Prof. Dr. Eleanor Frajka-Williams

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Biography

I am a physical oceanographer who uses ocean observations to investigate ocean dynamics and circulation in a changing climate. I have a particular interest in problems spanning scales (from turbulence to the large-scale overturning circulation) or spheres (e.g., biogeosphere), and in methods that leverage traditional observations with new platforms and satellite data.

Professional Experience

Professor, Universität Hamburg	2022–present
Science Leader, National Oceanography Centre	2022
Principal Research Scientist, National Oceanography Centre	2018–22
Associate Professor, University of Southampton, UK	2016–2018
Visiting Scientist, NASA Jet Propulsion Laboratory, USA	2016
Lecturer, University of Southampton, UK	2012–16
Senior Research Fellow, National Oceanography Centre, UK	2009–12

Education

Ph.D. in Physical Oceanography, University of Washington (with Peter Rhines)	2009
M.Sc. in Applied Mathematics, University of Washington	2009
M.Sc. in Oceanography, University of Washington (with Eric Kunze)	2005
A.B. in Applied Mathematics, Harvard University (with Ana Barros)	2002

Awards, Honors & Fellowships

Ocean Observing Team Award, The Oceanography Society	2021
Nicholas P. Fofonoff award, American Meteorological Society	2021
EGU Outstanding Early Career Scientist award	2017
Steinbach Scholar at Woods Hole Oceanographic Institution (WHOI)	2016
Vice Chancellor's teaching award (UoS FNES, £1000 prize)	2015
Fellow of the Higher Education Academy (FHEA)	2015
Excellence in Teaching Award, category: Best Feedback (UoS FNES)	2014
Outstanding student paper award, AGU/ASLO Ocean Sciences	2008
WHOI Geophysical Fluid Dynamics Fellowship	summer 2004
UW Program on Climate Change Fellowship	summer 2002
Summer Undergraduate Research Fellow at Scripps Inst. of Oceanogr.	summer 2000
Certificate of Distinction for teaching (Harvard)	2000
Research Science Institute at the Massachusetts Institute of Technology	1997

Funding

EU Horizon Europe, EPOC (PI). €8M. 2022–27
with D. Desbruyeres, L. de Steur, V. Gunn, R. Ingvaldsen, J. Marotzke, R. Msadek, M. Rhein, J. Robson, D. Thornalley, W. von Appen. Explaining and Predicting the Ocean Conveyor.

UKRI-funded (ERC) fellowship PycnoGen (co-I). €3.5M. 2022–27
with A. C. Naveira Garabato (PI), Generation of the global ocean's internal pycnocline in the ice-covered Southern Ocean.

NERC Highlight topic, DEFIANT (co-I). £5M. 2021–25
with J. Wilkinson (PI), A. Shepherd, D. Feltham, M. Meredith, A. Naveira Garabato. Understanding the Antarctic sea-ice decline in 2016, its representation in models and future predictions.

PLOCAN Eastern Boundary Current from Gliders (EBC-glider) (co-I). 2023
with A. Hernandez-Guerra (PI), Evaluate autonomous measurements for dynamic height and the contribution of local upwelling processes.

NERC UK BGC Argo array (co-I). £1.5M. 2021–23
with B. A. King (PI), N. Briggs, N. P. Holliday, M. S. Donnelly, UK contribution to a global integrated biogeochemical autonomous ocean sensing network.

NERC Next generation multi-disciplinary array (BGC-RAPID) (co-I). £570k. 2021–22
with P. J. Brown (PI), S. Loucaides, S. Fowell, D. Rayner, Install lab-on-a-chip BGC sensors (pH, TAlk, nitrate, phosphate) and pCO_2 and pH sensors on the RAPID eastern boundary array.

NERC Net Zero Oceanographic Capability (NZOC) (co-I). £250k. 2020
with L. Storey (PI), NERC scoping project to inform planning for the future low carbon oceanographic research capability.

NERC Large Grant, DeCAdeS (co-I), NE/T012714/1. £3.4M. 2020–25
with A. Jenkins (PI), A. Naveira Garabato, T. Bracegirdle, A. Hogg, D. Jones, P. Holland, L. Boehme, A. G. Nurser, A. Phillips. Drivers of Oceanic Change in the Amundsen Sea.

Lloyd's Register autonomy demonstrator, ALADDIN (co-I). £165k. 2020
Assuring Long-term Autonomy through Detection and Diagnosis of Irregularities in Normal operation

ERC Starting Grant Fellowship, TERIFIC (PI), 803140. €1,999k. 2018–23
Freshwater pathways and convection/restratification in the Labrador Sea.

