

Curriculum Vitae
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Pedro Manuel da Silva Duarte

Address: Garver Eidissens Veg 33, 9011
Tromsø, Norway
Tel: +4777750642
Email: Pedro.Duarte@npolar.no
Born: 14/11/1964, Lisbon, Portugal

1. Academic training

2010	Dr. Sc. ¹ in Ecology and Environmental Health	University Fernando Pessoa, Portugal
1995	PhD in Environmental Sciences	New University of Lisbon, Portugal
1988	Biology	University of Lisbon, Portugal Grade: 17/20

2. Academic / Scientific Career

2013 - 1999 - 2013	Senior Research Scientist Associate Professor	Norwegian Polar Institute University Fernando Pessoa, Portugal
1995 -1999	Assistant Professor	University Fernando Pessoa, Portugal
1989 - 1995	Doctoral research grant	New University of Lisbon, Portugal

2.1 Research projects

The following table includes a list of all projects I was/am involved in. Those in bold type correspond to projects where I had/have a leadership role. The total amount of funding corresponding to projects financed since 2003 amounts to nearly 1000000 euros.

¹ In Portugal this is an academic title and it is obtained on the basis of scientific and pedagogic production. The CV of the candidate is examined by a jury of Full Professors from other universities than the one where the candidate works. The candidate must also submit a detailed program of a course of his choice. Finally, the candidate must present a public lecture and defend his CV and the contents of the prepared course before the jury. This title is a necessary condition to become a Full Professor.

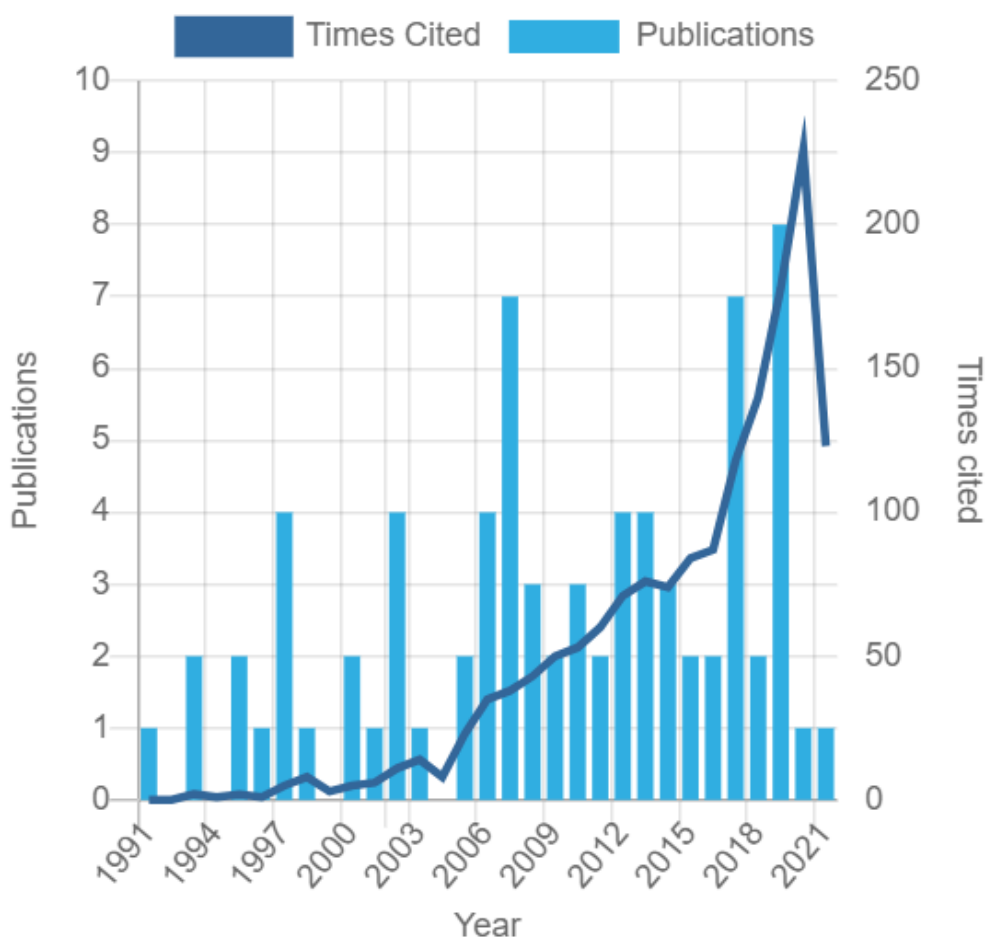
1.	2021-2025	<p>Climate relevant interactions and feedbacks: the key role of sea ice and snow in the polar and global climate system (CRiceS). Situation: Ongoing Scope: International Role: Researcher Role: Member of the Executive Board and researcher Financing: European Union Work Programme LC-CLA-17-2020 Polar climate: understanding the polar processes in a global context in the Arctic and Antarctic Regions.</p>
2.	2020-2024	<p>The future of Arctic coastal ecosystems – Identifying transitions in fjord systems and adjacent coastal areas (FACE-IT). Situation: Ongoing Scope: International Role: Member of the Executive Board and researcher Financing: European Union Work Programme LC-CLA-07-2019: The changing cryosphere: uncertainties, risks and opportunities.</p>
3.	2019-2021	<p>Mesoscale physical and biogeochemical modeling of the ocean and sea-ice in the Arctic Ocean (AOMod) Situation: Ongoing Scope: Norwegian Role: Principal Investigator Financing: Fram Centre</p>
4.	2018-	<p>The Nansen Legacy Situation: Ongoing Scope: Norwegian Role: Researcher Financing: Norwegian Research Council</p>
5.	2016	<p>Tidewater-ICE (TW-ICE) Situation: Concluded Scope: Norwegian Role: Investigator Financing: Norwegian Polar Institute – ICE centre</p>
6.	2015-2019	<p>TIGRIF: Tidewater Glacier Retreat Impact on Fjord circulation and ecosystems (Researcher project - HAVKYST) Situation: Concluded Scope: Norwegian Role: Investigator Financing: Norwegian Research Council</p>
7.	2015-2018	<p>Ice-algal and under-ice phytoplankton bloom dynamics in a changing Arctic icescape. (Researcher project - OKOSYSTEM) Situation: Concluded Scope: Norwegian Role: Investigator</p>

