

# Curriculum Vitae

## SABRINA SPEICH

Dynamic Meteorology Laboratory, IPSL – Ecole Normale Supérieure,  
Paris

[sabrina.speich@ens.fr](mailto:sabrina.speich@ens.fr)

<http://www.researcherid.com/rid/L-3780-2014>

<http://orcid.org/0000-0002-5452-8287>

<https://www.scopus.com/authid/detail.uri?authorId=6602115663>

[https://www.researchgate.net/profile/Speich\\_Sabrina](https://www.researchgate.net/profile/Speich_Sabrina)

<https://scholar.google.fr/citations?user=G0VWQsEAAA&hl=fr&authuser=1>



**KEY WORDS:** Physical oceanography; Global and regional ocean circulation; Mesoscale-submesoscale interactions; Air-sea exchanges; Climate change; Shaping of the ocean dynamics on ecosystems.

### EXPERTISE

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Sabrina Speich is a physical oceanographer particularly interested in the uncovering and understanding of ocean dynamics and air-sea interactions and their role on climate variability, change and related impacts. She is a world-recognized expert in ocean modeling as well as in organizing wide programs of in situ observations. Within her research projects, she has been involved since the beginning in the Argo profiling float international program. She is the PI of GoodHope and BONUS-GoodHope observing programs and vice chair of the executive committee of the South Atlantic Meridional Overturning (SAMOC) international initiative. She is recently focusing her research on scale-interactions and in atmosphere-ocean dynamics, and how they affect the Earth climate and marine ecosystems under global warming. She is co-chair of the Atlantic CLIVAR Panel. She is member of the Scientific Committee on Antarctic Research (SCAR), Ocean Observations Panel for Climate (OOPC) and she is a past member of the Southern Ocean CLIVAR/CliC/SCAR Panel. She is full professor of Oceanography and Climate Sciences at the *Ecole Normale Supérieure* (ENS) of Paris and she is member of the French climate institute Pierre Simon Laplace (IPSL).

### EDUCATION

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- 2008/12 *Diplôme d'Habilitation à diriger des Recherches* (HDR, equivalent to the D. Sc. in the United Kingdom, to the “Libera docenza” in Italy, to the German “Habilitation”) in Physical Oceanography and Climate Sciences, *Université de Bretagne Occidentale*, Brest, France;
- 1992/11 Ph.D. in Physical Oceanography, *Université Pierre et Marie Curie*, Paris;
- 1989/02 *Laurea* in Physics, *Università degli Studi*, Trieste, Italy;

### APPOINTMENTS

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- Since 2017 Invited Professor, SciencesPo, Paris, France
- Since 2014 Dean of Studies, Department of Geosciences at the *Ecole normale supérieure* (ENS), Paris, France
- Since 2013 Full Professor, Department of Geosciences at the *Ecole normale supérieure* (ENS), Paris, France
- 2009-2013 Full Professor, Department of Physics at the "Université de Bretagne Occidentale", Brest, France
- 1995 - 2009 Assistant Professor, Department of Physics at the "Université de Bretagne Occidentale", Brest, France

### RECENT RESPONSABILITIES IN INTERNATIONAL COMMITTEES

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- Since 2017 *Programme Committee Co-Chair, OceanObs'19, An Ocean of Opportunity* ([www.oceanobs19.net](http://www.oceanobs19.net))
- Since 2017 *Scientific Committee of the Institut Henri Poincaré Trimester “The Mathematics of Climate and the Environment”* ([www.geosciences.ens.fr/CliMathParis2019.fr](http://www.geosciences.ens.fr/CliMathParis2019.fr))
- Since 2015 *Co-chair, Atlantic CLIVAR Panel* (<http://www.clivar.org/clivar-panels/atlantic>);
- Since 2014 *Member of the Scientific Council of the Ocean & Climate Platform* (<http://www.ocean-climate.org/?lang=en>)
- Since 2012 *International Scientific Committee on Antarctic Research (SCAR), Member*

### RECENT RESEARCH PROJECT RESPONSABILITIES AT INTERNATIONAL LEVEL

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- Since 2015 *Working Package Leader and Member of the Executive Committee of the EU H2020 AtlantOS Project* (<https://www.atlantos-h2020.eu>);
- Since 2014 *Co-PI of the International Project: SOCLIM - Southern Ocean And CLIMate field studies with innovative tools* (<http://soclim.com>);
- Since 2007 *Co-chair of the “A monitoring system for heat and mass transports in the South Atlantic as a component of the Meridional Overturning Circulation (SAMOC) International initiative”* (<http://www.agence-nationale-recherche.fr/en/anr-funded->

[project/?tx\\_lwmsuivibilan\\_pi2%5BCODE%5D=ANR-11-IS56-0004](http://project/?tx_lwmsuivibilan_pi2%5BCODE%5D=ANR-11-IS56-0004) and <http://www.aoml.noaa.gov/phod/research/moc/samoc/>).

Since 2003 PI of the international CLIVAR Project 'GOODHOPE / Southern Ocean : Monitoring the Indo-Atlantic connections. An international co-operative project. A process study and a contribution to CLIVAR - Southern Ocean' (<http://www.coriolis.eu.org/Science2/Atlantic-Ocean/GOODHOPE-SAMOC>)

2008 - 2011 Co-PI of SCAR/IOC Southern Ocean Observing System (SOOS)

## **PARTICIPATION IN ADVISORY BOARDS AT INTERNATIONAL LEVEL**

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Since 2017 SAB member, GEOMAR Helmholtz Centre, Kiel, Germany (<https://www.geomar.de/>)

Since 2017 PAG member, ORCHESTRA-ROSES BAS projects (<https://www.bas.ac.uk/project/orchestra/>);

Since 2015 SAB member, Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC: <https://www.cmcc.it/>);