NERC Standard grant, BLT Recipes (co-I), NE/S001433/1. £889k. 2018–23
with A. Naveira Garabato (PI), M.-J. Messias. To assess the influence of bottom boundary layer turbulence on overturning.

NERC Standard grant, DynOPO (co-I), NE/K013181/1. £968k. 2015–19
with A. Naveira Garabato (PI), M. Meredith, P. Abrahamsen, K. Nicholls. Determine Orkney Passage outflow variability of Antarctic Bottom Water.

NERC Standard grant, MerMEED (PI), NE/N001745/1. £1,048k. 2016–19
with A. Naveira Garabato. Determine the levels and mechanisms of dissipation of mesoscale eddies at the western boundaries of the oceans.

NERC Technology grant, FreshWATERS (co-I), NE/P003176/1. £171k. 2016–17
with A. Sóbester (PI). Design air-launched technology for drifter deployment.

NERC Sensors on AUVs, GliSENEx (co-I), NE/J020184/1. £150k 2013–17
with A. Martin (PI), S. Painter. Use novel sensors on a Seaglider as part of the FASTNet project on UK shelf-edge exchange.

Leverhulme Trust Research Fellowship (PI), £14k 2016
A basinwide approach to the AMOC.

Southampton Marine & Maritime Institute stimulus fund (co-I), £15k. 2016
with A. Sobester (PI), A. Naveira Garabato, A. Phillips. Proof-of-concept exercises using an remotely piloted vehicle to deploy an AUV.

Huckabay Teaching Fellowship (UW) 2008

National Science Foundation Graduate Research Fellowship, 3 years 2004–07

National Defense Science & Engineering Graduate, Fellowship, 2 years 2002–04

Field Experience (responsibility in brackets)

R/V MS Merian (bottom pressure sensors), EPOC deployment cruise, 3 weeks	Sep 2022
Qaqortoq, Greenland (gliders), Small boat, 2 weeks Dec	Dec 2021
RRS Discovery (instrument allocations), RAPID moorings cruise, 8 weeks	Dec 2020
RRS James Cook (instrument allocations), RAPID moorings cruise, 4 weeks	Mar 2020
Qaqortoq, Greenland (team lead), Small boat, 1 week Aug, 2 weeks Dec	Dec 2019
R/V Walton Smith (training the PSO), MerMEED VMP/ADCP cruise, 2 weeks	Mar 2018
R/V Walton Smith (as PSO), MerMEED VMP/ADCP cruise, 2 weeks	Oct 2017
RRS James Clark Ross (Autosub), DynOPO process cruise, 7.5 weeks	Mar 2017
R/V Walton Smith (as PSO), MerMEED VMP/ADCP cruise, 1 week	Dec 2016
RRS James Clark Ross (CTD), DynOPO moorings & A23 section, 5 weeks	Mar 2015
RRS James Cook (underway/ADCP), RAPID moorings cruise, 6 weeks	Apr 2014
R/V Knorr (as UK PSO), RAPID moorings cruise, 3 weeks	Apr 2011
RRS Discovery (moorings), RAPID moorings cruise, 5 weeks	Dec 2010
R/V Wecoma (CTD/XCP), Internal waves over the Oregon slope, 2 weeks	Sep 2005
R/V Wecoma (microstructure/XCP), Hawaiian ridge waves & mixing, 3 weeks	Aug 2002
R/V Revelle (CTD/radiosonde), Juan de Fuca ridge movement, 2 weeks	Aug 2000

Teaching Experience (UHH = Hamburg, UoS = Southampton)

Instructor, *63-713 ADVANCE: Sea-going oceanography*, UHH	2024
Instructor, *63-710 Ocean measurements (practical)*, UHH	2024
Instructor, *63-716/7 Regional Oceanography*, UHH	2023, 2024
Instructor, *63-705/6 Observational methods and remote sensing*, UHH	2022, 2023
Instructor, *Proposal writing (5 sessions) for ECRs*, NOC	2019
Coordinator & co-Instructor, *NEXUSS Statistics & Data Analysis*, NOC	2018
Invited lecturer, *ISNAO summer school*, Bonne Bay, Canada	2017
Instructor, *SOES3010/6005: Large Scale Ocean Processes*, UoS	2014–17
co-Instructor, *SOES2025: Methods in Oceanography*, UoS	2014–17
co-Instructor, *SOES3018: Falmouth fieldwork course*, UoS	2017
co-Instructor, *SOES6070: Advanced fieldwork course*, UoS	2012–14
Project coordinator, *SOES3035: Research training*, UoS	2013
Instructor, *SOES3016: Oceanography from Space*, UoS	2012, 2013
Instructor, *OCN506: Communicating Science with Figures*, UW	2008
Teaching assistant, *OCN512: Intro to Fluid Dynamics*, UW	2003
Course assistant, *Math 1b: Calculus*, Harvard University	2000

