting
- 2018* Co-convenor of session OS3.1/BG3.3: Ocean biogeochemistry, climate and ecosystems: recent advances and novel approaches to synthesis and predictions at the 2018 EGU General Assembly meeting
- 2017* Co-convenor of session OS3.1/BG9.69: Ocean biogeochemistry and ecosystems: recent advances and novel approaches to synthesis and prediction at the 2017 EGU General Assembly meeting
- 2016* Co-convenor of session OS3.1/BG3.8: Ocean biogeochemistry: novel approaches and synthesis at the 2016 EGU General Assembly meeting

## **COMMISSIONS OF TRUST**

- 2020* Co-chair of the scientific evaluation committee in the call "Functioning of fluid and solid Earth" at the French National Research Agency
- 2018-present* Member of the NorArgo steering committee
- 2017-2020* Member of scientific evaluation committee in the call "Functioning of fluid and solid Earth" at the French National Research Agency (appointed for 3 years)
- 2017-11-14* Leader of evaluation panel for PhD thesis of Elsheikh Bashir Ali: The inorganic carbon cycle of the Red Sea at the Geophysical Institute, University of Bergen
- 2017-07-19* Member of PhD panel for Susan E. Hartman defending the PhD thesis: Spatial and inter-annual variability in biogeochemical variables in surface waters of the temperate Northeast Atlantic at UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA, Programa de Doctorado en Oceanografía y Cambio Global, Instituto de Oceanografía y Cambio Global. Grupo de Química Marina
- 2017* Reviewer for the Natural Environment Research Council (NERC)
- 2016-present* Member of the International Ocean Carbon Coordination Project (IOCCP) Scientific Steering Committee and the GOOS Essential Ocean Variable Biogeochemistry Panel
- 2015-2016* Member of the NorArgo user committee, a board representing Argo-users in Norway
- 2014-present* SOLAS Norway national representative
- 2013-present* Reviewer for Progress in Oceanography, Geophysical Research Letters, Deep-Sea Research, ICES Journal of Marine Science, Journal of Marine Systems, Journal of Geophysical Research – Biogeosciences, Global Biogeochemical Cycles, Biogeosciences, Journal of Geophysical Research – Oceans, Nature Communications, Nature Scientific Reports.

## **MAJOR COLLABORATIONS**

- Surface Ocean CO<sub>2</sub> Atlas (SOCAT) – A large scientist driven international collaboration to collect, quality control, and synthesize all surface ocean observations of pCO<sub>2</sub> ([www.socat.info](http://www.socat.info)). Has resulted in 4 highly cited peer reviewed publications, all in Earth System Science Data.
- Global Ocean Data Analysis Project version 2 – An international scientist driven collaboration to update, improve, and expand the highly cited GLODAP data product published in 2004 (<http://cdiac.ornl.gov/oceans/GLODAPv2/>). Has resulted in 3 publications both in Earth System Science Data.
- Global Carbon Budget – A scientist driven effort to create annual updates to the global carbon budget (<http://www.globalcarbonproject.org/carbonbudget/>). Peer-reviewed publications are published annually in December, and I have co-authored two (in 2015 and 2019).