## **RECENT RESEARCH RESPONSABILITIES AT NATIONAL LEVEL**

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Since 2017 Co-Chair Climate-Ocean of the Pilote Committee 1 of the French National Agency for Science (ANR)

Since 2016 Member of the "Comité spécialisé pour la recherche marine, maritime et littorale", of the Council of the Sea and Coastal Ocean, Under the auspices of the Ministries of Research and Ecology, Paris, France (<http://www.developpement-durable.gouv.fr/Le-Comite-pour-la-recherche-marine.html>)

2009-2013 Coordinator of the "Vulnerability of the marine system to global changes" Scientific Axis of the Institut Européen pour l'Etude de la Mer (IUEM), Brest, France;

2009-2013 Scientific Committee Member of the French National Programme on the Earth Fluid Envelops and Environment (LEFE-INSU);

2009-2013 Member of the Scientific Council and its Bureau, Université de Bretagne Occidentale, Brest, France;

2002-2009 Principal Investigator (PI) of the "Open Ocean – Coast system exchanges" for the Ifremer programme "Ocean circulation and climate";

## **SCIENTIFIC TRAINING SERVICES**

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Prof. Speich has trained about 20 PhD and postdoctoral young researchers and about 30 Master students.

Since 2014 Dean of Studies of the Geosciences Department, ENS

Since 2014 Member of the Doctoral School College, ED129 – Climate Sciences, IPSL, Paris

2010-2013 Deputy Director of the Doctoral School on Marine Sciences, IUEM, UBO, Brest, France

2010-2013 Deputy Director, Department of Physics at the "Université de Bretagne Occidentale", Brest, France

2001-2004 Elected Member at the Department of Physics Council of the Université de Bretagne Occidentale

## **RECENT OCEANOGRAPHIC CRUISES**

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2017 SAMOC/AtlantOS MSM60 cruise, January 2017 South Atlantic, RV *Merian* Co-Chief Scientist.

2016 MyScience cruise, February-March 2016 South Atlantic, RV *Meteor*. Co-Chief Scientist.

2012 Oceanographic cruise TARAOCEANS RV *Tara*. Co-PI Physical Oceanography and Climate.

2008 Oceanographic International Polar Year cruise BONUS-GOODHOPE RV *Marion Dufresne* de l'Institut Polaire Français Paul Emile Victor. Chief Scientist.

## **OTHER SELECTED PROFESSIONAL ACTIVITIES (RECENT ONLY)**

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Journal Reviewer: Nature, Science, J. Geophys. Res., Geophys. Res. Letters, PLOS ONE, J. of Ocean and Atmos. Technology, J. of Phys. Oceanogr., Physica D, J. Mar. Sciences, Ocean Sciences, Biogeoscience, J. Climate.

Proposal reviewer: National Science Foundation (Physical and biogeochemical Oceanography, Climate variability and changes), NASA, NOAA, South African National Research Council, CNES (French Space Agency), CNRS (French National Science Foundation), French Ministry for Research (ANR).

Session Organizer at International Conferences: IAPSO-IAMAS-IAGA Conference 2017; Ocean Sciences Conference 2010 & 2018 ; AGU Meeting of the Americas 2013, EGU General Assembly 2009, SCAR Open Science Conference.

Organization of International Workshops : Co-organizer, Advanced Workshop on "Submesoscale Dynamics", LabexMer, Brest, France, November 2011. Advanced Workshop on "Conceiving a Submesoscale Experiment South of Africa", ACCESS, Cape Town, South Africa, June 2012; Co-organizer SYNBIOS: Submesoscale dYNAmics and BIOlogy on steep Slopes Workshop; <http://www-ium.univ-brest.fr/synbios/workshop2015>, ENS (2015); Workshop on mesoscale eddies , February 2018 in parallel of the Ocean Science conference, in Portland, OR, USA.