Mentorship and Supervision

Postdocs/Research Scientists: Elodie Duyck (2023–present), Louis Clement (2020–22), Darren Rayner (2020–22), Alej Sanchez-Franks (2019–21), Ben Moat (2019–22), Ilona Goszczko (2019–21), Carl Spingys (co-, 2017–20), D. Gwyn Evans (2016–19), Cristian Florindo-Lopez (2016)

PhD students:: Emelie Breunig, Markus Ritschel (co-), Maria-Jesus Rapanague (panel), Morag Forthingham (co-), Chris Auckland (co-), Manish Devana (committee, PhD'23), Delphine Lobelle (co-, PhD'19), Neela Morarji (co-, PhD'18), Freya Garry (PhD'17), Lena Schulze (PhD'16), Victoria Hemsley (co-, PhD'16), Louis Clement (PhD'14)

Supervised >30 BSc and MSc dissertations (since 2010): including Jemima Rama† (MSci, 2016), Jo Ribeiro† (MSci, 2015), Lisa Holton* (BSc, 2013), Maren Richter (Kiel Univ., 2014) and Atul Kumar Yadev (IIT Bhubaneswar, 2013). **dissertation award, †top student award*

Professional Activities

Service:

UHH MIN Faculty: Committee on research infrastructure	2023–present
CLIVAR AMOC Task Team, co-chair	2021–present
CLIVAR Atlantic Regional Panel (ARP) co-chair	2021–present
CLIVAR Atlantic Regional Panel (ARP) member	2019–20
Royal Society Newton International Fellowships, Physical Sciences	2018–22
NERC Peer Review College member	2016–22
NEXUSS Centre for Doctoral Training (co-Director)	2017–18
Women in Ocean and Earth Sciences at Southampton	2014–16
UoS Employability representative	2012–16
UW Student-faculty representative	2008

Organisation of Sessions/Conferences/Seminars:

AMOC Workshop: Observation needs in a changing climate	2023
NZOC Workshop: 21st century marine scientist	2021
EGU General Assembly, Vienna: Ocean Circulation	2019
IUGG general assembly, Prague: MOC & Deep Currents	2015
AGU Fall Meeting, San Francisco: AMOC, climate variability and change	2014
Ocean Sciences, Honolulu: Frontiers in Oceanographic Data & Methods	2014
US AMOC/UK RAPID international meeting, Baltimore	2013
IAPSO meeting, Gothenburg: Thermohaline circulation and deep currents	2013
EGU General Assembly, Vienna: Ocean Circulation	2013
EGU General Assembly, Vienna: Ocean Circulation	2012
Ocean Sciences, Salt Lake City: Vertical Flow in the Ocean	2012
NOC: Physical Oceanography and Climate Seminar	2010–11
UW: Student Physical Oceanography educational Retreat, Friday Harbor	2003, 2009
UW: Graduate Climate Change Conference, Pack Forest	2008

Outreach activities: Royal Institution Christmas Lectures, guest on episode 2 (2020), RRS Sir David Attenborough launch, talk & marine robotics stand (3 days, 2019), Soapbox Science & Art presenter, Bournemouth Arts Festival (2018), Talked to 300 school kids from Springhill Primary (2018), Kid's version of ``heat wave'' paper (2016), Discover Oceanography on ``Oceanography from Space'' to U3A (2015), STEMnet ambassador, Hampshire (2014), Ocean and Earth Day demos for Science & Engineering week, NOC (2012, 2013, 2019)

Journals refereed: Nature, Nature Geoscience, Nature Communications, Journal of Physical Oceanography, Journal of Atmospheric and Oceanic Technology, Reviews of Geophysics, Geophysical Research Letters, Journal of Geophysical Research - Oceans, Deep Sea Research, Ocean Science, Progress in Oceanography, Remote Sensing of the Environment, Journal of Climate, Marine Technology Society Journal, Annals of Glaciology, Frontiers in Marine Science

Proposals refereed: UK Natural Environment Research Council (NERC), US National Science Foundation (NSF), Royal Society International Fellowships, Norwegian Research Council, National Defense Science & Engineering Graduate (NDSEG) research fellowship, NASA Earth & Space Science Fellowships (NESSF), German research vessels (GPF), EuroFleets vessels

