

Curriculum Vitae

Gunnar Voet

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I. Education:

- 2010 PhD in Physical Oceanography, University of Hamburg.
Thesis: *On the Nordic Overturning Circulation*.
- 2006 Diplom Physik (similar to Msc. Physics), University of Hamburg.
Thesis: *Entrainment in the Denmark Strait Overflow Plume by meso-scale Eddies*.

II. Appointments:

- 2020 – ongoing Associate Project Scientist at the Scripps Institution of Oceanography.
- 2014 – 2020 Assistant Project Scientist at the Scripps Institution of Oceanography,
University of California, San Diego.
- 2012 – 2014 Postdoctoral Researcher at the Applied Physics Laboratory, University of Washington.
- 2011 Research Associate at the German Federal Maritime and Hydrographic Agency.
- 2010 – 2011 Software development at the German Federal Waterways Engineering and Research Institute.
- 2006 – 2010 Research Associate at the Institute of Oceanography, University of Hamburg.

III. External Funding:

- 2023-2025 Couto, N., M. H. Alford, **G. Voet**. Characterizing the warm water flow through Pine Island Thwaites Trough. *National Science Foundation*.
- 2023-2024 Talley, L., **G. Voet**, A. Waterhouse, C. Whalen. Pilot observations of enhanced near-bottom equatorial turbulence. *National Science Foundation*.
- 2022-2024 **Voet, G.**, A. Waterhouse. Analysis of temporal and spatial variability of near-inertial energy and flux modified by background vorticity. *Office of Naval Research*.
- 2021-2026 Whalen, C., A. Waterhouse, **G. Voet**, J. Moum. Collaborative Research: Evaluating mechanisms for enhanced mixing below tropical instability waves. *National Science Foundation*.
- 2021-2025 Alford, M. H., A. Lucas, **G. Voet**. Shipboard and autonomous measurements of mixed-layer deepening, internal waves and turbulence. *Office of Naval Research*.
- 2019-2020 **Voet, G.**. Moored Oceanographic Instrumentation for Studies of Ocean Dynamics and Turbulence. *Office of Naval Research*.
- 2018-2023 Ferrari, R., K. L. Polzin, M. H. Alford, **G. Voet**. Collaborative Research: Bottom Boundary Layer Turbulence and the Ocean's Meridional Overturning Circulation. *National Science Foundation*.

2018-2023 Waterhouse, A., **G. Voet**. Near-Inertial Shear and Kinetic Energy in the North Atlantic experiment. *Office of Naval Research*.

2017-2020 **Voet, G.**, M. H. Alford, L. J. Pratt, J. B. Girton, G. S. Carter. Collaborative Research: Hydraulic Processes in the Samoan Passage. *National Science Foundation*.

2015-2019 Alford, M. H., J. A. MacKinnon, **G. Voet**. Flow Encountering Abrupt Topography. *Office of Naval Research*.

IV. Refereed Publications:

in preparation **Voet, G.**, M. H. Alford, Couto, N., A. Le Boyer, A. C. Naveira Garabato, K. L. Polzin, R. Ferrari, M.-J. Messias, Mercier, H. Moored observations of tidal mixing and dynamics in a Rockall Trough canyon. *Journal of Physical Oceanography*.

in preparation Cusack, J. M., S. Tan, **G. Voet**, L. J. Pratt, M. H. Alford, G. S. Carter, J. B. Girton. The structure and stability of a deep ocean overflow. *Journal of Geophysical Research*.

in review Wynne-Cattanach, B. L., M. H. Alford, N. Couto, H. F. Drake, R. Ferrari, A. Le Boyer, H. Mercier, M.-J. Messias, A. Naveira Garabato, K. Polzin, X. Ruan, C. P. Spingys, H. van Haren, and **G. Voet**. Observational evidence of diapycnal upwelling within a sloping submarine canyon. *Nature*.

in review H. van Haren, **G. Voet**, M. H. Alford, B. Fernández-Castro, A. C. Naveira Garabato, B. L. Wynne-Cattanach, H. Mercier, M.-J. Messias. Near-slope turbulence in a Rockall canyon. *Deep Sea Research I*.

accepted **Voet, G.**, A. F. Waterhouse, A. Savage, E. Kunze, J. A. MacKinnon, M. H. Alford, J. A. Colosi, H. L. Simmons, T. Klenz, S. M. Kelly, J. N. Moum, C. B. Whalen, R.-C. Lien, J. B. Girton. Near-inertial energy variability in a strong mesoscale eddy field in Iceland Basin. *TOS Oceanography*.

2024 Marques, O. B., M. H. Alford, R. Pinkel, J. A. MacKinnon, **G. Voet**, J. M. Klymak, J. D. Nash. Observations of tidally driven turbulence over steep, small-scale topography embedded in the Tasman slope. *Journal of Physical Oceanography* 54(2), 601-615.