## PUBLICATIONS IN PEER-REVIEWED JOURNALS

- Meinen, C. S., S. Speich, A. R. Piola, I. Ansonge, E., Campos, M. Kersalé, T. Terre, M. P. Chidichimo, T. Lamont, O. Sato, R. Perez, D. Valla, M. van den Berg, M. Le Hénaff, S. Dong, and S. Garzoli, (2018) Baroclinic and barotropic flows and the dueling influence of the boundaries. *Geophys. Res. Lett.*, DOI: 10.1029/2018GL077408
- Capuano, TA, S. Speich, X. Carton, & R. Laxenaire (2018) : Indo-Atlantic exchange, mesoscale dynamics and Antarctic Intermediate Water. *J. Geophys. Res.* In press. DOI: 10.1002/2017JC013521
- Capuano, TA, Speich, S., Carton, X., & Blanke, B. (2018). Mesoscale and submesoscale processes in the Southeast Atlantic and their impact on the regional thermohaline structure. *J. Geophys. Res.*, 123. DOI: 10.1002/2017JC013396
- Carradec, Q., Pelletier, E., Da Silva, C., Alberti, A., Seeleuthner, Y., Blanc-Mathieu, R., Lima-Mendez, G., Rocha, F., Tirichine, L., Labadie, K., Kirilovsky, A., Bertrand, A., Engelen, S., Madoui, M.-A., Méheust, R., Poulain, J., Romac, S., Richter, D.J., Yoshikawa, G., Dimier, C., Kandels-Lewis, S., Picheral, M., Searson, S., Acinas, S.G., Boss, E., Follows, M., Gorsky, G., Grimsley, N., Karp-Boss, L., Krzic, U., Pesant, S., Reynaud, E.G., Sardet, C., Sieracki, M., Speich, S., Stemmann, L., Velayoudon, D., Weissenbach, J., Jaillon, O., Aury, J.-M., Karsenti, E., Sullivan, M.B., Sunagawa, S., Bork, P., Not, F., Hingamp, P., Raes, J., Guidi, L., Ogata, H., De Vargas, C., Iudicone, D., Bowler, C., Wincker, P. A global ocean atlas of eukaryotic genes (2018) *Nature Communications*, 9 (1), art. no. 373, DOI: 10.1038/s41467-017-02342-1.
- Seeleuthner, Y., Mondy, S., Lombard, V., Carradec, Q., Pelletier, E., Wessner, M., Leconte, J., Mangot, J.-F., Poulain, J., Labadie, K., Logares, R., Sunagawa, S., De Berardinis, V., Salanoubat, M., Dimier, C., Kandels-Lewis, S., Picheral, M., Searson, S., Acinas, S.G., Boss, E., Follows, M., Gorsky, G., Grimsley, N., Karp-Boss, L., Krzic, U., Not, F., Ogata, H., Raes, J., Reynaud, E.G., Sardet, C., Speich, S., Stemmann, L., Velayoudon, D., Weissenbach, J., Pesant, S., Poulton, N., Stepanauskas, R., Bork, P., Bowler, C., Hingamp, P., Sullivan, M.B., Iudicone, D., Massana, R., Aury, J.-M., Henrissat, B., Karsenti, E., Jaillon, O., Sieracki, M., De Vargas, C., Wincker, P. Single-cell genomics of multiple uncultured stramenopiles reveals underestimated functional diversity across oceans (2018) *Nature Communications*, 9 (1), art. no. 310, DOI: 10.1038/s41467-017-02235-3.
- Ioannou, A., A. Stegner, B. Le Vu, I. Taupier-Letage, and S. Speich, 2017 : Dynamical evolution of intense Ierapetra Eddies on a 22 year long period. *J. Geophys. Res.* doi:10.1002/2017JC013158
- Bony, S., Stevens, B., Ament, F., Bigorre, S., Chazette, P., Crewell, S., Delanoë, J., Emanuel, K., Farrell, D., Flamant, C., Gross, S., Hirsch, L., Karstensen, J., Mayer, B., Nuijens, L., Ruppert, J.H., Sandu, I., Siebesma, P., Speich, S., Szczap, F., Totems, J., Vogel, R., Wendisch, M., Wirth, M. EUREC4A: A Field Campaign to Elucidate the Couplings Between Clouds, Convection and Circulation (2017) *Surveys in Geophysics*, 38 (6), pp. 1529-1568. DOI: 10.1007/s10712-017-9428-0
- Alberti, A., Poulain, J., Engelen, S., Labadie, K., Romac, S., Ferrera, I., Albin, G., Aury, J.-M., Belser, C., Bertrand, A., Cruaud, C., Da Silva, C., Dossat, C., Gavory, F., Gas, S., Guy, J., Haquelle, M., Jacoby, E., Jaillon, O., Lemainque, A., Pelletier, E., Samson, G., Wessner, M., Acinas, S.G., Royo-Llonch, M., Cornejo-Castillo, F.M., Logares, R., Fernández-Gómez, B., Bowler, C., Cochrane, G., Amid, C., Hoopen, P.T., De Vargas, C., Grimsley, N., Desgranges, E., Kandels-Lewis, S., Ogata, H., Poulton, N., Sieracki, M.E., Stepanauskas, R., Sullivan, M.B., Brum, J.R., Duhaime, M.B., Poulos, B.T., Hurwitz, B.L., Pesant, S., Karsenti, E., Wincker, P., Bazire, P., Beluche, O., Bertrand, L., Besnard-Gonnet, M., Bordelais, I., Boutard, M., Dubois, M., Dumont, C., Etedgui, E., Fernandez, P., Garcia, E., Aiach, N.G., Guerin, T., Hamon, C., Brun, E., Lebled, S., Lenoble, P., Louesse, C., Mahieu, E., Mairey, B., Martins, N., Megret, C., Milani, C., Muanga, J., Orvain, C., Payen, E., Perroud, P., Petit, E., Robert, D., Ronsin, M., Vacherie, B., Bork, P., Boss, E., Follows, M., Gorsky, G., Hingamp, P., Iudicone, D., Karp-Boss, L., Not, F., Raes, J., Sardet, C., Speich, S., Stemmann, L., Sunagawa, S. Viral to metazoan marine plankton nucleotide sequences from the Tara Oceans expedition (2017) *Scientific Data*, 4, art. no. 170093. DOI: 10.1038/sdata.2017.93.
- Morris, T., J. Hermes, M. du Plessis, C. Duncombe Rae, M. Gulekana, T. Lamont, M. Roberts, I. Ansonge, L. Beal, and S. Speich, 2017 : Large mooring arrays monitoring the Greater Agulhas Current and its inter-ocean exchanges. *South African Journal of Science*.
- Royo-Llonch, M., I. Ferrera, Francisco M. Cornejo-Castillo, P. Sánchez, G. Salazar, R. Stepanauskas, J. M. González, M. E. Sieracki, S. Speich, L. Stemmann, C. Pedrós-Alió, S. G. Acinas, 2017 : Exploring microdiversity in novel *Kordia* sp. (Bacteroidetes) with proteorhodopsin from the tropical Indian Ocean

via single amplified genomes. *Front. Microbiol.* 8:1317. doi: 10.3389/fmicb.2017.01317