Training and Certification

Autonomous Vehicles: Sailbuoy pilot training, Offshore Sensing AS, 5 days (6/2019), Seaglider pilot training, Kongsberg, 5 days (9/2017)

Safety & First aid: Deutsches Rotes Kreuz First Aid, 8 hours (11/2022), IOSH Managing Safety in a Research Environment, 15 hrs (10/2018), First Aid at Work, 15 hrs (11/2019), ITC Certificate in Outdoor First Aid, SCQF Level 5, 16 hrs (2/2015)

Seagoing: Certificate in Proficiency in Designated Security Duties, 10 hrs (9/2020); STCW Personal Survival techniques certificate (updated 1/2017, 2010); ENG1 seafarer medical fitness certificate (1/2020, 3/2014); British Antarctic Survey medical (9/2014)

Diving: PADI Open Water (1996), Advanced diver No. 0009962148 (2000)

Teaching: ``PhD Supervision, MIN Faculty, UHH'', 9 hours (2024); ``Flipped Learning'', 4 hrs (2015); ``Revitalising your Virtual Learning Environment'', 2 hrs (2015); Postgraduate certificate in academic practice (PCAP) training, 24 hrs (2013); ``Engaging Students in Research & Inquiry'', 3 hrs (2013); ``Effective Teaching and Learning in the Large Classroom Setting'' by NAGT, 4 hrs (2012); ``Supervising a PhD student,'' 3 hrs (2010)

Other: ``Excelling at Academic Interviews,'' 7 hrs (2015); ``Springboard: Women's development programme,'' 32 hrs (2015); ``ThinkWrite: Quality Papers'', 7 hrs (2013); ``Building & Leading High Performing Teams'', 7 hrs (2013); ``Managing your Academic Career: for Women'', 7 hrs (2013); ``Climate Communications: Tools & Tips'' at AGU fall mtg, 7 hrs (2012)

Publications

[62] Chafik, Holliday, Bacon, Baker, Desbruyères, **Frajka-Williams**, et al. "Observed mechanisms activating the recent subpolar North Atlantic Warming since 2016". *Philos. T. R. Soc. A* (2023). doi: 10.1098/rsta.2022.0183.

[61] Clément, **Frajka-Williams**, von Oppeln-Bronikowski, Goszczko, and de Young. "Cessation of Labrador Sea convection triggered by distinct fresh and warm (sub)mesoscale flows". *J. Phys. Oceanogr.* (2023). doi: 10.1175/jpo-d-22-0178.1.

[60] **Frajka-Williams**, Foukal, and Danabasoglu. "Should AMOC observations continue: how and why?" *Philos. T. R. Soc. A* (2023). doi: 10.1098/rsta.2022.0195.

[59] McCarthy, Burmeister, Cunningham, Düsterhus, **Frajka-Williams**, Graham, et al. "Climate change impacts on ocean circulation relevant to the UK and Ireland". *MCCIP Sci. Rev.* (2023). doi: 10.14465/2023.reu05.cir.

[58] Berx, Volkov, Baehr, Baringer, Brandt, Burmeister, et al. "Climate-relevant ocean transport measurements in the Atlantic and Arctic Oceans". *Oceanogr.* (2022). doi: 10.5670/oceanog.2021.supplement.02-04.

[57] Evans*, **Frajka-Williams**, and Naveira Garabato. "Dissipation of mesoscale eddies at a western boundary via a direct cascade". *Sci. Rep.* (2022). doi: 10.1038/s41598-022-05002-7.

[56] Jackson, Biastoch, Buckley, Desbruyeres, **Frajka-Williams**, Moat, et al. "The evolution of the North Atlantic meridional overturning circulation since 1980". *Nat. Rev. Earth Environ.* (2022). doi: 10.1038/s43017-022-00263-2.

[55] Naveira Garabato, Yu, Callies, Barkan, Polzin, **Frajka-Williams**, et al. "Kinetic energy transfers between mesoscale and submesoscale motions in the open ocean's upper layers". *J. Phys. Oceanogr.* (2022). doi: 10.1175/JPO-D-21-0099.1.

[54] Danabasoglu, Castruccio, Small, Tomas, **Frajka-Williams**, and Lankhorst. "Revisiting AMOC Transport Estimates from Observations and Models". *Geophys. Res. Lett.* (2021). doi: 10.1029/2021GL093045.

[53] Sanchez-Franks*, **Frajka-Williams**, Moat, and Smeed. "A dynamically based method for estimating the Atlantic overturning circulation at 26°N from satellite altimetry". *Ocean Sci.* (2021). doi: 10.5194/os-17-1321-2021.