8.	2015	<p>Financing: Norwegian Research Council Norwegian Young Sea Ice Cruise (N-ICE2015) Situation: Concluded Scope: Norwegian Role: Coordinator of the biological workpackage</p>
9.	2014-2018	<p>Financing: Norwegian Polar Institute – ICE centre Ecosystem modelling of the Arctic Ocean around Svalbard Situation: Concluded Scope: Norwegian Role: Principal Investigator</p>
10.	2013	<p>Financing: Fram Centre Coupling different modelling platforms: an activity across Fram Centre Flagships Situation: Concluded Scope: Norwegian Role: Principal Investigator</p>
11.	2011-2014	<p>Financing: Fram Centre Seamount benthic primary production: a new hypothesis to explain abundance and biodiversity over shallow seamounts (GreenMount) Reference: PTDC/MAR/111011/2009 Situation: Concluded Scope: Portuguese Role: Principal Investigator.</p>
12.	2011-2014	<p>Effects of ocean climate on the macroecology and resilience to disturbances of kelp beds -OCEANKELP Reference: PTDC/MAR/109954/2009 Situation: Concluded Scope: Portuguese Role: Researcher</p>
13.	2010-2013	<p>PHYSIOGRAPHY- Physiological stress of intertidal fucoids related to their biogeography: implications under new climate scenarios Reference: PTDC/MAR/105147/2008 Situation: Concluded Scope: Portuguese Role: Researcher</p>
14.	2010 - 2012	<p>Landscape genetics of a coastal lagoon; an empirical and modeling approach using the seagrass <i>Zostera noltii</i> in Ria Formosa Reference: PTDC/MAR/099887/2008 Situation: Concluded Scope: Portuguese Role: Researcher</p>
15.	2004 - 2008	<p>ABSES - Simulação de Sistemas Ecológicos Baseada em Agentes (ABSES - Agent based simulation of ecological systems) Reference: POSC/EIA/57671/2004 Situation: Concluded Scope: Portuguese Role: Researcher</p>

16.	2003 - 2006	ECODOURO – Modelling the effect of freshwater reduction and pulse discharge on the water dynamics and processes of the Crestuma Reservoir Reference: POCTI/MGS/45533/2002 Situation: Concluded Scope: Portuguese Role: Researcher.
17.	2003 - 2006	DITTY – Development of an Information Technology Tool for the Management of European Coastal Lagoons Reference: EVK3-CT-2002-00084 Situation: Concluded Scope: European Role: Researcher/Leadership role of the Portuguese participation
18.	1999 - 2002	Carrying capacity assessment and impact of aquaculture in Chinese bays Reference: contract nº: ERB IC18 – CT98 Situation: Concluded Scope: European+China Role: Researcher
19.	1998 - 2000	Mathematical model-oriented management of bivalve cultivation in Ria Formosa Reference: ICN Situation: Concluded Scope: Portuguese Role: Principal Investigator
20.	1997 - 2000	Numerical simulation of climate variability of the Azores Front/Current system. Impact on primary productivity Reference: 3/3.2/EMG/1956/95 Situation: Concluded Scope: Portuguese Role: Researcher.
21.	1996 - 1999	ECOTEJO98 - Development of a sub model for “Cala do Norte” in the Tagus estuary Reference: JNICT/DRARN-LVT/IPIMAR/Solvay Situation: Concluded Scope: Portuguese Role: Researcher.
22.	1996 - 1999	Development of a model for coastal lagoon management Reference: PBICT/MAR/2245/95 Situation: Concluded. Scope: Portuguese. Role: Principal Investigator.
23.	1993 - 1996	Development of an ecological model for the Tagus estuary Reference: JNICT PMCT Situation: Concluded Scope: Portuguese Role: Technician

24.	1994 - 1995	Trophic Capacity of Coastal Zones for Culture of Oysters, Mussels and Cockles Reference: CEE: CON-AIR32219 Situation: Concluded Scope: European Role: Researcher
25.	1992 - 1995	MARE - Microalgae in the Adriatic Region Reference: CEE: ENVIRONMENT EV5V-CT92-021 Situation: Concluded Scope: European Role: Researcher
26.	1991 - 1994	Development of an Ecological Model for Mollusc Rearing Areas in Ireland and Greece Reference: CEE: FAR AQ2516 Situation: Concluded Scope: European Role: Researcher

2.2 Publications



Sum of times cited: 1545

Average citations per item: 24.1

Average citations per year: 53.2

H-Index: 23

Orcid: 0000-0001-7461-605X

Ciencia ID: F614-0053-05A5

Consulted at: <https://publons.com/researcher/1751800/pedro-duarte/metrics/>

Note: According to ResearchGate, my h-index is 29. The total number of research items (including conference proceedings) and book chapters is 115 and the total number of citations is 2522.

International journals cited in ISI web of Science

- 1 Duarte, P., Ferreira, J.G., 1993 A methodology for parameter estimation in seaweed productivity modelling. *Hydrobiologia* 260/261: 183-189.
- 2 Duarte, P., Ferreira, J.G., 1995. Seasonal adaptation and short-term metabolic responses of *Gelidium sesquipedale* to varying light intensity and temperature. *Mar. Ecol. Prog. Ser.* 121: 189-300.
- 3 Duarte, P., 1995. A mechanistic model of the effects of light and temperature on algal primary productivity. *Ecological Modelling* 82: 151-160.
- 4 Duarte, P., Ferreira, J.G., 1997. A model for the simulation of macroalgal population dynamics and productivity. *Ecological Modelling* 98: 199-214.
- 5 Duarte, P., Ferreira, J.G., 1997. Dynamic modelling of photosynthesis in marine and estuarine ecosystems. *Environmental Modelling & Assessment* 2: 83-93.
- 6 Duarte, P., Bernardo, J.M., Costa, A.M., Macedo, M.F., Calado, G., Cancela da Fonseca, L., 2002. Analysis of a coastal lagoon metabolism as a basis for management. *Aquatic Ecology* 36: 3-19.
- 7 Duarte, P., Meneses, R., Hawkins, A.J.S., Zhu, M., Fang, J., Grant, J., 2003. Mathematical modelling to assess the carrying capacity for multi-species culture within coastal water. *Ecological Modelling* 168: 109-143. [http://dx.doi.org/10.1016/S0304-3800\(03\)00205-9](http://dx.doi.org/10.1016/S0304-3800(03)00205-9)
- 8 Duarte, P., Macedo, F., Cancela da Fonseca, L., 2006. The relationship between phytoplankton diversity and community function in a Coastal lagoon. *Hydrobiologia* 555: 3-18. <http://dx.doi.org/10.1007/s10750-005-1101-9>
- 9 Duarte, P., Guerreiro, M.J., Reia, J., Cancela da Fonseca, L., Pereira, A., Azevedo, Falcão, M., Serpa, D., 2007. Coastal zones management: application to Ria Formosa (South of Portugal). *Revista Ciência Agronômica*, v.38, n.1: 118-128.
- 10 Duarte, P., Azevedo, B., Guerreiro, M., Ribeiro, C., Bandeira, R., Pereira, A., Falcão, M., Serpa, D., Reia, J., 2008. Biogeochemical Modelling of Ria Formosa (South Portugal). *Hydrobiologia* 611: 115-132. <http://dx.doi.org/10.1007/s10750-008-9464-3>
- 11 Duarte, P., Labarta, U., Fernández-Reiriz, M.J., 2008. Modelling local food depletion effects in mussel rafts of Galician Rias. *Aquaculture* 274: 300–312. <http://dx.doi.org/10.1016/j.aquaculture.2007.11.025>

