

Sabrina Speich – Curriculum Vitae



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KEY WORDS: Climate sciences; Physical oceanography; Ocean change 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 a physical oceanographer with three decades of experience in ocean modeling and the design of large-scale international observing projects aimed at improving our understanding of ocean and climate processes and monitoring their changes. Over the past 15 years, my research has focused on interdisciplinary approaches to study the nonlinear dynamics of the ocean and its impacts on biogeochemistry, marine ecosystems, and atmospheric processes. In parallel, I work closely with the international scientific community—through projects and organizations—to advance ocean observing strategies and capacity development. As the ocean plays a central role in regulating the Earth's climate, enhancing our ability to observe and understand it is critical for addressing the challenges posed by a rapidly changing climate.

I am a Full Professor of Oceanography and Climate Sciences at the École Normale Supérieure (ENS) in Paris and a member of both the Laboratoire de Météorologie Dynamique (LMD) and the Institut Pierre–Simon Laplace (IPSL), a leading French climate research institute.

Since the early 2000s, I have been actively involved in national and international scientific organizations and programs. My current engagement is driven by the need to develop a fit-for-purpose global climate observing system. This commitment is reflected in my role as Co-Chair of the Ocean Observations Panel for Climate (OOPC), a panel operating under the Global Ocean Observing System (GOOS), the Global Climate Observing System (GCOS) international programmes, and the World Climate Research Programme (WCRP), sponsored by the United Nations and the World Meteorological Service (WMO). Additionally, I co-chair the UN Decade of Ocean Science program, Ocean Observing Co-Design, and serve as a member of the Scientific Steering Group overseeing the development of WCRP's new Earth System Modelling and Observations core project.

Previously, I was a member of the Scientific Committee on Antarctic Research (SCAR) and Co-Chair of the Atlantic CLIVAR Regional Panel, which supports global climate research on atmosphere–ocean interactions with a particular focus on the Atlantic and pan-European regions.

At the national level, I contribute to several research governance bodies. I have served as a committee member of the CNU and IRD, as well as on the Scientific Council of the National Museum of Natural History (MNHN). I am also a member of the Bureau of the National Committee for Marine, Maritime, and Coastal Research (COMER), which advises the French National Council for the Sea and Coasts, and I co-lead efforts to develop the French Open Ocean Observing Infrastructure (OHIS).

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;
- Since **2013** Full Professor (PR EX2), Department of Geosciences at the ENS & LMD-IPSL 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.
- 1994–1995** Research associate, LOCEAN, CNRS, Paris, France
- 1992–1994** Postdoctoral researcher, Department of Atmospheric Sciences, UCLA, CA, USA

AWARDS AND HONORS (SELECT):

- 2023** Elected Member of the European Academy of Science
- 2019** Awarded the Albert Defant Medal by the German Meteorological Society (DMG: <https://www.dmg-ev.de/aktivitaeten/auszeichnungen/albert-defant-medaille/>)
- Since **2002** Recipient of the National Research and PhD Supervision award

RECENT RESPONSABILITIES IN INTERNATIONAL COMMITTEES

- Since **2021** WCRP CLIVAR-AMOC Science Team member;
- Since **2020** Co-chair, Ocean Observations Physics and Climate panel;
- 2021–2024** Co-chair, Ocean Observing Co-Design (ObsCoDe): A Programme under the UN Decade of Ocean Science for Sustainable Development (<https://www.oceandecade.org/>);
- 2021–2024** WCRP ESMO SSG Member;
- 2021–2024** GCOS Joint Study Group Member;
- 2018–2021** Co-chair of the Tropical Atlantic Observing System review committee;
- 2015–2021** Co-chair, WCRP Atlantic CLIVAR Panel;
- 2018–2019** *Misión Internacional de Sabios*¹, member by invitation of the Vice-President of the Colombian Government.
- 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"²
- 2017–2019** Programme Committee Co-Chair, OceanObs'19, An Ocean of Opportunity³;
- Since **2014** Member of the Scientific Council of the Ocean & Climate Platform⁴;
- 2012–2019** International Scientific Committee on Antarctic Research (SCAR), Member;
- 2008–2011** Co-chair of the SCAR/CLIVAR/CliC Southern Ocean Observing System (SOOS) panel.