2023 Gutiérrez Brizuela, N., Alford, M. H., Xie, S.-P., **Voet, G.**, Warner, S. J., Hughes, K., Moum, J. N. Prolonged thermocline warming by near-inertial internal waves in the wakes of tropical cyclones. *Proceedings of the National Academy of Sciences*, 120(26), e2301664120.

2023 **Voet, G.**, M. H. Alford, J. B. Girton, G. S. Carter, J. M. Cusack, J. M. Klymak, A. M. Thurnherr, L. J. Pratt. Energy and momentum of a density-driven overflow in the Samoan Passage. *Journal of Physical Oceanography* 53(6), 1429-1452.

2022 Boury, S., R. Supekar, E.C. Fine, R. Musgrave, J. B. Mickett, **G. Voet**, P. Odier, T. Peacock, J.A. MacKinnon, M. H. Alford. Advection of a Double Diffusive Staircase in the Arctic Ocean. *Geophysical Research Letters*, 127, e2022JC018906.

2022 Wynne-Cattanach, B. L., M. H. Alford, J. A. MacKinnon, **G. Voet**. Measurements of Turbulence Generated by Wake Eddies Near a Steep Headland. *Journal of Geophysical Research: Oceans*, 127(8), e2022JC018674.

2022 van Haren, H., **G. Voet**, M. H. Alford, D. J. Torres. Internal wave breaking near the foot of a steep East-Pacific continental slope. *Progress in Oceanography*, 205, 102817.

2022 Tan, S., L. J. Pratt, **G. Voet**, J. M. Cusack, K. R. Helfrich, M. H. Alford, J. B. Girton, G. C. Carter. Hydraulic control of flow in a multi-passage system connecting two basins. *Journal of Fluid Mechanics*, 940, A8.

2021 Couchman, M. M. P., B. Wynne-Cattanach, M. H. Alford, C. P. Caulfield, R. R. Kerswell, J. A. MacKinnon, **G. Voet**. Data-Driven Identification of Turbulent Oceanic Mixing From Observational Microstructure Data. *Geophysical Research Letters*, 48, e2021GL094978.

2021 Lele, R., S. G. Purkey, J. D. Nash, A. M. Thurnherr, C. B. Whalen, L. D. Talley, J. A. MacKinnon, **G. Voet**, S. Mecking. Abyssal Mixing in the South West Pacific Basin. *Journal of*

Physical Oceanography 51(11), 3317-3333.