- 12 Duarte, P. Fernández-Reiriz, M.J., Filgueira, R.A., Labarta, U., 2010. Modelling mussel growth in ecosystems with low suspended matter loads. *Journal of Sea Research* 64: 273 – 286. <http://dx.doi.org/10.1016/j.seares.2010.03.006>
- 13 Duarte, P. Fernández-Reiriz, M.J., Labarta, U., 2012. Modelling mussel growth in ecosystems with low suspended matter loads using a Dynamic Energy Budget approach. *Journal of Sea Research* 67: 44 - 57. <http://dx.doi.org/10.1016/j.seares.2011.09.002>
- 14 Duarte, P., Ramos, M., Calado, G., Jesus, B., 2013. *Laminaria hyperborea* photosynthesis–irradiance relationship measured by oxygen production and pulse amplitude modulated chlorophyll fluorometry. *Aquatic Biology* 19: 29-44.
- 15 Duarte, P., Alvarez-Salgado, X.A., Fernández-Reiriz, M.J., Piedracoba, S., Labarta, U., 2014. A modelling study on the hydrodynamics of a coastal embayment occupied by mussel farms (ría de Ares-Betanzos, NW Iberian Peninsula). *Estuarine Coastal and Shelf Science* 147: 42-55. <http://dx.doi.org/10.1016/j.ecss.2014.05.021>.
- 16 Duarte, P., Assmy, P., Hop, H., Spreen, G., Gerland, S., Hudson, S.R., 2015. The importance of vertical resolution in sea ice algae production models. *Journal of Marine Systems* 145: 69-90. <http://dx.doi.org/10.1016/j.jmarsys.2014.12.004>.
- 17 Duarte, P., Meyer, A., Olsen, L.M., Kauko, H.M., Assmy, P., Rösel, A., Itkin, P., Hudson, S.R., Granskog, M.A., Gerland, S., Sundfjord, A., Steen, H., Hop, H., Cohen, L., Peterson, A.K., Jeffery, N., Elliot, S.M., Hunke, E.C., Turner, A.K., 2017. Sea ice thermohaline dynamics and biogeochemistry in the Arctic Ocean: Empirical and model results. *Journal of Geophysical Research Biogeosciences*, 122, doi:10.1002/2016JG003660.
- 18 Duarte, P., Weslawski, J.M., Hop, H., 2019. Outline of an Arctic fjord ecosystem model for Kongsfjorden-Krossfjorden, Svalbard. In: Hop H., Wiencke C. (eds) *The Ecosystem of Kongsfjorden, Svalbard*. *Advances in Polar Ecology*, vol 2. Springer, Cham, pp. 485-514.
- 19 Duarte, P., Sundfjord, A., Meyer, A., Hudson, S.R., Spreen, G., Smedsrud, L.H., 2020. Warm Atlantic Water explains observed sea ice melt rates north of Svalbard. *Journal of Geophysical Research – Oceans*. DOI: 10.1029/2019JC015662.
- 20 Duarte, P., Meyer, M., Moreau, S., 2021. Nutrients in water masses in the Atlantic sector of the Arctic Ocean: temporal trends, mixing and links with primary production. *Journal of Geophysical Research: Oceans*, 126, e2021JC017413. DOI: 10.1029/2021JC017413.
- 21 Magalhães, F., Cancela da Fonseca, L., Bernardo, J.M., Moita, I., Franco, J.E., Duarte, P., 1987. Physical characterization of Odeceixe, Aljezur and Carrapateira lagunary systems (SW Portugal). *Limnetica*, 3(2): 211-218.
- 22 Santos, R., Duarte, P., 1991. Marine plant harvest in Portugal. *Journal of Applied Phycology* 3: 11-18.
- 23 Santos, R., Duarte, P., 1996. Fecundity, spore recruitment and size in *Gelidium sesquipedale* (Gelidiales, Rhodophyta). *Hydrobiologia* 326/327: 223-228.
- 24 Bacher, C., Duarte, P., Ferreira, J.G., Héral, M., Raillard, O., 1998. Assessment and comparison of the Marennes-Oléron Bay (France) and Carlingford Lough (Ireland) Carrying Capacity with ecosystem models. *Aquatic Ecology* 31: 379 - 394.
- 25 Ferreira, J., Duarte, P., Ball, B., 1998. Trophic capacity of Carlingford Lough for aquaculture - analysis by ecological modelling. *Aquatic Ecology* 31: 361–379.