[52] Spingys, Naveira Garabato, Legg, Polzin, Abrahamsen, Buckingham, et al. "Mixing and Transformation in a Deep Western Boundary Current: A Case Study". *J. Phys. Oceanogr.* (2021). doi: 10.1175/JPO-D-20-0132.1.

[51] Evans*, **Frajka-Williams**, Naveira Garabato, Polzin, and Forryan. "Mesoscale eddy dissipation by a "zoo" of submesoscale processes at a western boundary". *J. Geophys. Res. Oceans* (2020). doi: 10.1029/2020JC016246.

[50] Fernandez-Castro, Evans, **Frajka-Williams**, Vic, and Naveira Garabato. "Breaking of internal waves and turbulent dissipation in an anticyclonic mode water eddy". *J. Phys. Oceanogr.* (2020). doi: 10.1175/JPO-D-19-0168.1.

[49] Lobelle*, Beaulieu, Livina, Sevellec, and **Frajka-Williams**. "Detectability of an AMOC decline in current and projected climate changes". *Geophys. Res. Lett.* (2020). doi: 10.1029/2020GL089974.

[48] Moat, Smeed, **Frajka-Williams**, Desbruyeres, Beaulieu, Johns, et al. "Pending recovery in the strength of the MOC at 26°N". *Ocean Sci.* (2020). doi: 10.5194/os-16-863-2020.

[47] Volkov, Meinen, Schmid, Moat, Lankhorst, Dong, et al. "Atlantic meridional overturning circulation and associated heat transport". *State of the Climate in 2019*. Ed. by Blunden and Arndt. 2020.

[46] **Frajka-Williams**, Ansorge, Baehr, Bryden, Chidichimo, Cunningham, et al. "OceanObs19: Atlantic meridional overturning circulation: Observed transports and variability". *Front. Mar. Sci.* (2019). doi: 10.3389/fmars.2019.00260.

[45] Garry*, McDonagh, Blaker, Roberts, Desbruyeres, **Frajka-Williams**, et al. "Model-derived uncertainties in deep ocean temperature trends between 1990–2010". *J. Geophys. Res. Oceans* (2019). doi: 10.1029/2018JC014225.

[44] Hirschi, **Frajka-Williams**, Blaker, Sinha, Coward, Hyder, et al. "Loop Current variability as a trigger of coherent Gulf Stream transport anomalies". *J. Phys. Oceanogr.* (2019). doi: 10.1175/JPO-D-18-0236.1.

[43] Meinen, Johns, Moat, Smith, Johns, Rayner, et al. "Structure and variability of the Antilles Current at 26.5°N". *J. Geophys. Res. Oceans* (2019). doi: 10.1029/2018JC014836.

[42] Naveira Garabato, Dotto, Hooley, Bacon, Tsamados, Ridout, et al. "Phased response of the subpolar Southern Ocean to changes in circumpolar winds". *Geophys. Res. Lett.* (2019). doi: 10.1029/2019GL082850.

[41] Naveira Garabato, **Frajka-Williams**, Spingys, Legg, Polzin, Forryan, et al. "Rapid mixing and exchange of deep-ocean waters in an abyssal boundary current". *Proc. Natl. Acad. Sci. USA* (2019). doi: 10.1073/pnas.1904087116.

[40] Testor, de Young, Rudnick, Glenn, Hayes, Lee, et al. "OceanObs19: OceanGliders: a component of the integrated GOOS". *Front. Mar. Sci.* (2019). doi: 10.3389/fmars.2019.00422.

[39] Worthington*, **Frajka-Williams**, and McCarthy. "Estimating the deep overturning transport variability at 26°N using bottom pressure recorders". *J. Geophys. Res. Oceans* (2019). doi: 10.1029/2018JC014221.

[38] Calafat, Wahl, Lindsten, Williams, and **Frajka-Williams**. "Coherent modulation of the sea-level annual cycle in the United States by Atlantic Rossby waves". *Nat. Comm.* (2018). doi: 10.1038/s41467-018-04898-y.

[37] Dotto, Naveira Garabato, Bacon, Tsamados, Holland, Hooley, et al. "Variability of the Ross Gyre, Southern Ocean: drivers and responses revealed by satellite altimetry". *Geophys. Res. Lett.* (2018). doi: 10.1029/2018GL078607.

[36] Evans*, Lucas, Hemsley*, **Frajka-Williams**, Naveira Garabato, Martin, et al. "Annual cycle of turbulent dissipation estimated from Seagliders". *Geophys. Res. Lett.* (2018). doi: 10.1029/2018GL079966.

