

Sabrina Speich – *Curriculum Vitae*



Full Professor of Physical Oceanography and Climate Sciences

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KEY WORDS: Climate sciences; Physical oceanography; Ocean changes and impact on climate at regional and global scale; Air–sea exchanges and changes; Shaping of the ocean dynamics and climate change on marine ecosystems.

EXPERTISE

I am full professor of Oceanography and Climate Sciences at the Ecole Normale Supérieure (ENS: <https://www.ens.fr>) of Paris and I am member of the Laboratoire de Météorologie Dynamique (LMD: <http://www.lmd.jussieu.fr>) and the French climate Institute Pierre–Simon Laplace (IPSL: <https://www.ipsl.fr>).

I am a physical oceanographer particularly interested in the uncovering and understanding of ocean dynamics and air–sea interactions and they role on climate variability, change and related impacts. I am an expert in ocean modeling as well as in organizing wide programs of in situ observations. I have been involved since the beginning in the Argo profiling float international program.

I have two decades of experience in conceiving large international observing and modelling projects to better assess ocean and climate processes, and monitor changes. I have been working together with the international community (within projects and organizations) to improve the ocean observing strategy and capacity. Recently I started to focus my research on ocean–atmosphere dynamics in relation with climate change and climate adaptation. I am also involved in interdisciplinary programs assessing marine ecosystems under global warming.

The ocean is key to the future (a future that is actually very near) of humanity. We need to build robust ocean information to feed in adaptation strategies and help develop solutions to the various risks arising from the intense anthropogenic stress exerted on our environment.

I have served and is serving on several national and international advisory committees and organizations. Currently, I am a member of the National Committee for Marine, Maritime and Coastal Research (COMER) of the French National Council for the Sea and Coasts and leading the framing of the French Open Ocean observing infrastructure. I am the co–chair of the Atlantic CLIVAR (Climate Variability and Predictability) Regional Panel, which facilitates global climate research in the atmosphere and ocean with a focus on the Atlantic and pan–European. I am also co–chair of the Ocean Observations Panel for Climate (OOPC works under GOOS, GCOS and WCRP) and a member of the Scientific Committee on Antarctic Research (SCAR).

EDUCATION

- 2008** “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** Ph.D. in Physical Oceanography, Université Pierre et Marie Curie, Paris;
- 1989** Laurea in Physics, Università degli Studi, Trieste, Italy.

APPOINTMENTS

Since **2017** Associated Professor, SciencesPo, Paris, France;

2014–2019 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) & LMD UMR 8539, Paris, France;

2009–2013 Full Professor, Department of Physics at the “Université de Bretagne Occidentale”, & LPO, Brest, France;

1995–2009 Assistant Professor, Department of Physics at the “Université de Bretagne Occidentale”, Brest, France.

RECENT RESPONSABILITIES IN INTERNATIONAL COMMITTEES

- Since **2021** Co-chair, Ocean Observing Co-Design (ObsCoDe): A Programme under the UN Decade of Ocean Science for Sustainable Development (<https://www.oceandecade.org>);
- Since **2021** GCOS Joint Study Group Member;
- Since **2021** CLIVAR-AMOC Science Team member;
- Since **2020** Co-chair, Ocean Observations Physics and Climate panel (<https://gcos.wmo.int/en/ocean-observations-physics-and-climate-panel>);
- Since **2015** Co-chair, Atlantic CLIVAR Panel (<http://www.clivar.org/clivar-panels/atlantic>);
- 2017–2019** Programme Committee Co-Chair, OceanObs'19, An Ocean of Opportunity (www.oceanobs19.net);
- 2017–2019** Scientific Committee of the Institut Henri Poincaré Trimester "The Mathematics of Climate and the Environment" (www.geosciences.ens.fr/CliMathParis2019.fr);
- 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

- Since **2020** Coordinator of the EUREC4A-OA JPI Ocean & Climate project international project (<http://www.jpi-oceans.eu/news-events/news/eurec4a-project-launches-its-first-international-campaign-barbados-exploring-ocean>);
- Since **2018** Working Package Leader and Member of the Executive Committee of the EU H2020 EuroSea Project (<https://eurosea.eu>);
- Since **2018** Task Leader of the EU H2020 TRIATLAS Project (<https://triatlas.w.uib.no>);
- Since **2017** PI of the EUREC4A-OA international project (<http://eurec4a.eu/index.php?id=5201>);
- 2015–2019** 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 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

- Since **2021** PAB member, Changing North Atlantic, NERC, UK;
- Since **2019** ISC member, Centro Nazionale della Ricerca (CNR), Rome, Italy;
- 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/>);
- Since **2015** Member of the Scientific Council of the Ocean-Climate Platform (<https://ocean-climate.org/?lang=en>)

RECENT RESEARCH RESPONSABILITIES AT NATIONAL LEVEL

- Since **2020** Co-chair of the French Research Infrastructure proposal "Océan Hauturier In Situ" (OHIS; Open Ocean In Situ in English). French Ministry of Research.
- Since **2016** Member of the bureau 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>)
- 2017–2019** Co-Chair Climate-Ocean of the Pilote Committee 1 of the French National Agency for Science (ANR)
- 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”.

HONORS AND AWARD (SELECT): _____

- 2019** Awarded the Albert Defant Medal by the German Meteorological Society (DMG: <https://www.dmg-ev.de/aktivitaeten/auszeichnungen/albert-defant-medaille/>)

SCIENTIFIC TRAINING SERVICES _____

I have trained about 20 PhD and postdoctoral young researchers and more than 30 Master students.

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

2014–2019 Dean of Studies of the Geosciences Department, ENS

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

PUBLICATIONS _____

I have published more than 100 publications on international journals, have been invited to over 30 conferences as a keynote speaker, and I have led several national and international research projects.

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

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

<https://publons.com/researcher/1458482/sabrina-speich/>

<https://loop.frontiersin.org/people/457867/network>

https://www.researchgate.net/profile/Speich_Sabrina

<https://scholar.google.fr/citations?user=G0WVQsEAAA&hl=fr&authuser=1>

RECENT OCEANOGRAPHIC CRUISES _____

- 2020** EUREC4A-OA cruise, January – February 2020, Tropical North Atlantic, RV Atalante Chief Scientist.
- 2017** SAMOC/AtlantOS MSM60 cruise, January 2017 South Atlantic, RV Merian Co-Chief Scientist.
- 2016** AtlantOS M124 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) _____

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-iuem.univ-brest.fr/synbios/workshop2015>, ENS (2015); Workshop on mesoscale eddies , February 2018 in parallel of the Ocean Science conference, in Portland, OR, USA; Organizer and chair of two Tropical Atlantic Observing System Review workshop: Portland (Oregon, USA), February 2018 and Marseille (France), October 2018. Programme committee Co-chair, OceanObs'19, September 2019, Honolulu (Hawaii).

Summer schools organization: CLIVAR-FIO Summer School on Ocean Macroturbulence and Its Role in Earth's Climate, 6–11 July 2021, Qingdao, China. Summer School on “The Physics of the Ocean”, 12–17 July 2021, Bad Honnef, Germany; Summer School on “The Mathematics for Climate and the Environment”, 5–9 September 2019, Cargèse, France.