- L'Héveder, B., S. Speich, O. Raguénau, F. Gohin, and P. Bryère, 2016 : Observed and projected Sea Surface Temperature seasonal changes in the Western English Channel from satellite data and CMIP5 multi-model ensemble. *International Journal of Climatology*. DOI: 10.1002/joc.4882.
- Hutchinson, K., S. Swart, A. Meijers, I. Anson, S. Speich, 2016 : Decadal-scale thermohaline variability in the Atlantic sector of the Southern Ocean, *J. Geophys. Res.*, 121(5), 3171-3189. <http://doi.org/10.1002/2015JC011491>.
- Guidi, L., S. Chaffron, L. Bittner, D. Eveillard, A. Larhlimi, S. Roux, Y. Darzi, S. Audic, L. Berline, J. Brum, L. P. Coelho, J. C. Ignacio Espinoza, S. Malviya, S. Sunagawa, C. Dimier, S. Kandels-Lewis, M. Picheral, J. Poulain, S. Searson, Tara Oceans coordinators, L. Stemann, F. Not, P. Hingamp, S. Speich, M. Follows, L. Karp-Boss, E. Boss, H. Ogata, S. Pesant, J. Weissenbach, P. Wincker, S. G. Acinas, P. Bork, C. de Vargas, D. Iudicone, M. B. Sullivan, J. Raes, E. Karsenti, C. Bowler, G. Gorsky, 2016 : Plankton networks driving carbon export in the oligotrophic ocean. *Nature*. 2016 Apr 28;532(7600):465-70. doi: 10.1038/nature16942. Epub 2016 Feb 10.
- Pesant, S., Not, F., Picheral, M., Kandels-Lewis, S., Le Bescot, N., Gorsky, G., Iudicone, D., Karsenti, E., Speich, S., Trouble, R., Dimier, C., Searson, S. Open science resources for the discovery and analysis of Tara Oceans data (2015) *Scientific Data*, 2, art. no. 150023, . Cited 45 times. DOI: 10.1038/sdata.2015.23
- Villar, É., G.K. Farrant, M. Follows, L. Garczarek, S. Speich, S. Audic, L. Bittner, B. Blanke, J.R. Brum, C. Brunet, R. Casotti, A. Chase, J.R. Dolan, F. d'Ortenzio, J.-P. Gattuso, N. Grima, L. Guidi, C.N. Hill, O. Jahn, J.-L. Jamet, H. Le Goff, C. Lepoivre, S. Malviya, É. Pelletier, J.-B. Romagnan, S. Roux, S. Santin, E. Scalco, S.M. Schwenck, A. Tanaka, P. Testor, T. Vannier, F. Vincent, A. Zingone, C. Dimier, M. Picheral, S. Searson, S. Kandels-Lewis, Tara Oceans coordinators, S.G. Acinas, P. Bork, E. Boss, Colomban de Vargas, G. Gorsky, H. Ogata, S. Pesant, M.B. Sullivan, S. Sunagawa, P. Wincker, É. Karsenti, C. Bowler, F. Not, P. Hingamp, and D. Iudicone, 2015: Environmental characteristics of Agulhas rings affect inter-ocean plankton transport. *Science*, 22 May 2015, Vol. 348 no. 6237, DOI: 10.1126/science.1261447
- Sunagawa, S., L. P. Coelho, S. Chaffron, J. R. Kultima, K. Labadie, G. Salazar, B. Djahanschiri, G. Zeller, D. R. Mende, A. Alberti, F. M. Cornejo-Castillo, P. I. Costea, C. Cruaud, F. d'Ovidio, S. Engelen, I. Ferrera, J. M. Gasol, L. Guidi, F. Hildebrand, F. Kokoszka, C. Lepoivre, G. Lima-Mendez, J. Poulain, B. T. Poulos, M. Royo-Llonch, H. Sarmiento, S. Vieira-Silva, C. Dimier, M. Picheral, S. Searson, S. Kandels-Lewis, Tara Oceans coordinators, C. Bowler, C. de Vargas, G. Gorsky, N. Grimsley, P. Hingamp, D. Iudicone, O. Jaillon, F. Not, H. Ogata, S. Pesant, S. Speich, L. Stemann, M. B. Sullivan, J. Weissenbach, P. Wincker, E. Karsenti, J. Raes, S. G. Acinas, P. Bork, 2015, Structure and Function of the Global Ocean Microbiome. *Science*, 22 May 2015, Vol. 348 no. 6237, DOI: 10.1126/science.1261359
- Lima-Mendez, G., K. Faust, N. Henry, J. Decelle, S. Colin, F. Carcillo, S. Chaffron, J. C. Ignacio-Espinoza, S. Roux, F. Vincent, L. Bittner, Y. Darzi, J. Wang, S. Audic, L. Berline, G. Bontempi, A. M. Cabello, L. Coppola, F. M. Cornejo-Castillo, F. d'Ovidio, L. De Meester, I. Ferrera, M.-J. Garet-Delmas, L. Guidi, E. Lara, S. Pesant, M. Royo-Llonch, G. Salazar, P. Sánchez, M. Sebastian, C. Souffreau, C. Dimier, M. Picheral, S. Searson, S. Kandels-Lewis, Tara Oceans coordinators, G. Gorsky, F. Not, H. Ogata, S. Speich, L. Stemann, J. Weissenbach, P. Wincker, S. G. Acinas, S. Sunagawa, P. Bork, M. B. Sullivan, E. Karsenti, C. Bowler, C. de Vargas, and J. Raes, 2015, Top-down determinants of community structure in the global plankton interactome. *Science*, 22 May 2015, Vol. 348 no. 6237, DOI: 10.1126/science.1262073
- De Vargas, C., S. Audic, N. Henry, J. Decelle, F. Mahe, R. Logares, E. Lara, C. Berney, N. Le Bescot, I. Probert, M. Carmichael, J. Poulain, S. Romain, S. Colin, J.-M. Aury, L. Bittner, S. Chaffron, M. Dunthorn, S. Engelen, O. Flegontova, L. Guidi, A. Horák, Olivier Jaillon, G. Lima-Mendez, J. Luke, S. Malviya, R. Morard, M. Mulot, E. Scalco, R. Siano, F. Vincent, A. Zingone, C. Dimier, M. Picheral, S. Searson, S. Kandels-Lewis, Tara Oceans Coordinators, S. S. Acinas, P. Bork, C. Bowler, G. Gorsky, N. Grimsley, P. Hingamp, D. Iudicone, F. Not, H. Ogata, S. Pesant, J. Raes, M. E. Sieracki, S. Speich, L. Stemann, S. Sunagawa, J. Weissenbach, P. Wincker, E. Karsenti, 2015, Eukaryotic plankton diversity in the sunlit ocean. *Science* 22 May 2015, Vol. 348 no. 6237, DOI: 10.1126/science.1261605
- Brum, J.R., J. C. Ignacio-Espinoza, S. Roux, G. Doucier, S. G. Acinas, A. Alberti, S. Chaffron, C. Cruaud, C. de Vargas, J.M. Gasol, G. Gorsky, A. C. Gregory, L. Guidi, P. Hingamp, D. Iudicone, F. Not, H.