- 26 Macedo, M.F., Ferreira, J.G., Duarte, P., 1998. Dynamic behaviour of photosynthesis-irradiance curves determined from oxygen production during variable incubation periods. *Mar. Ecol. Prog. Ser.* 165: 31–43.
- 27 Calado, G., Duarte, P., 2000. Modelling Growth of *Ruppia cirrhosa*. *Aquatic Botany* 68: 29-44.
- 28 Macedo, M.F., Duarte, P., Ferreira, J.G., Alves, M., Costa, V., 2000. Analysis of the deep chlorophyll maximum across the Azores Front. *Hydrobiologia* 441: 155–172.
- 29 Macedo, M.F., Duarte, P., Ferreira, J.G., 2001. Annual variation of environmental variables, phytoplankton species composition and photosynthetic parameters in a Coastal Lagoon. *J. Plankton Research* 23: 719–732.
- 30 Hawkins, A.J.S, Duarte, P., Fang, J.G., Pascoe, P.L., Zhang, J.H., Zhang, X.L., Zhu, M.Y., 2002. A functional model of responsive suspension-feeding and growth in bivalve shellfish, configured and validated for the scallop *Chlamys farreri* during culture in China. *Journal of Exp. Mar. Biol. and Ecol.*, 281: 13-40.
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- 32 Azevedo, I.C., Duarte, P., Bordalo, A.A., 2006. Pelagic metabolism of the Douro estuary (Portugal) – Factors controlling primary production. *Estuarine, Coastal and Shelf Science* 69: 133-146. <http://dx.doi.org/10.1016/j.ecss.2006.04.002>
- 33 Macedo, F., Duarte, P., 2006. Phytoplankton production modelling in three marine ecosystems – static versus dynamic approach. *Ecological Modelling* 190: 299-316. <http://dx.doi.org/10.1016/j.ecolmodel.2005.05.012>
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- 35 Serpa, D., Falcão, M., Duarte P., Cancela da Fonseca, L., Vale, C., 2007. Evaluation of ammonium and phosphate release from intertidal and subtidal sediments of a shallow coastal lagoon (Ria Formosa – Portugal): a modelling approach. *Biogeochemistry* 82: 291-304. <http://dx.doi.org/10.1007/s10533-007-9076-4>
- 36 Azevedo, I.C., Duarte, P., Bordalo, A.A., 2008. Understanding spatial and temporal dynamics of key environmental characteristics in a mesotidal Atlantic estuary (Douro, NW Portugal). *Estuarine, Coastal and Shelf Science* 76: 620-633. <http://dx.doi.org/10.1016/j.ecss.2007.07.034>
- 37 Azevedo, I.C., Bordalo, A.A., Duarte, P., 2010. Influence of river discharge patterns on the hydrodynamics and potential contaminant dispersion in the Douro estuary (Portugal). *Water Research* 44: 3133 – 3146. <http://dx.doi.org/10.1016/j.watres.2010.03.011>
- 38 Azevedo, I.C., Duarte, P., Bordalo, A.A., 2010. Temporal and spatial variability of phytoplankton photosynthetic characteristics in a southern European estuary (Douro, Portugal). *Marine Ecology Progress Series* 412: 29 – 44. <http://dx.doi.org/10.3354/meps08669>

- 39 Serpa, D., Pousão-Ferreira, P., Caetano, M., Cancela da Fonseca, L., Dinis, M. T., Duarte, P., 2012. Modelling of biogeochemical processes in fish earth ponds: Model development and calibration. *Ecological Modelling* 247: 286-301. <http://dx.doi.org/10.1016/j.ecolmodel.2012.07.020>
- 40 Tuya, F., Duarte, P., 2012. Role of food availability in the bathymetric distribution of the starfish *Marthasterias glacialis* (Lamk.) on reefs of northern Portugal. *Scientia Marina* 76: 9 - 15. <http://dx.doi.org/10.3989/scimar.2012.76n1009>
- 41 Tuya, F., Cacabelos, E., Duarte, P., Jacinto, D., Castro, J.J., Silva, S., Bertocci, I., Franco, J.N., Arenas, F., Coca, J., Wernberg, T., 2012. Patterns of landscape and assemblage structure along a latitudinal gradient in ocean climate. *Mar. Ecol. Prog. Ser.* 466: 9-12. <http://dx.doi.org/10.3354/meps09941>
- 42 Carvalho, R, Duarte, P., 2013. Carbon fluxes in a coastal area of Northern Portugal. *Limnetica*, 32 (2): 229-244.
- 43 Serpa, D., Duarte, P., Ferreira, P.P., Ferreira, H., Cancela da Fonseca, L., Dinis, M.T., 2013. Modelling the growth of white seabream (*Diplodus sargus*) and gilthead seabream (*Sparus aurata*) in semi-intensive earth production ponds using the Dynamic Energy Budget approach. *Journal of Sea Research* 76: 135-145. <http://dx.doi.org/10.1016/j.seares.2012.08.003>
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- 46 Cranford, P.J., Duarte, P., Robinson, S.M.C., Fernández-Reiriz, M.J., Labarta, U., 2014. Suspended particulate matter depletion and flow modification inside mussel (*Mytilus galloprovincialis*) culture rafts in the Ría de Betanzos, Spain. *Journal of Experimental Marine biology and Ecology* 452: 70-81.
- 47 Franco, J., Wernberg, T., Bertocci, I., Duarte, P., Jacinto, D., Vasco-Rodrigues, N., Tuya, F., 2015. Herbivory drive kelp recruits into 'hiding': insights from a latitudinal comparison. *Marine Ecology Progress Series* 536: 1–9.
- 48 Oliveira, A.P., Coutinho, T.P., Cabeçadas, G., Brogueira, M.J., Coca, J., Ramos, M., Calado, G., Duarte, P., 2016. Primary production enhancement in a shallow seamount (Gorringe – Northeast Atlantic). *Journal of Marine Systems* 164: 13-29.
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- 50 Assmy, P., Fernández-Méndez, M, Duarte, P., Meyer, A., Randelhoff, A., Mundy, C.J., Olsen, L.M., Kauko, H.M., Bailey, A., Chierici, M., Cohen, L., Doulgeris, A.P., Ehn, J.K., Fransson, A., Gerland, S., Hop, H., Hudson, S.R., Hughes, N., Itkin, P., Johnsen, G., King, J.A., Koch, B.P., Koenig, Z., Kwasniewski, S., Laney, S.R., Nicolaus, M., Pavlov, A.K., Polashenski, C.M., Provost, C., Rösel, A., Sandbu, M., Spreen, G., Smedsrud, L.H., Sundfjord, A., Taskjelle, T., Tatarek, A., Wiktor, J., Wagner, P.M., Wold, A, Steen, H.,

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- 54 Olsen, L.M., Laney, S.R., Duarte, P., Kauko, H.M., Fernández-Méndez, M., Mundy, C.J., Rösel, A., Meyer, A., Itkin, P., Cohen, L., Peeken, I., Tatarek, A., Wiktor, J., Taskjelle, T., Pavlov, A.K., Hudson, S.R., Granskog, M.A., Hop, H., Assmy, P., 2017. The seeding of ice algal blooms in Arctic pack ice: The multiyear ice seed repository hypothesis. *Journal of Geophysical Research Biogeosciences*. 122, doi:10.1002/2016JG003626
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- 64 Azevedo, I.C., Duarte, P.M., Marinho, G.S., Neumann, F., Sousa-Pinto, I., 2019. Growth of *Saccharina latissima* (Laminariales, Phaeophyceae) cultivated offshore under exposed conditions. *Phycologia*, 58:5, 504-515, Doi: 10.1080/00318884.2019.1625610
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- 67 Rego, A., Fernandez-Guerra, A., Duarte, P., Assmy, P., Leão, P. N., Magalhães, C., in press. Secondary metabolite biosynthetic diversity in Arctic Ocean metagenomes. *Microbial Genomics*.