- 2021 Zeiden, K., J. A. MacKinnon, D. Rudnick, M. H. Alford, **G. Voet**, Wijesekera, H. Broadband Submesoscale Vorticity Generated by Flow Around an Island. *Journal of Physical Oceanography* 51(4), 1301-1317.
- 2021 Hamann, M. M., M. H. Alford, A. J. Lucas, A. Waterhouse, **G. Voet**. Turbulence Driven by Reflected Internal Tides in a Supercritical Submarine Canyon. *Journal of Physical Oceanography* 51(2), 591-609.
- 2020 Luecke, C., B. Arbic, J. Richman, J. Shriver, M. Alford, J. Ansong, S. Bassette, M. Buijsman, D. Menemenlis, R. Scott, P. Timko, **G. Voet**, A. Wallcraft, L. Zamudio. Statistical Comparisons of Temperature Variance and Kinetic Energy in Global Ocean Models and Observations: Results From Mesoscale to Internal Wave Frequencies. *Journal of Geophysical Research: Oceans*, 125, e2019JC015306.
- 2020 **Voet, G.**, M. H. Alford, J. A. MacKinnon, J. Nash. Observations of Lee Waves Generated by Topographic Form Drag on Tides and Low-Frequency Flow over a Tall Submarine Ridge near Palau. *Journal of Physical Oceanography* 50(5), 1489-1507.
- 2019 Johnston, S. T. M., M. C. Schönau, T. Paluskiewicz, J. A. MacKinnon, B. K. Arbic, P. L. Colin, M. H. Alford, M. Andres, L. Centurioni, K. R. Helfrich, V. Hormann, P. F. J. Lermusiaux, R. C. Musgrave, B. S. Powell, B. Qiu, D. L. Rudnick, H. L. Simmons, L. St. Laurent, D. S. Trossman, **G. Voet**, H. W. Wijesekera, K. Zeiden. An Introduction and Highlights from Flow Encountering Abrupt Topography (FLEAT): A Multi-Scale Observational and Modelling Program to Understand the Effects of Topographic Flow in the Western North Pacific. *TOS Oceanography* 32(4), 10-21.
- 2019 Siegelman, M., M. A. Merrifield, E. Firing, J. A. MacKinnon, M. H. Alford, **G. Voet**, H. W. Wijesekera, T. Schramek, E. Terrill. Observations of near-inertial surface currents at Palau. *TOS Oceanography* 32(4), 74-83.
- 2019 Girton, J. B., J. B. Mickett, Z. Zhao, M. H. Alford, **G. Voet**, J. Cusack, G. Carter, K. A. Pearson-Potts, L. J. Pratt, S. Tan, J. M. Klymak. Flow-topography interactions in the Samoan Passage. *TOS Oceanography* 32(4), 184-193.
- 2019 Rudnick, D. L., K. L. Zeiden, C. Ou, T. M. S. Johnston, J. A. MacKinnon, M. H. Alford, **G. Voet**. Understanding vorticity caused by flow passing an island. *TOS Oceanography* 32(4), 66-73.
- 2019 Carter, G. C., **G. Voet**, M. H. Alford, J. B. Girton, J. B. Mickett, J. M. Klymak, L. J. Pratt, K. A. Pearson-Potts, J. M. Cusack, S. Tan. A spatial geography of abyssal turbulent mixing in the Samoan Passage. *TOS Oceanography* 32(4), 194-203.
- 2019 Andres, M., M. Siegelman, V. Hormann, R. Musgrave, M. Merrifield, D. Rudnick, H. Wijesekera, L. Centurioni, M. Alford, **G. Voet**, J. MacKinnon, J. Nash. Eddies, Topography, and the Abyssal Flow by the Kyushu-Palau Ridge near Velasco Reef. *TOS Oceanography* 32(4), 46-55.
- 2019 Cusack, J. M., **G. Voet**, M. H. Alford, J. B. Girton, G. S. Carter, L. J. Pratt, K. Pearson-Potts, S. Tan. Persistent Turbulence in the Samoan Passage. *Journal of Physical Oceanography* 49(12), 3179-3197.
- 2019 MacKinnon, J. A., M. H. Alford, **G. Voet**, K. Fitzmorris, T. M. S. Johnston, M. Siegelman, S. Merrifield, M. Merrifield. Eddy wake generation from broadband currents near Palau. *Journal of Geophysical Research: Oceans* 124, 4891-4903.
- 2019 Pratt, L. J., **G. Voet**, A. Pacini, S. Tan, M. H. Alford, G. S. Carter, J. B. Girton, D. Menemenlis. Pacific abyssal transport and mixing: through the Samoan Passage vs. around the Manihiki Plateau. *Journal of Physical Oceanography* 49(6), 1577-1592.
- 2019 Wagner, G. L., G. Flierl, R. Ferrari, **G. Voet**, G. S. Carter, M. H. Alford, J. B. Girton. Squeeze Dispersion and the Effective Diapycnal Diffusivity of Oceanic Tracers. *Geophysical Research Letters*, 46, 5378-5386.
- 2018 Thorpe, S. A., J. Malarkey, **G. Voet**, M. H. Alford, J. B. Girton, G. S. Carter. Application of a

model of internal hydraulic jumps. *Journal of Fluid Mechanics*, 834, 125-148.

- 2017 Savage, A. C., B. K. Arbic, M. H. Alford, J. K. Ansong, J. T. Farrar, D. Menemenlis, A. K. O'Rourke, J. G. Richman, J. F. Shriver, **G. Voet**, A. J. Wallcraft, L. Zamudio. Spectral decomposition of internal gravity wave sea surface height in global models. *Journal of Geophysical Research*, 122(10), 7803-7821.
- 2017 Savage, A. C., B. K. Arbic, J. G. Richman, J. F. Shriver, M. H. Alford, M. C. Buijsman, J. T. Farrar, H. Sharma, **G. Voet**, A. J. Wallcraft, L. Zamudio. Frequency content of sea surface height variability from internal gravity waves to mesoscale eddies. *Journal of Geophysical Research*, 122(3), 2519-2538.
- 2016 **Voet, G.**, J. B. Girton, M. H. Alford, G. S. Carter, J. M. Klymak, J. B. Mickett. Warming and weakening of the abyssal flow through Samoan Passage. *Journal of Physical Oceanography*, 46(8), 2389-2401.
- 2015 **Voet, G.**, M. H. Alford, J. B. Girton, G. S. Carter, J. B. Mickett, J. M. Klymak. Pathways, Volume Transport and Mixing of Abyssal Water in the Samoan Passage. *Journal of Physical Oceanography*, 45(2), 562-588.
- 2013 Alford, M. H., J. B. Girton, **G. Voet**, G. S. Carter, J. B. Mickett and J. M. Klymak. Turbulent mixing and hydraulic control of abyssal water in the Samoan Passage. *Geophysical Research Letters*, 40, 1-7.
- 2010 **Voet, G.** and D. Quadfasel. Entrainment in the Denmark Strait overflow plume by meso-scale eddies. *Ocean Science*, 6, 301-310.
- 2010 **Voet, G.**, D. Quadfasel, K.-A. Mork and H. Søiland. The mid-depth circulation of the Nordic Seas derived from profiling float observations. *Tellus A*, 62.
- 2010 Fer, I., **G. Voet**, K. Seim, B. Rudels and K. Latarius. Intense mixing of the Faroe Bank Channel overflow. *Geophysical Research Letters*, 37, L02604.
- 2008 Dickson, B., S. Dye, S. Jónsson, A. Köhl, A. Macrander, M. Marnela, J. Meincke, S. Olsen, B. Rudels, H. Valdimarsson and **G. Voet**. The Overflow Flux West of Iceland: Variability, Origins and Forcing. In: *Arctic-Subarctic Ocean Fluxes*, edited by R.R. Dickson et al., Springer, 443-474.