- Ogata, S. Pesant, B. T. Poulos, S. M. Schwenck, S. Speich, C. Dimier, S. Kandels-Levis, M. Picheral, S. Searson, Tara Oceans Coordinators : P. Bork, C. Bowler, S. Sunagawa, P. Wincker, E. Karsenti and M. B. Sullivan (2015), Global patterns and ecological drivers of ocean viral communities, *Science*, 22 May 2015, Vol. 348 no. 6237, DOI: 10.1126/science.1261498
- Blanke, B., S. Speich, and E. Rusciano, 2014 : Lagrangian water mass tracing from pseudo-Argo, model-derived salinity, tracer and velocity data: An application to Antarctic Intermediate Water in the South Atlantic Ocean. *Ocean Modelling*, 11/2014; DOI: 10.1016/j.ocemod.2014.11.004.
- von Schuckmann, K., Sallée, J.-B., Chambers, D., Le Traon, P.-Y., Cabanes, C., Gaillard, F., Speich, S., and Hamon, M.: Consistency of the current global ocean observing systems from an Argo perspective, *Ocean Sci.*, 10, 547-557, doi:10.5194/os-10-547-2014, 2014.
- Meinen, C. S., S. Speich, R. C. Perez, S. Dong, A. R. Piola, S. L. Garzoli, M. O. Baringer, S. Gladyshev, and E. J. D. Campos, Temporal variability of the Meridional Overturning Circulation at 34.5°S: Results from two pilot boundary arrays in the South Atlantic, *J. Geophys. Res.*, 118 (12), 6461-6478, doi:10.1002/2013JC009228, 2013.
- Messenger, C., S. Speich, and E. Key, 2012 : Marine atmospheric boundary layer over some Southern Ocean fronts during the IPY BGH 2008 cruise, *Ocean Sci.*, 8, 1001-1023, 2012.
- Rusciano, E., S. Speich and M. Ollitrault, 2012 : Antarctic Intermediate Water dynamics, budget and fluxes. Inter-ocean exchanges South of Africa. *J. Geophys. Res.* 117, C10010, doi:10.1029/2012JC008266.
- Rimaud, J., S. Speich, B. Blanke, and N. Grima, 2012 : The exchange of Intermediate Water in the southeast Atlantic: Water mass transformations diagnosed from the Lagrangian analysis of a regional ocean model, *J. Geophys. Res.*, 117, C08034, doi:10.1029/2012JC008059.
- Karsenti, E., Acinas, S.G., Bork, P., Bowler, C., De Vargas, C., Raes, J., Sullivan, M., Arendt, D., Benzoni, F. 10, Follows, M. 11, Jaillon, O. 12, Gorsky, G., Hingamp, P. 3,14, Iudicone, D. 15, Kandels-Lewis, S. 1, Krzic, U. 1, Not, F., Ogata, H., Pesant, S., Reynaud, E., Sardet, C., Sieracki, M., Speich, S., Velayoudon, D., Weissenbach, J., Wincker, P., and the Tara Oceans Consortium, 2011 : A holistic approach to marine eco-systems biology. *PLoS Biology*. 9.10 (2011): e1001177. Web. 10 Feb. 2012.
- Joubert W. R., Thomalla S. J., Waldron H. N., Lucas M. I., Boye M., Le Moigne F. A. C., Planchon F., Speich S.: Nitrogen uptake by phytoplankton in the Atlantic sector of the Southern Ocean during late austral summer, *Biogeosciences Discuss.*, 8, 4917-4952, doi:10.5194/bgd-8-4917-2011, 2011.
- Sarthou, G., E. Bucciarelli, F. Chever, S. P. Hansard, M. Gonzalez-Davila, J. M. Santana-Casiano, F. Planchon, and S. Speich, 2011 : Labile Fe(II) concentrations in the Atlantic sector of the Southern Ocean along a transect from the subtropical domain to the Weddell Sea Gyre. *Biogeosciences*, 8, 2461-2479, 2011 [www.biogeosciences.net/8/2461/2011/doi:10.5194/bg-8-2461-2011](http://www.biogeosciences.net/8/2461/2011/doi:10.5194/bg-8-2461-2011)
- Fripiat, F., A.-J. Cavagna, F. Dehairs, S. Speich, L. André, and D. Cardinal, 2011 : Silicon pool dynamics and biogenic silica export in the Antarctic Circumpolar Current inferred from Si-isotopes. *Ocean Sci.*, 7, 533-547, 2011, [www.ocean-sci.net/7/533/2011/doi:10.5194/os-7-533-2011](http://www.ocean-sci.net/7/533/2011/doi:10.5194/os-7-533-2011).
- Arhan, M., S. Speich, C. Messenger, G. Dencausse, R. A. Fine, and M. Boye (2011), Anticyclonic and cyclonic eddies of subtropical origin in the subantarctic zone south of Africa, *J. Geophys. Res.*, doi:10.1029/2011JC007140.
- Bown J., Boye M., Baker A., Duveilbourg E., Lacan F., Le Moigne F., Planchon F., Speich S., Nelson D.M. 2011. The biogeochemical cycle of dissolved cobalt in the Atlantic and the Southern Ocean south off the coast of South Africa. *Marine Chemistry*, doi:10.1016/j.marchem.2011.03.008.
- González-Dávila, M., Santana-Casiano, J. M., Fine, R. A., Happell, J., Delille, B., and Speich, S.: Carbonate system in the water masses of the Southeast Atlantic sector of the Southern Ocean during February and March 2008, *Biogeosciences*, 8, 1401-1413, doi:10.5194/bg-8-1401-2011, 2011.
- Faure, V., M. Arhan, S. Speich, and S. Gladyshev, 2011 : Heat budget of the surface mixed layer south of Africa. *Ocean Dyn.*, doi: 10.1007/s10236-011-0444-1.
- Dencausse, G., M. Arhan, S. Speich, 2011: Is there a continuous Subtropical Front south of Africa ?, *J. Geophys. Res.*, 116, p. 14. doi:10.1029/2010JC006587.
- Dencausse, G., M. Arhan, S. Speich, 2010 : Spatio-temporal characteristics of the Agulhas Current Retroflection. *Deep Sea Res.*, Volume 57, Issue 11, November 2010, Pages 1392-1405.

