

# Curriculum vitae with track record (for researchers)

**Role in the project** Project manager  Project partner

*Items of direct relevance to the SIMPLE proposal are underlined*

## Personal information

First name, Surname:	Laurent, Bertino		
Date of birth:	05.06.1975	Sex:	Male
Nationality:	French		
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## Education

Year	Faculty/department - University/institution - Country
2001	Ph.D. in Geostatistics from Ecole des Mines de Paris, France.
1998	Master from Centre de Géostatistiques, Ecole des Mines de Paris, France.

## Positions - current and previous

Year	Job title – Employer - Country
2010-	Research Leader, Nansen Environmental and Remote Sensing Center (NERSC), Norway
2003-2010	Researcher & group leader Nansen Environmental and Remote Sensing Center, Norway
2002-2003	Post-Doc, Nansen Environmental and Remote Sensing Center, Norway
2002	Post-Doc, ARMINES / Ecole des Mines de Paris, France

## Project management experience

Year	Project owner - Project (Role, budget, partners) - Funder
2021-2025	NERSC – TARDIS (Leader, 1.2 MEUR, NORCE) - NFR Fripro
2020-2023	<u>MET Norway – FOCUS (Lead WP1, 1.4MEUR, Navtor AS, U. Wageningen) – NFR Polarprog</u>
2015-2021	<u>NERSC - Arctic MFC (Leader, 8.4 MEUR, 3 partners) – Copernicus Marine Services</u>
2014-2018	NERSC - Center of Excellence Embla (Manager, 2 MEUR, 7 partners) – NordForsk
2014-2017	<u>NERSC - project SWARP (Coordinator, 2 MEUR, 8 partners) – EU 7<sup>th</sup> Framework Programme</u>
2009-2023	Workpackage Leader in 6 European projects under EU FP6/FP7/H2020: CarboChange, <u>SIDARUS</u> , MyOcean, MyOcean2, MyOcean-FO, SANGOMA, SEAMLESS.

2003-2004	NERSC - TOPAZ (Coordinator 2 <sup>nd</sup> half, 2 MEUR, 5 partners) – EU 5 <sup>th</sup> Framework Programme
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### Supervision of students

(Total number of students: main supervisor of 5 PhD students, co-supervisor of 7 PhD students)

Master's students	Ph.D. students	University/institution - Country
2	9	University of Bergen-Norway
1		University College of Bergen - Norway
	1	University of Oslo – Norway
1		Ecole des Ponts et Chaussées - France
1		Université Joseph Fourier, Grenoble - France
	1	Oxford University – UK
	1	Anna University, Chennai – India

### Teaching activities

	Teaching position – topic, name of university/institution/country
Fall 2017, '19, '21	Teaching data assimilation at Dept. of Mathematics, University of Bergen, MAT330 “free topics in applied and computational mathematics”. 10 credits
2017-2018-2021	<u>Organiser / Co-organizer of summer schools “Crash Course on Data Assimilation” at NERSC</u>
2002-2019	Participation to 9 summer and winter schools in Italy (Genoa), Norway (Geilo), Romania (Iasi, Brasov, Sibiu and Timisoara), China (Beijing and Chongqing) and India (Kochi).

### Organisation of scientific meetings

	Role and name of event/number of participants/country
2019	Scientific content manager, CMEMS Arctic training @ PDF / 20 participants / Finland
2019-2020	Program committee member, Climate Informatics Workshop / 162 participants / France
2007-2021	<u>Committee Member, NORCE International EnKF workshops / 200 participants / Norway</u>
2019	Scientific Committee Member, OceanPredict19 Symposium / 400 participants / Canada
2017	<u>Organizing Committee Member, local host, IICWG workshop / 50 participants / Norway</u>
2017	Organizing Committee Member, local host, GODAE meeting / 40 part. / Norway
2015	Organizing Committee Member, Theoretical Aspects of Data Assimilation workshop / 40 participants / Les Houches, France
2015	Organizing Committee Member, LOM workshop / 40 participants / Denmark

### Institutional responsibilities

	Name of university/institution/country
2005-2020	Opponent of 8 PhDs: 2 at NBI, Copenhagen, Dk, 1 at UBS, Vannes, Fr., 1 at UBO, Brest, Fr., 1 at UiB, No., 1 at UCL, Louvain la Neuve, Be, 1 at UJF, Grenoble, Fr, 1 at LOCEAN, Paris, Fr.

### Commissions of trust in academic, public or private organisations

	Name of university/institution/country – and role
2020-2022	Elected representative of the employees, NERSC board.
2008-2019	10 evaluations of scientific proposals for the US NSF, French ANR, KAUST in Saudi Arabia, Swedish Space Center, Estonian Science Foundation, Swiss Science Foundation.

