Curriculum Vitae 2017/07/02

Soeren Thomsen, PostDoc at GEOMAR - Helmholtz Centre for Ocean Research Kiel, Germany, sthomsen(at)geomar.de
Place, date of birth, citizenship, Eckernfoerde, Germany, 1985/11/28, German,
Languages: German (native speaker), English (fluent), Swedish (fluent), French (A1)

Overall research interests
My research interest lies in the turbulent nature of the ocean, ranging from millimeter to hundred kilometer scales. In particular, I am interested in (sub-) mesoscale variability, flow instabilities, ageostrophy, diapycnal mixing processes and the physical-biogeochemical coupling at these scales. I conduct observations, analyze numerical model simulations and perform stability analysis to learn about these processes.

Professional Experience

04/2016 – present	**Postdoctoral fellow**, GEOMAR - Helmholtz Center for Ocean Research Kiel
09/2012 – 03/2016	**PhD student** in the SFB754 at GEOMAR - Helmholtz Center for Ocean Research Kiel, Kiel University, Germany
2010 – 2012	**student assistant**, processing software development for glider based turbulence measurement Dr. M. Dengler

Education

04/2016	**Dr. rer. nat.** (magna cum laude) “Meso- and submesoscale variability within the Peruvian upwelling regime: Mechanisms of oxygen supply to the subsurface ocean”, Kiel University, Prof. Kanzow, Prof. Greatbatch
09/2012 – 03/2016	**PhD student** in the Integrated School of Ocean Sciences (ISOS) at Kiel University
08/2010 – 08/2012	**Masters** (with distinction), physical oceanography, “Instabilities in the Labrador Current”, Hamburg University, Prof. Eden
07/2007 – 07/2010	**Bachelor** in Physics of the Earth System, "Variabilität von Vermischungs-prozessen und diapyknischen Wärmeflüssen im äquatorialen Atlantik bei 23° West", Kiel University, Dr. M. Dengler, Prof. Brandt

Academic achievements

Peer-reviewed publications: 5, citations: 40, h-index: 4, (google scholar, 02.07.2017)

Peer reviewed publications

5. Loginova A., **S. Thomsen**, and A. Engel (2016), Chromophoric and fluorescent dissolved organic matter in and above the oxygen minimum zone off Peru, *J. Geophys. Res. Oceans, 121, 7973–7990,* doi:10.1002/2016JC011906.

4. **Thomsen, S.**, T. Kanzow, F. Colas, V. Echevin, G. Krahmann, and A. Engel (2016), Do submesoscale frontal processes ventilate the oxygen minimum zone off Peru?, *Geophys. Res.Lett.*, *43*, doi:10.1002/2016GL070548.

3. Löscher, C. R., Bange, H. W., Schmitz, R. A., Callbeck, C. M., Engel, A., Hauss, H., Kanzow, T., Kiko, R., Lavik, G., Loginova, A., Melzner, F., Meyer, J., Neulinger, S. C., Pahlow, M., Riebesell, U., Schunck, H., **Thomsen, S.**, and Wagner, H. (2016), Water column biogeochemistry of oxygen minimum zones in the eastern tropical North Atlantic and eastern tropical South Pacific oceans, Biogeosciences, 13, 3585-3606, doi:10.5194/bg-13-3585-2016

2. **Thomsen, S.**, T. Kanzow, G. Krahmann, R. J. Greatbatch, M. Dengler, and G. Lavik (2016), The formation of a subsurface anticyclonic eddy in the Peru-Chile Undercurrent and

its impact on the near-coastal salinity, oxygen, and nutrient distributions, J. Geophys. Res. Oceans, 121, 476–501, doi:10.1002/ 2015JC010878.

1. **Thomsen S.**, C. Eden, L. Czeschel, (2014), Stability Analysis of the Labrador Current, *J. Phys. Oceanogr.*, **44**, 445–463. doi: http://dx.doi.org/10.1175/JPO-D-13-0121.1

Manuscripts in review

1. Köhn, E. E., Thomsen, S., Arévalo-Martínez, D. L., and Kanzow, T. (2017, in review), Submesoscale CO_2 variability across an upwelling front off Peru, Ocean Sci. Discuss. https://doi.org/10.5194/os-2017-42

Prices and Awards

2014 Outstanding Student Poster (OSP) Award EGU 2014: "The formation of an anticyclonic mode water eddy within the Peru-Chile Undercurrent"
2010 Price of “Deutsche Meteorologische Gesellschaft” for being under the best 5 students finishing the Bachelor Program 2010 “Physics of the Earth System” with meteorology focus