- Dencausse, G., M. Arhan, S. Speich, 2010: Routes of Agulhas rings in the southeastern Cape Basin. *Deep Sea Res. Volume 57, Issue 11, November 2010, Pages 1406-1421.*
- Chever, F., E. Bucciarelli, G. Sarthou, S. Speich, M. Arhan, P. Penven, and A. Tagliabue (2010), Physical speciation of iron in the Atlantic sector of the Southern Ocean along a transect from the subtropical domain to the Weddell Sea Gyre, *J. Geophys. Res.*, 115, C10059, doi:10.1029/2009JC005880.
- Swart, S., S. Speich, 2010: A satellite altimetry based Gravest Empirical Mode South of Africa. Part II: 1992-2008 Heat, Salt and Mass Transport variability and changes. *J. Geophys. Res.*, 115, C03003, doi:10.1029/2009JC005300.
- Swart, S., S. Speich, I. Ansorge, J. Lutjeharms, 2010: A satellite altimetry based Gravest Empirical Mode South of Africa. Part I: Development and Validation. *J. Geophys. Res.*, 115, C03002, doi:10.1029/2009JC005299.
- Rubio, B., B. Blanke, S. Speich, et N. Grima, R. Duarte, et V. Laval, 2008: Mesoscale eddy activity in the southern Benguela upwelling system from altimetry and model data. *Progress in Oceanography*, 83, issue 1-4, pp. 288-295. DOI: [10.1016/j.pocean.2009.07.029](https://doi.org/10.1016/j.pocean.2009.07.029)
- Friocourt, Y., B. Blanke, S. Drijfhout, et S. Speich, 2008 : On the dynamics of the slope current system along the West European margin. Part II: Seasonal analytical and numerical calculations. *J. Phys. Oceanogr.* 38, 12, 2619-2638, doi:10.1175/2008JPO3745.1..
- Gladyshev, S., M. Arhan, A. Sokov, S. Speich, 2008. A hydrographic section from South Africa to the southern limit of the Antarctic Circumpolar Current at the Greenwich meridian. *Deep Sea Res.*, 55, 1284-1303.
- Swart, S., S. Speich, I. Ansorge, G. J. Goni, S. Gladyshev, J. R. Lutjeharms, 2008. Transport and variability of the Antarctic Circumpolar Current south of Africa *J. Geophys. Res.*, 113, C09014, doi:10.1029/2007JC004223
- Iudicone D., S. Speich, G. Madec, et B. Blanke, 2008 : The global Conveyor Belt in a Southern Ocean perspective. *J. Phys. Oceanogr.* 38, 1401-1425, DOI: 10.1175/2007JPO3525.1
- Iudicone D., G. Madec, B. Blanke et S. Speich, 2008: The role of Southern Ocean surface forcings and mixing in the global conveyor. *J. Phys. Oceanogr.* 38, 1377-1400, DOI: 10.1175/2008JPO3519.1
- Speich, S., B. Blanke, and W. Cai, 2007: Atlantic Meridional Overturning and the Southern Hemisphere Supergyre. *Geophys. Res. Lett.*, VOL. 34, L23614, doi:10.1029/2007GL031583.
- Friocourt, Y., B. Levier, S. Speich, B. Blanke and S. Drijfhout, 2007: Regional Numerical Ocean Model of the Circulation in the Bay of Biscay. *J. Geophys. Res.* *J. Geophys. Res.*, Vol. 112, No. C9, C09008, 10.1029/2006JC003935.
- Speich, S., J. Lutjeharms , P. Penven, B. Blanke, 2006 : The Indo-Atlantic exchange : dynamics of a regime transition from a western boundary current to an eastern boundary system. *Geophys. Res. Lett.*, VOL. 33, L23611, doi:10.1029/2006GL027157.
- Doglioli, A., B. Blanke, S. Speich, and G. Lapeyre, 2007: Tracking eddies in a regional model of the “Cape Basin” off South Africa. *J. Geophys. Res.*, 112 (2007) C05043, doi:10.1029/2006JC003952.
- Doglioli, A. M.; Veneziani, M.; Blanke, B.; Speich, S.; Griffa, A. 2006: A Lagrangian analysis of the Indian-Atlantic interocean exchange in a regional model *Geophys. Res. Lett.*, Vol. 33, No. 14, L14611 10.1029/2006GL02649825.
- Blanke, B., M. Arhan, et S. Speich, 2006 : Salinity changes along the upper limb of the Atlantic thermohaline circulation. *Geophysical Research Letters*, **33**, L06609, doi :10.1029/2005GL024938.
- Raynaud; P. Yiou; R. Kleeman; S. Speich, 2005 : Using MSSA to determine explicitly the oscillatory dynamics of weakly nonlinear climate systems *Nonlinear Processes in Geophysics*, 12, 807-815
- Legeais, J.-F., S. Speich, M. Arhan, I. Ansorge, E. Fahrbach, S. Garzoli, et A. Klepikov, 2005 : The baroclinic transport of the Antarctic Circumpolar Current south of Africa. *Geophys. Res. Lett.* doi :10.1029/2005GL023271.
- Friocourt, Y., S. Drijfhout, B. Blanke, et S. Speich, 2005 : Water Mass Export from Drake Passage to the Atlantic, Indian, and Pacific Oceans : A Lagrangian Model Analysis, *J. Phys. Oceanogr.*, **35**(7), 1206-1222.
- Blanke, B., S. Speich, A. Bentamy, C. Roy, et B. Sow, 2005 : Modeling the structure and variability of the