### Other commissions of trust - in business, organisations or public life

	Name of board/body/country – and role
2020-2022	Stochastic Transport in Upper Ocean Dynamics, ERC Synergy grant, UK – External Advisory Board member
2018-2019	<u>Copernicus Marine Services User Uptake proposals - Review panel member</u>
2014	<i>Tilførselsprogrammet</i> , Norwegian Environment Agency, Review panel member.

### Memberships of academies / scientific societies / networks

	Name of academies, scientific societies, networks
2019-	Norwegian Technical-Scientific Academy (NTVA), member.
2017-2022	Northern Ocean Regional Panel, CLIVAR/CliC, member.
2017-	International Ice Charting Working Group workshop committee, member
2003-	OceanPredict (aka. Global Ocean Data Assimilation Experiment) Science Team, member.
2010-	Bjerknes Center for Climate Research, Polar Climate group, member.

### Major research or innovation collaborations

Name of university/ institution/center	Topic
NORCE Energy, Bergen	Data Assimilation
MET Norway	Operational Oceanography
Mercator Ocean International, France	Operational Oceanography
Institute of Atmospheric Physics, Chinese Academy of Science	Data Assimilation
Nansen-Tutu Center, Uni. Of Cape Town, South Africa	Operational Oceanography

# Track record

**96 peer-reviewed publications (H-index 31 on Web of Science).** Selected in the last 5 years:

- [1] Nakanowatari, T., Xie, J., **Bertino, L.**, Matsueda, M., Yamagami, A. and Inoue, J.: Ensemble forecast experiments of summertime sea ice in the Arctic Ocean using the TOPAZ4 ice-ocean data assimilation system, *Environ. Res.*, 209(November 2021), 112769, doi:10.1016/j.envres.2022.112769, 2022.
- [2] Brajard, J., Carrassi, A., Bocquet, M. and **Bertino, L.**: Combining data assimilation and machine learning to infer unresolved scale parametrisation, *Phil. Trans. R. Soc. A*, (379), 20200086 [online] Available from: <https://doi.org/10.1098/rsta.2020.0086>, 2021.
- [3] Cheng, S., Aydoğdu, A., Rampal, P., Carrassi, A. and **Bertino, L.**: Probabilistic forecasts of sea ice trajectories in the Arctic: Impact of uncertainties in surface wind and ice cohesion, *Oceans*, 1(4), 326–342, doi:10.3390/oceans1040022, 2020.
- [4] Xie, J., De Vos, M., **Bertino, L.**, Zhu, J. and Counillon, F.: Impact of assimilating altimeter data on eddy characteristics in the South China Sea, *Ocean Model.*, 155, doi:10.1016/j.ocemod.2020.101704, 2020.
- [5] Shah, A., **Bertino, L.**, Counillon, F., El Gharamti, M. and Xie, J.: Assimilation of semi-qualitative sea ice thickness data with the EnKF-SQ: a twin experiment, *Tellus, Ser. A Dyn. Meteorol. Oceanogr.*, 72(1), 1–15, doi:10.1080/16000870.2019.1697166, 2020.
- [6] Carrassi A, Bocquet M, **Bertino L**, Evensen G. (2018) Data assimilation in the geosciences: An overview of methods, issues, and perspectives. *WIREs Clim. Change*; e535.
- [7] **Bertino L.** and M. M. Holland (2017): Coupled ice-ocean modeling and predictions. In *The Sea: The Science of Ocean Prediction*, special issue. *J. Marine Res.* 75(6), pp. 839-875.

## Invited presentations

- *EGU Copernicus Marine Services session*, Vienna 12<sup>th</sup> April 2019
- *NTNU upper water-column process and ocean data analytics symposium*, Trondheim Nov. 2018.
- *ESA Copernicus polar ice and snow topography mission advisory group, ESTEC, NL.*, Nov 2018.
- *Colloque National d'Assimilation de Données*, Rennes, Fr., Sept 2018.
- *IOGP/JCOMM/WCRP workshop*, Feltham UK, Sept. 2018
- *ESA workshop on low frequency passive microwaves*, ECMWF, Reading UK, 2017.
- *EuroGOOS conference*, Bergen, 2017.

## Examples of leadership in industrial innovation or design.

- Leader of the Arctic Marine Forecasting Center of the European Copernicus Marine Services. <http://marine.copernicus.eu/> (Select "Arctic Ocean" to access 8 modeling products).
- Technical responsible for a commercial real-time ocean forecasting service in the Gulf of Mexico for the joint venture Ocean Numerics Ltd. (from 2004 to 2006).
- Industry-driven modelling studies in the South China Sea (SeaFINE product licensed by OceanWeather Inc.), in the Gulf of Mexico (Ensemble forecasting project with Shell E&P) and in the Barents and Kara Seas (Marginal Ice Zone project from TOTAL E&P Norge).