

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

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|------|---|---------------------------------|
| 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

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|------|---|
| 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

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|-------------|---|-----------------------------|
| 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

	Chair , Gordon Research Seminar on Ocean Mixing	
2022 - 2024	Seminar for early career researchers, preceding the Gordon Research Conference	South Hadley, MA, United States
	Organiser , WomenNetPhysics conference	
2023 - 2024	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

	Guest lecture for Honours Trajectum Utrecht , Utrecht University	
2024	For students aged 12–15 years Topic: working as a physical oceanographer	't Horntje, the Netherlands
	Talk for class of U-Talent Academy , NIOZ & Utrecht University	
2024	For students aged 16–18 years Topic: physical oceanography	't Horntje, the Netherlands
	Even Over Morgen , 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
	Talk for class of Leiden Pre-University College , NIOZ & Leiden University	
2023	For students aged 16–18 years Topic: physical oceanography	't Horntje, the Netherlands
	Guest lecture in high school physics class , 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
	Talk at Kindermiddag , Utrecht University	
2019	Event organised for UU alumni and their kids, ages 8–12 years Topic: plastic soup	Utrecht, the Netherlands
	Talk at Kindercollege , YOUth	
2019	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)