

Miriam F. Sterl

PHD STUDENT · PHYSICAL OCEANOGRAPHY

www.miriamsterl.com

Education

PhD Physical Oceanography

ROYAL NETHERLANDS INSTITUTE FOR SEA RESEARCH (NIOZ) &
INSTITUTE FOR MARINE AND ATMOSPHERIC RESEARCH UTRECHT (IMAU)

- Supervisors: Dr. Sjoerd Groeskamp (NIOZ) and Dr. Michiel Baatsen (IMAU)
- Research focus: mesoscale turbulence over topography

't Horntje, the Netherlands

November 2021 - present

MSc Climate Physics (average grade 9.0/10)

UTRECHT UNIVERSITY

- Courses on meteorology, oceanography, coastal processes and the climate system
- MSc advisor: Dr. Femke de Jong. Thesis grade: 8.8/10

Utrecht, the Netherlands

2019 - 2021

BSc Physics and Astronomy & BSc Mathematics (cum laude, average grade 9.3/10)

UTRECHT UNIVERSITY

- Focus on fluid dynamics, numerical modelling and differential equations
- Minor in Computer Science
- BSc advisor: Dr. Erik van Sebille. Thesis grade: 9.1/10

Utrecht, the Netherlands

2015 - 2019

Professional Experience

Research Assistant

INSTITUTE FOR MARINE AND ATMOSPHERIC RESEARCH UTRECHT (IMAU)

- Developing a routine for producing ENSO predictions using deep learning techniques
- Supervisor: Prof. Dr. Henk Dijkstra

Utrecht, the Netherlands

2020 - 2021

Summer School Assistant

CENTRE FOR COMPLEX SYSTEMS STUDIES (CCSS)

- Assisting in organisational tasks of the summer school "Introduction to Complex Systems" for 40 international students

Utrecht, the Netherlands

2019

Student Member Selection Committee

MATHEMATICAL INSTITUTE

- Selecting candidates for a position of Assistant Professor in Applied Mathematics

Utrecht, the Netherlands

2019

Teaching Assistant

UTRECHT UNIVERSITY

- For 8 courses in the BSc programmes Physics and Astronomy and Mathematics
- Supervising tutorial sessions and grading assignments

Utrecht, the Netherlands

2016 - 2021

Presentations

- 2024 **Dutch Earth Science Conference (NAC)**, poster
Suppression of eddy diffusivities over a sloping seafloor in a two-layer model *Utrecht, the Netherlands*
- 2023 **Buys Ballot Research School (BBOS) symposium**, talk
Suppression of mesoscale eddy mixing by topographic PV gradients *'t Horntje, the Netherlands*
- 2023 **International Union of Geophysics and Geodesy (IUGG)**, talk
Suppression of mesoscale eddy mixing by topographic PV gradients *Berlin, Germany*
- 2022 **International Conference for Young Marine Researchers (ICYMARE)**, talk
How ocean bottom topography impacts eddy mixing *Bremerhaven, Germany*
- 2022 **Dutch Earth Science Conference (NAC)**, talk
How ocean bottom topography impacts eddy mixing *Utrecht, the Netherlands*
- 2022 **Gordon Research Seminar (GRS) Ocean Mixing**, talk and poster
Beyond mean flow suppression: PV suppression of eddy mixing *South Hadley, MA, United States*
- 2021 **Dutch Earth Science Conference (NAC)**, talk
Influence of tidal currents on transport and accumulation of floating microplastic in the ocean *online*
- 2020 **Dutch Earth Science Conference (NAC)**, poster
Do the tides influence the plastic soup? *Utrecht, the Netherlands*

Awards

- 2024 **Winner PhD writing competition**, Dutch Physics Magazine (NTvN)
[Link to article \(in Dutch\)](#)
- 2024 **Poster award**, Dutch Earth Science Conference (NAC)
[Link to poster](#)
- 2023 **Audience award for best presentation**, BBOS symposium