RECENT RESPONSABILITIES IN NATIONAL COMMITTEES

- Since **2020** Co-director of the French Research Infrastructure "Océan Hauturier In Situ" (OHIS)
- Since **2020** Member of the bureau of the Institute of Mathematics for the Planet Earth (IMTP⁵)
- 2014–2024** Member of the CNU section 37 expert committee
- 2016–2019** 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,

¹ https://minciencias.gov.co/mision_sabios

² www.geosciences.ens.fr/CliMathParis2019.fr

³ www.oceanobs19.net

⁴ <http://www.ocean-climate.org/?lang=en>

⁵ Institut des Mathématiques pour la Planète Terre, <https://impt.math.cnrs.fr>

- 2017–2019** Co-Chair Climate–Ocean of the Pilote Committee 1 of the French National Agency for Science (ANR)
- 2014–2019** Member of the IRD CSS1 committee
- 2014–2019** Member of the Research Council of the University Paris Sciences Lettres (PSL)
- 2012–2014** Member of the bureau; Scientific Council of the University of Brest (UBO)

RECENT RESEARCH PROJECT RESPONSABILITIES AT INTERNATIONAL LEVEL

- Since **2024** PI ERC Synergy WHIRLS (<https://www.ipsl.fr/en/article/whirls-small-ocean-eddies-with-a-major-impact-on-climate-and-marine-life/>)
- Since **2024** Co-coordinator EU H2030 ObsSea4Clim project (<https://obssea4clim.eu>)
- Since **2022** WP co-leader of the Ocean:Ice Europe 2030 project.
- 2020–2024** 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/>);
- 2017–2024** PI of the EUREC4A–OA international project (<http://eurec4a.eu/index.php?id=5201>);
- 2018–2024** Working Package Leader and Member of the Executive Committee of the EU H2020 EuroSea Project (<https://eurosea.eu>);
- 2018–2024** Task Leader of the EU H2020 TRIATLAS Project (<https://triatlas.w.uib.no>);
- 2015–2019** Working Package Leader and Member of the Executive Committee of the EU H2020 AtlantOS Project (<https://www.atlantos-h2020.eu>);
- 2014–2019** 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/>);
- 2003–2018** 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>);

PARTICIPATION IN ADVISORY BOARDS AT INTERNATIONAL LEVEL

- Since **2023** SAB member, Virtual Earth System Research Institute (VESRI), USA;
- 2021–2024** PAG member, Changing North Atlantic, NERC, UK and NSF, USA;
- Since **2019** ISC member, Centro Nazionale della Ricerca (CNR), Rome, Italy;
- Since **2017** SAB member, GEOMAR Helmholtz Centre, Kiel, Germany (<https://www.geomar.de/>);
- 2017–2022** PAG member, ORCHESTRA–ROSES BAS projects (<https://www.bas.ac.uk/project/orchestra/>);
- Since **2015** Member of the Scientific Council of the Ocean–Climate Platform (<https://ocean-climate.org/?lang=en>)
- 2015 – 2021** SAB member, Centro Euro–Mediterraneo sui Cambiamenti Climatici (CMCC: <https://www.cmcc.it/>);

SCIENTIFIC TRAINING SERVICES

I have trained about 20 PhD and 20 postdoctoral researchers and more than 50 Master students. I have been invited in more than 50 PhD external (15 international) thesis jury as examiner.

- Since **2023** Member of the Scientific Council, ENS
- 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

PUBLICATIONS

I have published over 120 articles in international peer-reviewed journals, including multidisciplinary contributions to Nature and Science. My publication record reflects a strong interdisciplinary approach, bridging multiple fields of oceanic and climate research. In addition to my research output, I have been invited as a keynote speaker at more than 40 international conferences and have led several national and international research projects. My work has been widely cited, with a current h-index of 42 (Web of Science), 45 (Scopus), 52 (Semantic Scholar), and 55 (Google Scholar).

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

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

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

<https://www.webofscience.com/wos/author/record/747772>

<https://scholar.google.fr/citations?user=G0VWQsEAAAAJ&hl=fr&authuser=1>

<https://www.semanticscholar.org/author/S.-Speich/2154189>

KEYNOTES AND CONFERENCES

I have delivered numerous invited talks and seminars at international conferences, workshops, and academic institutions. These include keynote presentations at major conferences such as Ocean Sciences, AGU, and EGU, as well as lectures at leading institutions, including MIT, WHOI, Scripps, UCLA, URI, GEOMAR, the French Ministries of Research and Ecological Transition, the Collège de France, and ENS. In addition to my research activities, I have chaired and co-chaired scientific committees for various high-level conferences, workshops, and specialized events. Notably, I played a key role in organizing OceanObs19 (Hawaii, 2019), a major international conference that brought together 1,500 participants. I also co-chaired the 2nd Climate Observations Conference (Germany, 2022), a strategic gathering on global climate observation with 300 participants. Additionally, I was involved in the CLIVAR Workshop on Ocean Mesoscale Eddy Interactions with the Atmosphere (Oregon, 2018; Robinson et al., 2018), a specialized event that convened 50 invited participants, and contributed to the Trimester on Mathematics for Climate and the Environment (Paris, 2019), a high-level scientific program hosted at the Institut Henri Poincaré.

RECENT OCEANOGRAPHIC CRUISES

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| Yearly | Short (1 week) training cruise for the ENS Master students |
| 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. |