Scholarships and Fundraising

2017 mini-proposal (3.2k€) “Diapycnal mixing and bio-geochemical coupling across submesoscale fronts off Mauritania”, collaborator D. Witt (NCAR, Colorado, USA), funding to employ student assistant
2016 startup / travel grant (2.5k€), SFB754 project for 4 month stay at LOCEAN (Paris) to establish an international collaboration
2016 travel grant from (1k€) “CNES” for Liege Colloquium 2016 on submesoscale processes
2012 travel grant from (2k€) “ISOS Future Ocean” for AGU conference

Teaching

2017 supervision of master thesis: M. Klöwer “Energy budget-based backscatter in a non-linear shallow water model driven by double gyre wind forcing” (with R. Greatbatch), J. Hausschild “Biogeochemistry of observed and modeled filaments off Peru” (with A. Oschlies)
2012 – 2016 supervision of Bachelor students (H. S. Hilbert, M. Roch, T. Rinner), Master students (R. Kopte, L. Ebsen) during literature seminars and student assistants (E. Köhn, J. Langmaack, J. Lüdke, K. Burmeister, M. Feldkamp) in processing and analyzing turbulence data, analysing high-resolution observations and carrying out stability analysis
2013 teaching assistant for “Exercises in Regional Oceanography, winter term 2013/2014”

Computing skills

- MATLAB, FORTRAN, PYTHON
- analysis of Regional Ocean Modeling System (ROMS/CROCO) output
- basics in idealized CROCO modelling
- Unix/Linux/Windows/Mac environments

Interdisciplinary, soft skills

- courses of the Integrated School of Ocean Science, Kiel University:
    - Governance of the Oceans by Prof. Lück
    - Psychological aspects of scientific writing
- courses of interdisciplinary SFB 754 project:
    - interdisciplinary summer school (Kristineberg/Sweden, 2013) on oxygen minimum zones
    - gender awareness training
    - project management
- interdisciplinary Young Earth System Scientists (YESS) community member, yess-community.org

Public awareness

2016 member of climatefeedback.org, a portal of earth scientists which reviews press articles on climate change to improve their scientific credibility
2011 tank experiments with school kids during “Night of the Profs” at Hamburg University

Cruises

2017 Meteor 137, Peruvian upwelling, **PI for underway and turbulence measurements**
2017 Meteor 136, Peruvian upwelling, **PI for interdisciplinary submesoscale experiment**
2016 Meteor 131, Benguala upwelling, **PI for underway measurements**
2014 Meteor 107, Mauritanian upwelling, **PI for interdisciplinary submesoscale experiment**
2013 Meteor 93, Peruvian upwelling, **PI for interdisciplinary submesoscale experiment**
2012 Maria S. Merian 22, Tropical Atlantic, **PI for turbulence measurements**
2012 Melville, Southern Indian Ocean, **PI for turbulence measurements**
2011 Maria S. Merian 18/3, Tropical Atlantic, microstructure, CTD
2009 Maria S. Merian 12/4b, Baltic Sea, microstructure
2009 Alkor 340/2, Baltic Sea, education cruise

Talks

17. Thomsen S., T. Kanzow, R J. Greatbatch, G. Krahmann, F. Colas, V. Echevin, M. Dengler, J. Karstensen, G. Lavik, A. Engel, Multiscale physical-biogeochemical observations in eastern boundary upwelling systems, Talk, MISU, Stockholm, 30/03/2017

16. Thomsen S., T. Kanzow, R J. Greatbatch, G. Krahmann, F. Colas, V. Echevin, M. Dengler, G. Lavik, A. Engel, Meso- and submesoscale variability within the Peruvian upwelling regime, Talk, IOW, Warnemünde, 30/03/2017

15. Thomsen S., T. Kanzow, R J. Greatbatch, G. Krahmann, F. Colas, V. Echevin, M. Dengler, G. Lavik, A. Engel, Meso- and submesoscale variability within the Peruvian upwelling regime, Talk, MPI Marine Microbiology, Bremen, 23/03/2017

14. Thomsen S., T. Kanzow, R J. Greatbatch, G. Krahmann, F. Colas, V. Echevin, M. Dengler, G. Lavik, A. Engel, Meso- and submesoscale variability within the Peruvian upwelling regime, Talk, MPI/ZMAW Hamburg, 22/03/2017

13. Thomsen S., T. Kanzow, R J. Greatbatch, G. Krahmann, F. Colas, V. Echevin, M. Dengler, G. Lavik, A. Engel, Meso- and submesoscale variability within the Peruvian upwelling regime, **Invited Talk**, ETH Zürich, 05/02/2017