Courses

- 2023 - 2024 **Visualize your Science**, 10 weeks (part-time) *online*
- 2022 **Air-Ice-Sea Interaction II**, 6 weeks
The University Centre in Svalbard (UNIS) *Longyearbyen, Norway*
- 2019 **Marine Masters Summer Course**, 2 weeks
Royal Netherlands Institute for Sea Research (NIOZ) *'t Horntje, the Netherlands*
- 2019 **Winter School on Analysis of Climate Variability**, 1 week
Leibniz Institute for Baltic Sea Research (IOW) *Warnemünde, Germany*

Service

2022 - 2024	Chair , Gordon Research Seminar on Ocean Mixing Seminar for early career researchers, preceding the Gordon Research Conference	South Hadley, MA, United States
2023 - 2024	Organiser , WomenNetPhysics conference Conference and networking event on the position of women in physics in the Netherlands	Utrecht, the Netherlands
2023 - pres	PhD representative , Department of Ocean Systems at NIOZ	't Horntje, the Netherlands
2021 - pres	General Board Member , Dutch Physics Society (NNV)	Amsterdam, the Netherlands
2020 - 2021	Student Ambassador , MSc programme Climate Physics	Utrecht, the Netherlands
2018 - 2020	Committee Member , Study Association A-Eskwadraat	Utrecht, the Netherlands

Outreach

2024	Guest lecture for Honours Trajectum Utrecht , Utrecht University For students aged 12–15 years Topic: working as a physical oceanographer	Utrecht, the Netherlands
2024	Talk for class of U-Talent Academy , NIOZ & Utrecht University For students aged 16–18 years Topic: physical oceanography	't Horntje, the Netherlands
2023	Even Over Morgen , Utrecht University & Utrecht public libraries Outreach event facilitating conversations between scientists and the public Topic: oceanography, the role of climate scientists in society	Utrecht, the Netherlands
2023	Talk for class of Leiden Pre-University College , NIOZ & Leiden University For students aged 16–18 years Topic: physical oceanography	't Horntje, the Netherlands
2023	Guest lecture in high school physics class , Comenius College Organised by the Dutch Physics Society for students aged 14–15 years Topic: working as a physicist	Nieuwerkerk a/d IJssel, the Netherlands
2019	Talk at Kindermiddag , Utrecht University Event organised for UU alumni and their kids, ages 8–12 years Topic: plastic soup	Utrecht, the Netherlands
2019	Talk at Kindercollege , YOUth Event organised for participants in YOUth study, ages 8–10 years Topic: plastic soup	Utrecht, the Netherlands

Publications

- Sterl, M.F.,** LaCasce, J.H., Groeskamp, S., Nummelin, A., Isachsen, P.E., & Baatsen, M.L.J. (2024). Suppression of mesoscale eddy mixing by topographic PV gradients. *Journal of Physical Oceanography*, 54(5):1089–1103. <https://doi.org/10.1175/JPO-D-23-0142.1>
- Sterl, M.F.,** & de Jong, M.F. (2022). Restratification structure and processes in the Irminger Sea. *Journal of Geophysical Research: Oceans*, 127, e2022JC019126. <https://doi.org/10.1029/2022JC019126>
- Sterl, M.F.,** Delandmeter, P., & van Sebille, E. (2020). Influence of barotropic tidal currents on transport and accumulation of floating microplastics in the global open ocean. *Journal of Geophysical Research: Oceans*, 125, e2019JC015583. <https://doi.org/10.1029/2019JC015583>

Cruises

2023	Mixation-II , August 22 - 27 Mooring recovery	Bermuda - Bermuda
2022	UNIS cruise , October 31 - November 5 CTD measurements in Isfjorden fjord system	Longyearbyen - Longyearbyen
2022	Mixation-I , April 21 - May 1 Deployment of 4 moorings; deployment of ARGO floats; CTD measurements	Curaçao - Bermuda

Languages

- Dutch**, native
- German**, native
- English**, proficient (C2)
- French**, intermediate (B2)