- Southern Benguela upwelling using QuikSCAT wind forcing. *J. Geophys. Res.*, **110**, C07018, doi :10.1029/2004JC002529.
- Ansorge, I., S. Speich, J. Lutjeharms, G. Goni, H. Rautenbach, W. Froneman, S. Garzoli, and M. Arhan, 2005: Monitoring the oceanic flow between Africa and Antarctica : Report of the first GoodHope cruise. *South African Journal of Science* **101**, January/February 2005.
- Blanke, B., S. Speich, G. Madec, et R. Maugé, 2002 : A global diagnostic of interior ocean ventilation, *Geophys. Res. Lett.*, **29**, 10.1029/2001GL013727.
- Speich S., B. Blanke, P. de Vries, K. Döös, S. Drijfhout, A. Ganachaud, et R. Marsh, 2002 : Tasman leakage : a new route in the global ocean conveyor belt. *Geophys. Res. Lett.*, **29**, 10, 10.1029/2001GL014586.
- Blanke, B., C. Roy, P. Penven, S. Speich, J. McWilliams, et G. Nelson, 2002 : Linking wind and upwelling interannual variability in a regional model of the southern Benguela. *Geophys. Res. Lett.*, **29**, 2188, doi :10.1029/2002GL015718.
- Blanke, B., M. Arhan, S. Speich, et K. Pailler, 2002 : Diagnosing and picturing the North Atlantic segment of the global conveyor belt by means of an ocean general circulation model. *J. Phys. Oceanogr.*, **32**, 1430-1451.
- Beckers, J. M. et al. 2002, Model intercomparison in the Mediterranean: MEDMEX simulations of the seasonal cycle. *J. Mar. Syst.* **33 – 34** (2002) 215 – 251
- Speich, S., B. Blanke, et G. Madec, 2001 : Warm and cold water paths of a GCM thermohaline conveyor belt. *Geophys. Res. Lett.*, **28**, 311-314.
- Blanke, B., S. Speich, G. Madec, et K. Döös, 2001 : A global diagnostic of interocean mass transfers. *J. Phys. Oceanogr.*, **31**, 1623-1642.
- Raynaud, S., S. Speich, E. Guilyardi, et G. Madec, 1999 : Impact of the ocean lateral diffusion on the ENSO-like variability of a global coupled GCM. *Geophys. Res. Lett.*, **27**, 3041-3044.
- Speich S., G. Madec, et M. Crépon, 1996 : A strait outflow circulation process study: The case of the Alboran Sea, *J. Phys. Oceanogr.*, **26** (3) 320-340.
- Speich, S., and R. Vautard, 1995: Construction de champs de vent pour forcer un modèle de circulation générale de la Mer Méditerranée. Proceedings AMA 1995, Toulouse. 257-264.
- EROMODEL Group: 1995: Progress from 1989 to 1992 in understanding the circulation of the Western Mediterranean Sea. *Oceanologica Acta*, **18**, 255-269.
- Speich, S., H. Dijkstra, M. Ghil, 1995 : Successive bifurcations in a shallow-water model applied to the wind-driven ocean circulation. *Nonlinear Processes in Geophysics*, Vol. 2, pp 241-268, [www.nonlin-processes-geophys.net/2/241/1995/doi:10.5194/npg-2-241-1995](http://www.nonlin-processes-geophys.net/2/241/1995/doi:10.5194/npg-2-241-1995)
- Speich, S., Mosetti, F., 1988. On the eigenperiods in the Tyrrhenian Sea level oscillations. *Il Nuovo Cimento* **11C**, 219-228.

## **PUBLICATIONS ON DATA BASES**

- The GEOTRACES group (Mawji et al.), 2015 : Marine Chemistry special issue: Ocean Biogeochemistry. The GEOTRACES Intermediate Data Product 2014, *Mar. Chem.* (2015), <http://dx.doi.org/10.1016/j.marchem.2015.04.005>
- Tara Oceans Expedition, Participants; Tara Oceans Consortium, Coordinators (2014): Registry of selected samples from the Tara Oceans Expedition (2009-2013). doi:10.1594/PANGAEA.840721, <http://doi.pangaea.de/10.1594/PANGAEA.840721>
- Pesant S., F. Not, M. Picheral, S. Kandels-Lewis, N. Le Bescot, G. Gorsky, D. Iudicone, E. Karsenti, S. Speich, R. Troublé, C. Dimier, S. Searson & Tara Oceans Consortium, 2015 : Coordinators Open science resources for the discovery and analysis of Tara Oceans data. *Sci. Data* **2**:150023 doi: 10.1038/sdata.2015.23
- Chaffron, S.; D'Ovidio, F.; Guidi, L.; Pesant, S.; Speich, S.; Tara Oceans Consortium, Coordinators; Tara Oceans Expedition, Participants (2014): Contextual environmental data of selected samples from the Tara Oceans Expedition (2009-2013). doi:10.1594/PANGAEA.840718, <http://doi.pangaea.de/10.1594/PANGAEA.840718>

