

## Curriculum Vitae

Name: **Steffen Malskær Olsen**

Year of birth: 1972

Married state: Cohabiting

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## Ongoing research activities

Ocean modelling, Nordic Seas

- Thermohaline Overturning – at Risk ? EU-FP7 Environment, 2009-2012. Lead: Prof. Detlef Quadfasel, Hamburg.
- Arctic-Atlantic Exchanges. Arktisk samarbejdsprogram, Nordisk Ministerråd, 2007-2009. Lead: Prof. Svein Østerhus, University of Bergen
- Program for klimaforskning i havstrømme omkring Færøerne, Finansloven, 2009-2011. Lead: Prof. Bogi Hansen, Fiskirannsóknarstofan (Den Færøske Fiskeriundersøgelse), Tórshavn.

Observational oceanography

- GreenArc Icecamp 2009: Climate and environmental changes in the Arctic Ocean north of Greenland. KVUG IPY 2008 funds. Lead: PhD Leif Toudal Pedersen, Centre for ocean and ice, DMI ([ocean.dmi.dk/arctic/icecamp](http://ocean.dmi.dk/arctic/icecamp)).

Interdisciplinary research projects

- Vulnerability and adaptation of South and East Greenland Economies to Natural variability in the multi-year ice coverage. KVUG-UMTS/IPY grant, 2008-2010. Lead: PhD Steffen M. Olsen, Centre for ocean and ice, DMI.

Earth System modelling

- Development of the coupled Earth System Model (EC-Earth) with the objectives to simulate earth climate and climate variability from seasonal through multi-century time scales. Member of the EC-Earth working group on ocean modeling ([ecarth.knmi.nl](http://ecarth.knmi.nl)).
- Development and applications of the low order Earth System model (DCESS Model) with the objectives to simulate Earth System processes and feedbacks on geological time-scales ([www.dcess.dk](http://www.dcess.dk)).

## Education and positions held

2002-Present: Research Scientist at the Center for Ocean and Ice, Danish Meteorological Institute.

2001: Visiting School of Ocean & Earth Science at Southampton Oceanography Centre, University of Southampton.

1999-2002 Ph.D. study at the Danish Center for Earth System Science, University of Copenhagen. Thesis title: Stable and oscillating thermohaline circulation states in simple climate models validated against paleodata. Graduated November 29, 2002.

1999-2000 Oceanographic cruises to the Greenland Sea as part of the Danish Global Change Project.

1997-1999 Research assistant at the Danish Center for Earth System Science, University of Copenhagen.

1997 Master thesis in oceanography at Department of Geophysics, University of Copenhagen. Thesis title: Dianeutral Advektion og Vandtype omformning i Stillehavet, supervised by Prof. G. Shaffer. Graduated July 1997.

## Publications

2009 G. Shaffer, **S. M. Olsen** and J. O. P. Pedersen: Long-term ocean oxygen depletion in response to carbon dioxide emissions from fossil fuels. *Nature Geoscience*, advance online publication, 25 January 2009 (doi:10.1038/ngeo420).

2008 **S. M. Olsen**, B. Hansen, D. Quadfasel and S. Østerhus: Observed and modelled stability of overflow across the Greenland-Scotland Ridge. *Nature* **455**, 519-522 | doi:10.1038/nature07302.

2008 G. Shaffer, **S. M. Olsen** & J. Pedersen. Presentation, calibration and verification of the low-order, DCESS Earth

System Model. *Geosci. Mod. Dev.* 1, 17-51.

2007 **S. M. Olsen** and T. Schmith: North Atlantic – Arctic Mediterranean exchanges in an ensemble hindcast experiment, *J. Geophys. Res.*, 112, C04010, doi:10.1029/2006JC003838.

2008 Bob Dickson, Stephen Dye, Steingrímur Jonsson, Armin Köhl, Andreas Macrander, Marika Marnela, Jens Meincke, **Steffen Olsen**, Bert Rudels, Hedinn Valdimarsson and Gunnar Voet: The overflow flux west of Iceland: variability, origins and forcing. Arctic Sub-Arctic Ocean Fluxes, Chapter 19 (ed. B. Dickson, J. Meincke and P. B. Rhines), Springer, Germany.

2008 Bogi Hansen, Svein Østerhus, Bill Turrell, Steingrímur Jónsson, Héðinn Valdimarsson, Hjálmar Hátún, **Steffen Malskær Olsen**: The inflow of Atlantic water, heat, and salt to the Nordic Seas across the Greenland-Scotland Ridge. Arctic Sub-Arctic Ocean Fluxes, Chapter 1 (ed. B. Dickson, J. Meincke and P. B. Rhines), Springer, Germany.

2005 **S. M. Olsen**, Shaffer, G. & C. J. Bjerrum: Ocean oxygen isotope constraints on mechanisms for millennial-scale climate variability. *Paleoceanography*, **20**, doi:10.1029/2004PA001063.

2004 G. Shaffer, **Olsen, S.M.** & C. J. Bjerrum: Ocean subsurface warming as a mechanism for coupling Dansgaard-Oeschger climate cycles and ice-rafting events, *Geophys. Res. Lett.*, **31**, L24202, doi:10.1029.

2002 **Steffen Malskær Olsen**: Stable and oscillating thermohaline circulation states in simple climate models validated against paleodata. Ph.D. Thesis from the Danish Centre of Earth System Science, Niels Bohr Institute, University of Copenhagen.

2001 G. Shaffer & **Olsen, S.M.** Sensitivity of the thermohaline circulation and climate to ocean exchanges in a simple coupled model, *Climate Dynamics*, **17** (5-6), 433-444.

## Reports

2008 Ribergaard, M.H., **Olsen, S.M.**, and Mortensen, J. Oceanographic Investigations off West Greenland 2007. NAFO Scientific Council Documents 08/003.

2004 **Steffen Malskær Olsen** & Erik Buch: A Review of the North Atlantic Circulation, Marine Climate Change and its Impact on North European Climate. *Report from Environmental Assessment Institute*, Copenhagen, Journal number: 2002-2204-009, ISBN.: 87-7992-026-8

## Popular articles (in Danish)

2005 **Steffen Malskær Olsen**, E. Buch og M. H. Rieberggaard: Hav og Klima - Atlantens rolle i klimasystemet. *Aktuel Naturvidenskab*, **2**, 23-27.

2005 Erik Buch og **S. M. Olsen**: Banker "Oceanernes Kolde Hjerter". *Geografisk Orientering*, **6**, 332-336.

2004 Hansen, N., Cappelen, J., Christensen, O.B., Kaas, E., **Olsen, S.M.**, Ribergaard, M.H. & Stendel, M.: The Day After Tomorrow - uniformitaristernes mareridt? *Geologisk Nyt* 3/04, 4