[35] Schulze Chretian* and **Frajka-Williams**. "Wind-driven transport of fresh shelf water into the upper 30 m of the Labrador Sea". *Ocean Sci.* (2018). doi: 10.5194/os-14-1247-2018.

[34] Sinha, Smeed, McCarthy, Moat, Josey, Hirschi, et al. "The accuracy of estimates of the overturning circulation from basin wide mooring arrays". *Prog. Oceanogr.* (2018). doi: 10.1016/j.pocean.2017.12.001.

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[31] **Frajka-Williams**, Beaulieu, and Duchez. "Emerging negative Atlantic Multidecadal Oscillation in spite of warm subtropics". *Sci. Rep.* (2017). doi: 10.1038/s41598-017-11046-x.

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[27] **Frajka-Williams**, Meinen, Johns, Smeed, Duchez, Lawrence*, et al. "Compensation between meridional flow components of the Atlantic MOC at 26°N". *Ocean Sci.* (2016). doi: 10.5194/os-12-481-2016.

[26] **Frajka-Williams**. "Estimating the Atlantic overturning at 26°N using satellite altimetry and cable measurements". *Geophys. Res. Lett.* (2015). doi: 10.1002/2015GL063220.

[25] Hemsley*, Smyth, Martin, **Frajka-Williams**, Damerell, Thompson, et al. "Estimating oceanic primary production using vertical irradiance and chlorophyll profiles from ocean gliders in the North Atlantic". *Environ. Sci. Technol.* (2015). doi: 10.1021/acs.est.5b00608.

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[22] Carton, Cunningham, **Frajka-Williams**, Kwon, Marshall, and Msadek. "The Atlantic overturning circulation: More evidence of variability and links to climate". *B. Am. Meteorol. Soc.* (2014). doi: 10.1175/BAMS-D-13-00234.1.

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[20] Duchez, Cunningham, Hirschi, Blaker, Bryden, Atkinson, et al. "A new index for the Atlantic meridional overturning circulation". *J. Clim.* (2014). doi: 10.1175/JCLI-D-13-00052.1.

[19] Duchez, **Frajka-Williams**, Castro*, Hirschi, and Coward. "Seasonal to interannual variability in density around the Canary Islands and their influence on the AMOC at 26°N". *J. Geophys. Res. Oceans* (2014). doi: 10.1002/2013JC009416.

[18] Elipot, **Frajka-Williams**, Hughes, and Willis. "The observed AMOC, its meridional coherence and ocean bottom pressure". *J. Phys. Oceanogr.* (2014). doi: 10.1175/JPO-D-13-026.1.

[17] **Frajka-Williams**. "Sustaining observations of the unsteady ocean circulation". *Philos. T. R. Soc. A* (2014). doi: 10.1098/rsta.2013.0335.

[16] **Frajka-Williams**, Rhines, and Eriksen. "Horizontal stratification during deep convection in the Labrador Sea". *J. Phys. Oceanogr.* (2014). doi: 10.1175/JPO-D-13-069.1.

[15] Smeed, McCarthy, Cunningham, **Frajka-Williams**, Rayner, Johns, et al. "Observed decline of the Atlantic meridional overturning circulation 2004 to 2012". *Ocean Sci.* (2014). doi: 10.5194/os-10-29-2014.

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[13] Cunningham, Roberts, **Frajka-Williams**, Johns, Hobbs, Palmer, et al. "Atlantic MOC slowdown cooled the subtropical ocean". *Geophys. Res. Lett.* (2013). doi: 10.1002/2013GL058464.

[12] **Frajka-Williams**, Johns, Meinen, Beal, and Cunningham. "Eddy impacts on the Florida Current". *Geophys. Res. Lett.* (2013). doi: 10.1002/grl.50115.

[11] Mielke, **Frajka-Williams**, and Baehr. "Observed and simulated variability of the AMOC at 26°N and 41°N". *Geophys. Res. Lett.* (2013). doi: 10.1002/grl.50233.

[10] Roberts, Waters, Peterson, Palmer, McCarthy, **Frajka-Williams**, et al. "Atmosphere drives recent interannual variability of the Atlantic meridional overturning circulation at 26.5°N". *Geophys. Res. Lett.* (2013). doi: 10.1002/grl.50930.

[9] Baringer, Cunningham, Meinen, Garzoli, Willis, Lankhorst, et al. "Global Oceans: Meridional overturning circulation observations in the subtropical North Atlantic". *State of the Climate in 2011*. Ed. by Blunden and Arndt. B. Am. Meteorol. Soc., 2012.