Other peer reviewed journals

- 1 Duarte, P., Pereira, A., Martins, C., Guerreiro, M.J., 2004. Gestão de zonas lagunares costeiras: Projecto DITTY. *Revista da Faculdade de Ciência e Tecnologia da Universidade Fernando Pessoa* 1: 131-138.
- 2 Duarte, P., Azevedo, B., Ribeiro, C., Pereira, A., Falcão, M., Serpa, D.,Bandeira, R., Reia, J., 2007. Management oriented mathematical modelling of Ria Formosa (South Portugal). *Transitional Water Monographs* 1: 13-51. <http://dx.doi.org/10.1285/i18252273v1n1p13>

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- 1 Duarte, P., 2003. A review of current methods in the estimation of environmental carrying capacity for bivalve culture in Europe, p. 37-51. In: Huming Yu and Nancy Bermas (eds.), Determining environmental carrying capacity of coastal and marine areas: progress, constraints and future options. PEMSEA Workshop Proceedings No. 11, 156 p.
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- 4 Duarte, P., Subba Rao, D.V., 2009. Ch. 9 Photosynthesis-Energy relationships in *Dunaliella*, p. 209-229. In: Ami Ben-Amotz, J.E.W. Polle & D.V. Subba Rao (eds.), The alga *Dunaliella*, Biodiversity, Physiology, Genomics and Biotechnology:. Science Publishers, Enfield (NH), Jersey, Plymouth, Science Publishers ISBN 978-1-57808-3, 555 pages.
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Books and published reports

- 1 Duarte, P. 2011. Manual de Modelação Ecológica. Universidade Fernando Pessoa.
- 2 Miljøverdier og sårbarhet i iskantsonen (in English: Environmental values and vulnerability in the marginal ice zone). <https://brage.bibsys.no/xmlui/handle/11250/2563226>.
- 3 Polarfrontens fysiske beskaffenhet og biologiske implikasjoner – en verdi- og sårbarhetsvurdering av polarfronten i Barentshavet (in English: The Polar Front's Physical Nature and Biological Implications - A Value and Vulnerability Assessment of the Polar Front in the Barents Sea). https://www.hi.no/filarkiv/2018/09/f_h_nr_8-2018_polarfronten.pdf/nb-no.

Editorial work

- 1 Duarte, P., Dame, R.F. (eds.), 2002. Sustainable Management of Coastal Ecosystems. Aquatic Ecology, 36 (1).
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Published datasets

- 1 Assmy, P., Duarte, P., Dujardin, J., Fernández-Méndez, M., Fransson, A., Hodgson, R., ... Wold, A. (2016). N-ICE2015 water column biogeochemistry [Data set]. Norwegian Polar Institute. <https://doi.org/10.21334/npolar.2016.3ebb7f64>
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Popular science

- 1 Duarte, P., Hattermann, T., Juselius, J., Yakushev, E., 2015. Ecosystem modelling of the Arctic Ocean around Svalbard (ArctisMod) – a new ecosystem modelling project at the Fram Centre. Fram Forum.
- 2 Duarte, P., 2016. Modeling the ecosystem in the Arctic Ocean around Svalbard. Fram Forum.
- 3 Steen, H., Kohler, J., Assmy, P., Hop, H., Duarte, P., Wold, A., Sundfjord, A., 2017. Tidewater glacier fronts: Arctic oases in retreat. Fram Forum.
- 4 Assmy, P., Duarte, P., Halbach, L., Hop, H., Husum, K., Kauko, H.M., Kohler, J., Sundfjord, A., Vihtakari, M., Wold, A., Steen, H., Jones, E., Kristiansen, S., Poste, A., 2018. Tidewater glaciers: role in the marine ecosystem of Kongsfjorden, Svalbard. Fram Forum.
- 5 Vihtakari, M., Hop, H., Assmy, P., Griffith, G., Duarte, P., Wold, A., Gabrielsen, G., Daase, M., Bluhm, B., Hegseth, E.N., Renaud, P.E., Søreide, J.E., Moe, B., 2019. Atlantification of the marine ecosystem in Kongsfjorden, Svalbard. Fram Forum.

2.3 Talks given

- 1 Ferreira, J., Duarte, P., Ball, B., 1996. Trophic capacity of Carlingford Lough for aquaculture - analysis by ecological modelling. Comunicação apresentada ao “Final Trophee Workshop: Plymouth, October 1996”.
- 2 Duarte, P., Bernardo, J.M., Costa, A.M., Macedo, F., Calado, G., Cancela da Fonseca, L., 1999. Experimental and theoretical analysis of a coastal lagoon metabolism. Comunicação apresentada na “International Conference on Sustainable Mangement of Coastal Ecosystems”, Porto, Universidade Fernando Pessoa, 3 – 5 de Novembro.
- 3 Duarte, P., 2001. Carrying capacity assessment and ecological modelling for bivalve culture. Comunicação apresentada no Encontro da ECSA (European Coastal Science Association), no ICBAS – Porto, em Junho de 2001, como orador convidado.
- 4 Duarte, P., 2003. A review of current methods in the estimation of environmental carrying capacity for bivalve culture in Europe. Comunicação apresentada na “Asia-Pacific Conference on Marine Science & Technology” em Kuala Lumpur, Malásia, em Maio de 2002, como orador convidado.
- 5 Duarte, P., Macedo, F., 2003. The relationship between phytoplankton diversity and community functioning in a coastal lagoon. Comunicação apresentada no 38º Simpósio Europeu de Biologia Marinha, em Aveiro, 8 – 12 de Setembro de 2003.

