

# Miriam F. Sterl

PHD STUDENT · PHYSICAL OCEANOGRAPHY

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## Education

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### PhD Physical Oceanography

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

*'t Horntje, the Netherlands*

*November 2021 - present*

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

### MSc Climate Physics (average grade 9.0/10)

UTRECHT UNIVERSITY

*Utrecht, the Netherlands*

*2019 - 2021*

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

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

UTRECHT UNIVERSITY

*Utrecht, the Netherlands*

*2015 - 2019*

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

## Professional Experience

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### Research Assistant

INSTITUTE FOR MARINE AND ATMOSPHERIC RESEARCH UTRECHT (IMAU)

*Utrecht, the Netherlands*

*2020 - 2021*

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

### Summer School Assistant

CENTRE FOR COMPLEX SYSTEMS STUDIES (CCSS)

*Utrecht, the Netherlands*

*2019*

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

### Student Member Selection Committee

MATHEMATICAL INSTITUTE

*Utrecht, the Netherlands*

*2019*

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

### Teaching Assistant

UTRECHT UNIVERSITY

*Utrecht, the Netherlands*

*2016 - 2021*

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

## Presentations

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

## Awards

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|------|---|
| 2024 | <b>Winner PhD writing competition</b> , Dutch Physics Magazine (NTvN)<br><a href="#">Link to article (in Dutch)</a> |
| 2024 | <b>Poster award</b> , Dutch Earth Science Conference (NAC)<br><a href="#">Link to poster</a>                        |
| 2023 | <b>Audience award for best presentation</b> , BBOS symposium  |

## Courses

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

## Service

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

## Outreach

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

## Publications

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**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

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

## Languages

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