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[5] **Frajka-Williams**, Eriksen, Rhines, and Harcourt. "Determining vertical water velocities from Seaglider". *J. Atmos. Oceanic Tech.* (2011). doi: 10.1175/2011JTECHO830.1.

[4] Rayner, Hirschi, Kanzow, Johns, Wright, **Frajka-Williams**, et al. "Monitoring the Atlantic meridional overturning circulation". *Deep-Sea Res. Pt. II* (2011). doi: 10.1016/j.dsr2.2010.10.056.

[3] **Frajka-Williams** and Rhines. "Physical controls and interannual variability of the Labrador Sea spring phytoplankton bloom in distinct regions". *Deep-Sea Res. Pt. I* (2010). doi: 10.1016/j.dsr.2010.01.003.

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Book chapters & non-refereed Publications

[18] **Frajka-Williams**, Brearley, Nash, and Whalen. "New technological frontiers in ocean mixing". *Ocean Mixing: Drivers, Mechanisms and Impacts*. Elsevier, 2022. doi: 10.1016/B978-0-12-821512-8.00021-9.

[17] deYoung, **Frajka-Williams**, von Oppeln-Bronikowski, and Woodward. "Technicalities: Exploring the Labrador Sea with autonomous vehicles". *J. Ocean Tech.* (2020). url: http://nora.nerc.ac.uk/id/eprint/528776.

[16] Hendry, Annett, Bhatia, Damerell, Fielding, Firing, et al. "Equity at sea: Gender and inclusivity in UK sea-going science". *Ocean Challenge* (2020). url: https://nora.nerc.ac.uk/id/eprint/530066/.

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[13] **Frajka-Williams**. *RV Walton Smith Cruise WS17305, 31 Oct - 10 Nov 2017, Miami to Miami, USA. MerMEED microstructure cruise report.* Tech. rep. National Oceanography Centre, Southampton, 2018. url: https://eprints.soton.ac.uk/417559/.

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[7] **Frajka-Williams**. "Women in Oceanography: A decade later". *Oceanogr.* (2014). url: https://tos.org/oceanography/issue/volume-27-issue-04-supplement.

[6] **Frajka-Williams**. "RAPID: Observations of the meridional overturning circulation at 26°N". *UK Challenger Society: Ocean Challenge* (2011). url: https://www.challenger-society.org.uk/oceanchallenge/V18_1_web.pdf.

[5] Johns and **Frajka-Williams**. *RV Knorr Cruise KN200-4, 13 Apr–3 May 2011. RAPID Mooring Cruise.* Tech. rep. National Oceanography Centre, Southampton, 2011. url: https://nora.nerc.ac.uk/id/eprint/308915/1/NOC_CR_07.pdf.

[4] **Frajka-Williams**. "The spring phytoplankton bloom and vertical velocities in stratified and deep convecting Labrador Sea, as observed by Seagliders". PhD thesis. Seattle, WA: College of Ocean and Fishery Sciences, University of Washington, 2009.

[3] Martini, **Frajka-Williams**, and Mouw. "Conference Report | The Pattullo Conference: Building community through mentoring". *Oceanogr.* (2009). doi: 10.5670/oceanog.2009.26.

[2] **Frajka-Williams**, Kunze, and MacKinnon. "Bispectra of Internal Tides and Parametric Subharmonic Instability". *arXiv* (2005). doi: physics.ao-ph:1410.0926.

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Selected seminars & Talks (as presenter)

2024: EUMETSAT Winter Talk, Darmstadt (seminar - online)

2023: AMOC workshop, Hamburg (talk)
Universität Bremen, DE (seminar)
GEOMAR, Kiel, DE (seminar)
Bottom pressure workshop, Rhode Island (talk - online)
ASOF meeting, Canary Islands (talk - online)

2022: AMOC meeting, Royal Society, London **(invited talk)**
AANChOR AAORIA Workshop, Washington D.C (talk)
UG2 Glider workshop, Seattle (poster)

2021: Leeds, UK (seminar)
NOC Science & Technology Advisory Committee, UK (talk)
FDSE summer school, Cambridge, UK (lecture)
Nordic Overflows workshop, virtual (talk)
CANAIMOC meeting, virtual **(talk**)
EGU General Assembly, virtual (pico)

2020: OceanSITES, virtual **(invited panelist)**
NOC Board, UK (talk)
IOCAG, Canary Islands (seminar)
Oxford University, UK (seminar)
UK MetOffice, UK (talk)
Imperial College London, UK (seminar)