- 6 Duarte, P., Hawkins, A.J.S, Pereira, A., 2003. How does estimation of environmental carrying capacity for bivalve culture depend upon spatial and temporal scales? Comunicação apresentada no “workshop” da NATO “The comparative role of suspension feeders in aquatic systems” em Nida, na Lituânia, entre 3 e 9 de Outubro de 2003, como orador convidado.
- 7 Duarte, P., 2006. Equilíbrio ecológico: Verdade ou ficção? Comunicação apresentada no Simpósio Equilibria, em 23 de Março, na Universidade Fernando Pessoa.
- 8 Duarte, P. Guerreiro, M.J., Reia, J., Cancela da Fonseca, L., Pereira, A., Azevedo, B., Falcão, M., Serpa, D., Ribeiro, C., Bandeira, R., 2006. Ferramentas de gestão de zonas costeiras: Aplicação à Ria Formosa (Sul de Portugal). Comunicação apresentada no 2º Seminário sobre Sistemas lagunares costeiros, realizado em Vila Nova de Santo André, entre os dias 2 e 4 de Julho.
- 9 Duarte, P., 2006. Gestão de zonas costeiras. Unidade Multidisciplinar de Docência e Investigação da Faculdade de Ciências da Universidade Nacional Autónoma do México (Julho de 2006).
- 10 Duarte, P., 2006. Capacidade de carga para o cultivo de bivalves. Unidade Multidisciplinar de Docência e Investigação da Faculdade de Ciências da Universidade Nacional Autónoma do México (Julho de 2006).
- 11 Duarte, P., 2006. Ferramentas de apoio à decisão na gestão de zonas costeiras: Aplicação à Ria Formosa (Sul de Portugal). Workshop realizado no INAG em 15 de Dezembro de 2006, relativo à aplicação da Directiva Quadro da Água às águas costeiras portuguesas.
- 12 Murray, N., Zaldívar, J.M., Giordani, G., Viaroli, P., Duarte, P., 2006. NetSEA-L. European network of coastal lagoons and transitional waters: How best to promote networking activities? Comunicação apresentada no 2º Seminário sobre Sistemas lagunares costeiros, realizado em Vila Nova de Santo André, entre os dias 2 e 4 de Julho.
- 13 Duarte, P., 2007. Ria – Formosa: Fonte ou “sumidouro” de dióxido de carbono?. Conferência “Alterações climáticas – Cenários para o Algarve”. Universidade do Algarve, 14 a 15 de Junho de 2007, como orador convidado..
- 14 Duarte, P., Pereira, A., Reis, L.P., 2007. Uma metodologia de apoio à decisão na gestão de sistemas lagunares costeiros. 3º Seminário sobre sistemas lagunares costeiros. 12 – 13 de Outubro de 2007, Escola Superior de Tecnologias do Mar de Peniche.
- 15 Duarte, P., 2008. Modelação matemática para a integração de processos desde o nível individual ao nível do ecossistema. CIIMAR, Porto.
- 16 Duarte, P., 2008. Ferramentas de gestão de ecossistemas aquáticos. Lacunas de conhecimento na Região Norte. Workshop sobre Avaliação de impactes e modelação nos Planos de Gestão de Bacias Hidrográficas, Administração da Região Hidrográfica do Norte e Faculdade de Engenharia da Universidade do Porto, 27 de Outubro de 2008.
- 17 Duarte, P., 2008. Modelação ecológica de ecossistemas costeiros – o caso de estudo da Ria Formosa. Faculdade de Ciências do Mar e do Ambiente, Universidade do Algarve, 3 de Dezembro de 2008.
- 18 Duarte, P., 2009. Descrição do Ciclo do CO₂ - A importância dos Oceanos na Fixação de CO₂. X Jornadas de Ambiente, Câmara Municipal da Lousada, como orador convidado.

- 19 Duarte, P, Fonseca, A, Monteiro, A, Guerreiro, MJ, Barros, N, Jesus, T., 2009. An Holistic Project Experience in Environmental Engineering Education. In: Proceedings of the First Ibero-American Symposium on Project Approaches in Engineering Education, (D. Carvalho, N. van Hattum-Janssen, R.M. Lima eds.): 235-240.
- 20 Duarte, P., 2010. Utilização de Ecotecnologias para tratamento de águas residuais. I Semana do Ambiente, 8-13 de Fevereiro, Geonúcleo - Universidade Fernando Pessoa.
- 21 Duarte, P., 2010. Ecossistemas Marinhos do Norte de Portugal / Vila do Conde. Palestra proferida no Centro de Monitorização e Interpretação Ambiental de Vila do Conde, a 28 de Outubro de 2010.
- 22 Duarte, P., Pereira, A., Reis, L.P., 2010. An integrated ecological modelling and decision support methodology for coastal ecosystem analysis and management. ECSA47 Symposium, Figueira da Foz.
- 23 Duarte, P., Pereira, A., Reis, L.P., Labarta, U., Fernández-Reiriz, M., Cranford, P., 2010. Carrying Capacity Modelling combined with Decision Support Tools. Workshop – Networking research on tools to support decision making and to develop sustainability in shellfish aquaculture management and exploitation, 5th October 2010, Porto, Portugal.
- 24 Duarte, P., 2014. Limitations and challenges in modeling marine ecosystems in a changing climate scenario. Predictive Power of Marine Science in a Changing Climate COST Science & Technology Strategic Event 7-8 April 2014, Sopot, Poland
- 25 Duarte, P., 2014. How predictable is the Arctic Ocean? Sexta Conferência Polar Portuguesa, 30-31st October, CIIMAR, Porto, Portugal.
- 26 Duarte, P., Wold, A., Hop, H., 2014. Kongsfjorden ecosystem modeling. Kongsfjorden Workshop, 10-16 March, Hamn i Senja, Norway.
- 27 Duarte, P., Assmy, P., Hop, H., Spreen, G., Gerland, S., Hudson, S.R., 2014. Modeling the vertical fine structure of ice-algal production. International Symposium on Sea Ice in a Changing Environment, 10-14 March 2014, Hobart, Tasmania.
- 28 Duarte, P., Assmy, P., Hop, H., Shcherbin, D., Hattermann, T., Iakuchev, E., 2014. The (lack of) consensus in modeling marine biogeochemistry in the Arctic. Short communication and poster presented to the 3rd FAMOS workshop, 22-24th October, Woods Hole Oceanographic Institution, EUA.
- 29 Duarte, P., Assmy, P., Hop, H., Kauko, H., Fernández-Méndez, M., Mork Olsen, L., Sandbu, M. and Wold, A. 2015. The Norwegian Young sea ICE cruise (N-ICE2015). 7th Portuguese Conference of Polar Sciences, 28-29 October 2015, Instituto de Ciências da Terra, Universidade de Évora.
- 30 Duarte, P., Assmy, P., Hop, H., Kauko, H., Fernández-Méndez, M., Mork Olsen, L., Sandbu, M. and Wold, A. 2015. The ice associated-ecosystem studied during the Norwegian Young Sea Ice cruise (N-ICE2015) in the Arctic Ocean: preliminary results. FAMOS 2015 Meeting, 2-7 November 2015, Cape Codder Hotel, Hyannis, Massachusetts, USA.