## PROCEEDINGS

---

- Speich, S., S. Garzoli, A. Piola and the SAMOC community. (2010). A monitoring system for the South Atlantic as a component of the MOC. In *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society (Annex)*, Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306.
- Cunningham, S.; Baringer, M.; Toole, J.; Osterhaus, S.; Fisher, J.; Piola, A.; McDonagah, E.; Lozier, S.; Send, U.; Kanzow, T.; Marotzke, J.; Rhein, M.; Garzoli, S.; Rintoul, S.; Speich, S.; Wijffels, S.; Talley, L.; Baehr, J.; Meinen, C.; Treguier, A-M.; Lherminier, P. (2010). The present and future system for measuring the Atlantic meridional overturning circulation and heat transport. In *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society*. Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306.
- Garzoli S., L.; Boebel, O.; Bryden, H.; Fine, R. A.; Fukasawa, M.; Gladyshev, S.; Johnson, G.; Johnson, M.; MacDonald, A.; Meinen, C.; Mercier, H.; Orsi, A.; Piola, A.; Rintoul, S.; Speich, S.; Visbeck, M.; Wanninkhof, R. (2010) Progressing towards global sustained deep ocean observations. In *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society*. Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306.
- Gordon A.; Wijffels S.; Sprintall J.; Susanto D.; Molcard R.; Van Aken H.; Field A.; De Ruijter W.; Lutjeharms J.; Speich S.; Beal L. (2010) Interocean Exchange of thermocline water: Indonesian Throughflow; "Tassie" Leakage; Agulhas Leakage. In *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society*. Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306.
- Rintoul, S., Kevin Speer, Eileen Hofmann, Mike Sparrow, Mike Meredith, Eberhard Fahrback, Anthony Worby, Matthew England, Richard Bellerby, Taco de Bruin, Alberto Naveira Garabato, Graham Hosie, Keith Alverson, Sabrina Speich, Dan Costa, Julie Hall, Mark Hindell, Hyung Chul Shin, Vladimir Ryabinin, Sergei Gladyshev, Kate Stansfield (2010). Southern Ocean Observing System (SOOS): Rationale and strategy for sustained observations of the Southern Ocean. In *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society*. Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306.
- Rintoul, S. R., M. Balmeseda, S. Cunningham, Dushaw, S. Garzoli, A. Gordon, P. Heimbach, M. Hood, G. Johnson, M. Latif, U. Send, C. Shum, S. Speich, D. Stammer (2010b). Deep circulation and meridional overturning recent progress and a strategy for sustained observations. In *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society (Annex)*, Venice, Italy, 21-25 September 2009, Hall, J., Harrison, D.E. & Stammer, D., Eds., ESA Publication WPP-306.

## REPORTS

---

- Speich, S., 2010. BONUS-GoodHope, Rapport Final du projet ANR 07-BLAN-0146 BONUS-Goodhope. 36 pp.
- Speich S., 2008. The BONUS-GoodHope cruise Report, [http://stockage.univ-brest.fr/~speich/BGH/BGH\\_Cruise\\_Report.pdf](http://stockage.univ-brest.fr/~speich/BGH/BGH_Cruise_Report.pdf) Laboratoire de Physique des Océans UMR 6523 CNRS-IFREMER-IRD-UBO Technical Report. 252 pp.
- Garzoli S. L., Alberto Piola, Sabrina Speich, Molly Baringer, Gustavo Goni, Kathy Donohue, Chris Meinen, Ricardo Matano, 2007 : A monitoring system for heat and mass transports in the South Atlantic as a component of the Meridional Overturning Circulation. South Atlantic Meridional Overturning Circulation Workshop Report : [http://www.aoml.noaa.gov/phod/SAMOC/SAMOC\\_report\\_January\\_08.pdf](http://www.aoml.noaa.gov/phod/SAMOC/SAMOC_report_January_08.pdf)

## BOOK CHAPTER

---

- Speich, S., 2012 L'océan, régulateur du climat terrestre. *Réguler la Mondialisation : Les défis du nucléaire et du réchauffement climatique*. C. Sellin et L. Gardelle, Editions CRBC, Brest, France, 77-89.

## GRAY LITERATURE

---

- Cabanes, C., V. Thierry, J. Lepesquer, S. Speich, C. Lagadec, 2014 : Delayed mode analysis of Argo floats: improvements of the method in the north atlantic and southern ocean. Coriolis Quarterly Newsletter - Special Issue, 50, 3-11.



- Ansorge, I. J., M. O. Baringer, E. J. D. Campos, S. Dong, R. A. Fine, S. L. Garzoli, G. Goni, C. S. Meinen, R. C. Perez, A. R. Piola, M. J. Roberts, S. Speich, J. Sprintall, T. Terre and M. A. Van den Berg. 2014. Basin-Wide Oceanographic Array Bridges South Atlantic. *Eos Transactions American Geophysical Union* 02/2014; 95(6):53-54. DOI: 10.1002/2014EO060001.
- Speich, S., M. Arhan, E. Rusciano, V. Faure, M. Ollitrault, A. Prigent, S. Swart, 2012 : Use of ARGO floats to study the ocean dynamics south of Africa : What we have learned from the GoodHope project and what we plan within the SAMOC International Programme. *Mercator Ocean—Coriolis Quarterly Newsletter - Special Issue*, 45, 21-27.
- Speich, S., and M. Arhan, 2007 : GOODHOPE/Southern Ocean: A study and monitoring of the Indo-Atlantic connections, *Mercator Newslett.*, 27, 29– 41.
- Speich, S., M. Arhan, 2007. ARGO floats sample vertically homogenized water in Agulhas Rings, *Coriolis Newsletter*, 4, 15-16.
- Speich, S., and M. Ghil, 1994: Interannual variability of the mid-latitude oceans: A new source of climate variability?, *Sistema Terra*, 3, pp. 33-35.