2019: Marine Autonomy & Technology Showcase, Southampton, UK (talk)
GFDL, Princeton, New Jersey (seminar)
Newcastle University, Newcastle, UK (seminar)
RRS Sir David Attenborough launch, Birkenhead, UK (talk)
OceanObs19, Honolulu, Hawaii (poster)
AMOC Metrics, Honolulu, Hawaii **(invited talk)**
NERC Science Committee, Swindon, UK (talk)
NOC Association, London, UK (talk)
CLASS annual science meeting, Plymouth, UK (talk)
EGU General Assembly, Vienna, Austria (poster)
Royal Society West Indies meeting, Chicheley, UK (poster)
RAPID International Review, London, UK (talk)

2018: Marine Autonomy & Technology Showcase, Southampton, UK (talk)
University College London, London, UK (seminar)
Challenger Society for Marine Science, Newcastle, UK (talk)
US AMOC/UK RAPID International Meeting, Miami, FL **(invited talk)**
University of East Anglia, Norwich, UK (seminar)
Ocean Sciences meeting, Portland, OR (talk)
Cambridge University, Cambridge, UK (seminar)

2017: Marine Autonomy & Technology Showcase, Southampton, UK (talk)
RAPID/OSNAP/ACSIS meeting, Oxford, UK (poster)
Oceans and Climate public lecture, The Royal Society, London **(keynote)**
IAPSO meeting, Cape Town, South Africa (talk)
Liege Colloquium on Turbulence, Liege, Brussels (poster)
NOC Friday Seminar, Southampton, UK (seminar)

2016: EGO Glider meeting, Southampton, UK (poster)
NOAA/AOML, Miami, FL (seminar)
Woods Hole Oceanographic Institute, Woods Hole, MA (seminar)
NASA JPL, Pasadena, CA (seminar)
University of Washington, Seattle, WA (seminar)

2015: RAPID International Science Meeting, Bristol, UK (talk)
IUGG General Assembly, Prague, Czech Republic (talk & **panel member**)
CLIVAR Climate Process Team meeting, La Jolla, CA
University of Washington, Seattle, WA (seminar)

2014: AGU fall meeting, San Francisco, CA (talk)
Ocean Sciences, Honolulu, HI (talk)
National Oceanography Centre, Liverpool, UK (seminar)
Oxford University, Oxford, UK (seminar)

2013: IAPSO meeting, Gothenberg, Sweden (talk)
Challenger Society: Prospectus 2013, Royal Society, London **(invited talk)**
EGU General Assembly, Vienna, Austria (talk)
University of Washington, Seattle, WA (seminar)
University of East Anglia, Norwich, UK (seminar)

2012: AGU Fall Meeting, San Francisco, CA (poster)
Bangor University, Bangor, UK (seminar)
THOR meeting in Hamburg, Germany. (talk)
British Antarctic Survey, Cambridge, UK (seminar)
Time series conference in Brest, France **(invited talk)**
USAMOC meeting, Boulder, CO (poster)
EGU General Assembly, Vienna, Austria (talk)
AGU Ocean Sciences, Salt Lake City, UT (poster)

2011: WCRP meeting, Denver, CO (poster)
RAPID International Science Meeting, Bristol, UK (talk)
ZMAW/Klimacampus, Max-Planck-Institut fur Meteorologie, Hamburg (seminar)
IUGG General Assembly, Melbourne, Australia (talk)
IUGG General Assembly, Melbourne, Australia (poster)

2010: Challenger Society for Marine Science, Southampton, UK (poster)
AGU Ocean Sciences, Portland, OR (talk)
Imperial College London, London, UK (seminar)
University of Liverpool, Liverpool, UK (seminar)
POETS NOC, Southampton, UK (seminar)
NOC PO Seminar, Southampton, UK (seminar)

2009: ESSAS 2009 Annual Science meeting, Seattle, WA **(invited talk)**
PO and Climate, Southampton, UK (seminar)
University of Washington, Seattle, WA (seminar)
Woods Hole Oceanographic Institution, Woods Hole, MA (seminar)
Physical Oceanography Dissertation Sympsium. Honolulu, HI (talk)

2008: Ocean Sciences meeting, Orlando, FL **(Outstanding Student Talk award)**
MPOWIR Pattullo Conference, Charleston, SC (talk)
2006: Ocean Sciences meeting, Honolulu, HI (poster)
2005: EGU General Assembly, Vienna, Austria (poster)
2004: American Physical Society, Seattle, WA (talk)
SCOR IAPSO conference on Mixing, Victoria, Canada (poster)
AGU Ocean Sciences, Portland, OR (poster)
2003: Hawaiian Ocean Mixing Experiment workshop, Mt. Hood, OR (talk)
2002: EGU General Assembly, Nice, France (poster)