- 31 Duarte, P., Assmy, P., Kauko, H., Olsen, M.L., 2015. Sea ice physics and biogeochemistry in the Arctic Ocean: empirical and modeling results. 8th Portuguese Conference of Polar Sciences, 27-28 October 2016, Instituto de Geografia e Ordenamento do Território, Universidade de Lisboa.
- 32 Duarte, P., 2018. Challenges in modeling ice algae and phytoplankton primary production in the “new” Arctic icescape. FAMOS school, 23rd October 2018, Bergen, Norway.
- 33 Duarte, P., Meyer, A., Olsen, L.M., Kauko, H.M., Assmy, P., Rösel, A., Itkin, P., Hudson, S.R., Granskog, M.A., Gerland, S., Sundfjord, A., Steen, H., Hop, H., Jeffery, N., Elliott, S.M., Hunke, E.C., Turner, A.K., 2018. Model forecasting of sea-ice physics and biogeochemistry in the Arctic Ocean. Arctic Frontiers, January 2017, Tromsø, Norway.
- 34 Duarte, P., Lowther, A., Assmy, P., Gabrielsen, G., Kovacs, K., Lydersen, C., Griffith, G., 2018. The importance of giants in a world of dwarfs. Arctic Frontiers, January 2018, Tromsø, Norway.
- 35 Duarte, P., Assmy, P., 2018. Trends in primary production under the new Arctic sea-ice regime. Arctos Seminar, 7th September 2018, Tromsø, Norway.
- 36 Duarte, P., Torsvik, T., Kohler, J., Assmy, P., Everett, A., Sundfjord, A., 2019. Modelling tidewater glacier front effects on fjord biogeochemistry – Kongsfjorden case study. ARCTOS days, 12-13. March, Sommarøya, Norway.
- 37 Duarte, P., Sundfjord, A., Meyer, A., Hudson, S.R., Spreen, G., Smedsrud, L.H., 2021. Warm Atlantic Water explains observed sea ice melt rates north of Svalbard. Arctic Frontiers Science 1-4 February 2021.
- 38 Duarte, P., Meyer, A., Moreau, S., 2021. Nutrients in the European Arctic: trends and limits to primary production. Arctic Science Summit Week, 19-26 March, online, Portugal,
- 39 Duarte, P., 2021. Kongsfjorden net ecosystem metabolism. Workshop on nutrients in the Arctic – linking the four Ny-Ålesund flagships together, Oslo 31 October 2021.
- 40 Duarte, P., 2021. 4. Modeling approaches to upscale primary production. Nansen Legacy Annual Meeting, Trondheim, 25-27 October 2021.
- 41 Duarte, P., 2021. Heat, salt and nutrient exchanges between the sea ice and the ocean. Nansen Legacy Annual Meeting, Trondheim, 25-27 October 2021.

2.4 Teaching experience

All courses listed below were prepared by myself and I was responsible both for theoretical and practical lectures (UFP – University Fernando Pessoa, U – Undergraduate).

Subject	Dates	Institution	Level
1. Ecology I	1996-2001	UFP	U

2.	Ecology II	1996-2001	UFP	U
3.	Ecosystems and Environment	1997-2002	UFP	U
4.	Ecology	2001-2013	UFP	U
5.	Seminar I	2000-2002	UFP	U
6.	Seminar II	2000-2002	UFP	U
7.	Environmental Management Systems	2001-2002	UFP	U
8.	Tourism and Environment	2005-2007	UFP and “Instituto de Desenvolvimento do Turismo”	MBA
9.	Biostatistics	2003-2004	UFP	U
10.	Ecology and Ecotoxicology	2004-2006	UFP	U
11.	Ecological Technologies	2006-2013	UFP	U
12.	Environmental Education	2005	UFP	MBA
13.	Environmental Modelling	2004-2013	UFP	U/MsC
14.	Sustainable Management and Ecological Economics	2005-2013	UFP	MsC
15.	Case studies	2007-2013	UFP	MsC
16.	Biodiversity and Human Ecology	2007-2013	UFP	MsC
17.	Environmental Modelling	2008	University of Azores	MsC
18.	Modelling in Nature Conservation	2006	“Politécnico de Tomar” and “Politécnico de Bragança”	MsC
19.	Ecological Modelling	1995, 1999, 2000-2004 e 2007	New University of Lisbon, Mexico University and Oporto University	MsC
20.	Flux of Matter and Energy from Sea to Land (coordinated by Geir Wing Gabrielsen)	2014, 2016 and 2018	University Centre in Svalbard	MsC

2.5 Student supervision

PhD students

- 1 Macedo, M.F., 2002. Comportamento dinâmico da produtividade primária fitoplanctónica (Dynamic behaviour of phytoplankton primary production). PhD in Environmental Sciences

– Natural Systems. New University of Lisbon.