12. Thomsen S., T. Kanzow, R J. Greatbatch, G. Krahmann, F. Colas, V. Echevin, M. Dengler, G. Lavik, A. Engel, Meso- and submesoscale variability within the Peruvian upwelling regime, Talk, Math institute at **Cambridge University**, 14/07/2016

11. Thomsen S., T. Kanzow, R J. Greatbatch, G. Krahmann, F. Colas, V. Echevin, M. Dengler, G. Lavik, A. Engel, Meso- and submesoscale variability within the Peruvian upwelling regime, **Invited talk**, IFREMER, Brest, France, 01/07/2016,

10. Thomsen S., T. Kanzow, F. Colas, V. Echevin, G. Krahmann, A. Engel, Do submesoscale processes ventilate the oxygen minimum zone off Peru?, Talk**,** Liege colloquium, **Travel grant**, 27/05/2016,

9. Thomsen S., T. Kanzow, R J. Greatbatch, G. Krahmann, F. Colas, V. Echevin, M. Dengler, G. Lavik, A. Engel, Meso- and submesoscale variability within the Peruvian upwelling regime, Talk, Lamont, **Columbia University**, New York, USA, 04/03/2016

8. Thomsen, S, T. Kanzow, R. J. Greatbatch, F. Colas, V. Echevin, G. Krahmann, G. Lavik and A. Engel, “On the subduction of newly upwelled water in submesoscale cold filaments off Peru.” Warnemünde Turbulence Days, 2015/8/30-9/3, Isle of Vilm

7. Thomsen S., C. Eden and L. Czeschel, "Stability analysis of the Labrador Current", ASOF Meeting AWI, 2015/3/16, Bremerhaven

5. Thomsen S., T. Kanzow, G. Krahmann, M. Dengler, R. J. Greatbatch and G. Lavik, "The formation of a low-oxygen mode water eddy in the Peru-Chile Undercurrent and its impact on the near-coastal salinity and oxygen distributions", AWI, 2015/1/30, Bremerhaven

4. Thomsen S., T. Kanzow, G. Krahmann, M. Dengler, R. J. Greatbatch and G. Lavik, "Meso- and submesoscale variability within the upwelling regime off Peru observed by a fleet of seven gliders.", L'OCEAN, 2014/10/10, Paris

3. Thomsen S., T. Kanzow, G. Krahmann, M. Dengler, R. J. Greatbatch and G. Lavik, Meso- and submesoscale variability within the Peruvian upwelling regime observed by a fleet of seven gliders, **Invited talk**, Hzg, Geesthacht, Germany, 02/04/2014

2. Thomsen S., T. Kanzow and G. Krahmann, "The role of meso- and submesoscale processes for the near coastal oxygen supply into the oxygen minimum zone off Peru.", Warnemünde Turbulence Days, 2013/8/11-15, Isle of Vilm

1. Thomsen S., C. Eden and L. Czeschel, "Stability analysis of the Labrador Current", GEOMAR, 2013/4/22, Kiel

Poster

6. Thomsen S, T. Kanzow, F. Colas, V. Echevin, G. Krahmann and A. Engel, “Do submesoscale frontal processes ventilate the oxygen minimum zone off Peru?” Ocean Science Meeting 2016/02/22, New Orleans

5. Thomsen S, T. Kanzow, F. Colas, V. Echevin and G. Krahmann, “On the subduction of oxygenated surface water in submesoscale cold filaments off Peru.” EGU General Assembly, Vienna, 2015

4. Thomsen S., T. Kanzow, G. Krahmann, M. Dengler, M. Krüger, The formation of an anticyclonic mode water eddy within the Peru-Chile Undercurrent, **Poster price**, EGU, Vienna, Austria, 2014

3. Thomsen S., T. Kanzow and G. Krahmann, Meso- and submesoscale variability within the upwelling regime off Peru observed by a fleet of gliders., Ocean Science Meeting, Honolulu, 2014/2/23-28

2. Thomsen S., T. Kanzow and G. Krahmann, A sampling strategy to escape the dilemma of understampling in marine science, Poster, **Interdisciplinary Conference of Young Earth System Scientists** (**ICYESS)**: Understanding and Interpreting Uncertainty, Hamburg, Germany, 2013

1. Thomsen S. and C. Eden, Ageostrophic linear stability analysis of the Labrador Current, AGU Fall Meeting, San Francisco, USA, 2012, **Travel grant**