- 2 Azevedo, I., 2008. Ecological modelling of the douro estuary: Influence of river flow variability on estuarine water quality and primary production. PhD in Aquatic Sciences - – Oporto University.
 - 3 Pereira, A., 2010. Intelligent simulation of coastal ecosystems. PhD in Electronic and Computer Engineering – Oporto University.
 - 4 Serpa, D., 2012. Estudo dos processos físicos, químicos e biológicos em tanques de piscicultura semi-intensiva: desenvolvimento de um modelo matemático para a gestão do cultivo de sargo (*Diplodus sargus*) (Physical, chemical and biological processes in semi-intensive finfish cultivation tanks: development of a model for the management of white seabream cultivation (*Diplodus sargus*)). PhD in Fisheries and Aquaculture –University of Algarve.
-

MSc Students

- 1 Calado, G.J., 1997. Desenvolvimento de um modelo de produção de *Ruppia cirrhosa* (Petagna) Grande (Development of a production model for *Ruppia cirrhosa* (Petagna) Grande). MSc in Ecology, Modelling and Management of Marine Resources – New University of Lisbon.
 - 2 Cardoso, A., 2004. Uma estratégia de amostragem para testar hipóteses sobre a evolução da qualidade da água na Ria de Aveiro (A strategy for hypothesis testing about the evolution of water quality in Aveiro coastal lagoon). MSc in Ecology, Modelling and Management of Marine Resources – New University of Lisbon.
 - 3 Siborro, S., 2004. Estudo sobre a pesca pela arte da Xávega (A study on fishing by “Xávega”). MSc in Ecology, Modelling and Management of Marine Resources – New University of Lisbon.
 - 4 Gonçalves, A., 2008. Modelação hidrodinâmica e da qualidade da água de albufeira de Alqueva (Hydrodynamic and water quality modelling of the Alqueva reservoir). MSc in Ecology Nature Management and Conservation - University of Algarve, Portugal.
 - 5 Carvalho, R., 2009. Avaliação do efeito da Área Metropolitana do Porto nas concentrações de dióxido de carbono sobre a zona costeira adjacente (Assessment of the contribution of the Oporto metropolitan area to the carbon dioxide concentrations over the nearby coastal zone). MSc in Environmental Engineering - University Fernando Pessoa, Portugal.
 - 6 Bandeira, R., 2011. Avaliação do efeito do estuário do Ave na qualidade das águas balneares do Concelho de Vila do Conde (Assessment of the Ave estuary effect on bathing water quality at the Vila do Conde municipality). MSc in Environmental Engineering - University Fernando Pessoa, Portugal.
 - 7 Sousa, A.G.G., 2017. Arctic microbiome and functions during the winter-summer transition. MSc in Cellular and Molecular Biology, Oporto University.
 - 8 Sandbu, M., 2017. High Arctic Sea-ice Algae. Norwegian University of Science and Technology, Faculty of Natural Sciences.
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Bachelors/Undergraduate students

- 1 Fonseca, A.M.S.S., 2001. Efeitos do cobre e do chumbo no crescimento de *Chlorella vulgaris*. Environmental Engineering degree - University Fernando Pessoa.
 - 2 Coutinho, P.S.L., 2001. Estudo da influência do chumbo e do cobre sobre culturas de *Scenedesmus obliquos*. Environmental Engineering degree - University Fernando Pessoa.
 - 3 Santos, P.C.L., 2001. Estudo dos efeitos do cobre e do chumbo no crescimento de *Chlorella fresca*. Environmental Engineering degree - University Fernando Pessoa.
 - 4 Meneses, R.N.T., 2003. Avaliação da capacidade de carga de um ecossistema costeiro. Environmental Engineering degree - University Fernando Pessoa.
 - 5 Azevedo, B.F.M., 2004. Análise e verificação de um modelo ecológico para a albufeira de Crestuma-Lever. Licenciatura em Engenharia do Ambiente - Universidade Fernando Pessoa.
 - 6 Silva, R.M.B., 2005. Avaliação dos efeitos da magnitude e da variabilidade temporal dos caudais na qualidade da água da Albufeira de Crestuma-Lever. Licenciatura em Engenharia do Ambiente - Universidade Fernando Pessoa.
 - 7 Ribeiro, C.G.F.S., 2006. Modelação biogeoquímica da Ria Formosa. Licenciatura em Engenharia do Ambiente - Universidade Fernando Pessoa.
 - 8 Garcia, S.G.S.A., 2008. Emissões de dióxido de carbono como resultado dos principais fluxos pendulares na área metropolitana do Porto. Licenciatura em Engenharia do Ambiente - Universidade Fernando Pessoa.
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2.6 Tasks at the former employer (University Fernando Pessoa), apart from teaching and research

2008-2013	Coordinator of a PhD program on Ecology and Environmental Health
2008-2013	Coordinator of the Environment and Applied Ecology Research Group
2005-2007	President of the Scientific Council of the Faculty of Science and Technology
2001-2003	President of the Pedagogic Council of the Faculty of Science and Technology
1999-2006	Coordinator of the Centre for Modelling and Analysis of Environmental Systems

3. Other relevant qualifications

Languages	English, Norwegian (basic), Russian (basic), Spanish and Portuguese
Software development	EcoDynamo – a software for three dimensional simulation of hydrodynamic and biogeochemical processes
Computing	Programming skills in Basic, Fortran and C++, Geographic Information System's user skills
Refereeing	Aquaculture, Ecological Modelling, Journal of Experimental Marine Biology and Ecology, Journal of Geophysical Research, Marine Ecology Progress Series, Ocean & Coastal Management, Water Resources Management, Polar Biology, Estuarine Coastal and Shelf Science, Limnology and Oceanography
Diving qualifications	CMAS level2 + ANDI Advanced nitrox diver (Complete SafeAir User), ANDI closed circuit rebreather diver, Scientific Diver in Norway (Arbeidstilsynet) and Poseidon Mk VI Discovery EC-CCR certified diver.
Field work experience	Long experience with field work in estuarine, coastal and offshore environment, including several different types of sampling and diving work. Experience in Arctic field work, after participating in two MOSJ cruises in the Fram Strait and north of Svalbard, in July 2013 and 2014, and two six week legs of the N-ICE2015 drift cruise in the Nansen Basin including ice diving, water and ice sampling. This experience is complemented by an Arctic Field Course at the Norwegian Polar Institute including first-aid, communications, shooting practice, boat handling, usage of survival suits and polar bear safety, in May 2013, with more training in May 2014 (shooting practice), February 2015 (similar to the May 2013 course) and more shooting practice in April 2015.
Expertise with boats	Local skipper's license and VHF operator.
Cruise leader course	Taken at the Institute of Marine Research, in Tromsø, Norway in 2018
Decompression chamber operator course	By the Norway University of Applied Sciences in 2018

4. Networking

Member of:

Arctic Marine Ecosystem Research Network (ARCTOS) (<https://arctos.uit.no/>)

Biochemical Exchange Processes at Sea Ice Interfaces (BEPSII)
(<https://sites.google.com/site/bepsiiwg140/home>)

Forum for Arctic Modeling and Observational Synthesis (FAMOS)
(<https://web.who.edu/famos/>)