V. Talks and Posters at International Conferences:

- 2023 11th Warnemünde Turbulence Days.
Energy and Momentum of a Density-Driven Overflow in the Samoan Passage (talk). Rostock, Germany.
- 2022 Gordon Research Conference on Ocean Mixing.
Moored observations of tidal mixing and dynamics in a Rockall Trough canyon (poster). South Hadley, Massachusetts, USA.
- 2020 Ocean Sciences Meeting.
Observations of Lee Waves Generated by Topographic Form Drag on Tides and Low-Frequency Flow over a Tall Submarine Ridge near Palau (talk). San Diego, California, USA.
- 2019 9th Warnemünde Turbulence Days.
Observations of large internal waves and strong turbulence over deep submarine ridges in the Western North Pacific (talk). Vilm, Germany.
- 2019 27th IUGG General Assembly.
Observations of Low Frequency Flow-Generated Oceanic Lee Waves and Associated Turbulent Dissipation Over a Tall Ridge (talk). Montréal, Québec, Canada.
- 2018 Gordon Research Conference on Ocean Mixing.
Lee wave observations over a tall ridge (poster). Andover, New Hampshire, USA.
- 2017 49th Internal Liège Colloquium & 8th Warnemünde Turbulence Days.
Abyssal Turbulent Mixing in the Samoan Passage (talk). Liège, Belgium.

- 2016 Ocean Sciences Meeting.
Observed energy and momentum budget of a hydraulically controlled dense overflow in the Samoan Passage (talk). New Orleans, Louisiana, USA.
- 2015 26th IUGG General Assembly.
Abyssal volume and heat transport through the Samoan Passage: A 16-month timeseries based on recent observations (talk). Prague, Czech Republic.
- 2014 Ocean Sciences Meeting.
Volume Transports and Turbulent Mixing in the Samoan Passage (poster). Honolulu, Hawaii, USA.
- 2012 AGU Fall Meeting.
The Samoan Passage Abyssal Mixing Experiment (talk). San Francisco, California, USA.
- 2010 Euro-Argo User Workshop
Argo Floats in the Nordic Seas (talk). Paris, France.
- 2009 MOCA-09 Joint Assembly
The overflow across the Iceland-Faroe Ridge (poster). Montréal, Québec, Canada.
- 2008 Ocean Sciences Meeting
The mid-depth circulation of the Nordic Seas from profiling floats (talk). Orlando, Florida, USA.
- 2007 North Atlantic Subpolar Gyre Workshop
Stirring and mixing in the Nordic overflow plumes (poster). Kiel, Germany.
- 2006 Rapid Climate Change International Science Conference
Stirring and mixing in the Nordic overflow plumes (poster). Birmingham, UK.

VI. Major Research Cruises:

- 2023 Research cruise AR73 on *R/V Neil Armstrong*. New England Seamount Chain.
Co-PI. Mooring lead, fastCTD, epsi-fish microstructure measurements.
- 2022 Research cruise DY153 on *RRS Discovery*. Rockall Trough.
Co-PI. Mooring lead, fastCTD, epsi-fish microstructure measurements.
- 2021 Research cruise DY138 on *RRS Discovery*. Rockall Trough.
Co-PI. Mooring lead.
- 2021 Research cruise DY132 on *RRS Discovery*. Rockall Trough.
Co-PI. Mooring lead, fastCTD, epsi-fish microstructure measurements.
- 2020 Research cruise AR47 on *R/V Neil Armstrong*. Iceland Basin.
Joint cruise with OSNAP. NISKINE lead-PI. Mooring work.
- 2019 Research cruise SP1924 on *R/V Robert Gordon Sproul*. San Diego Trough.
Chief Scientist. Mooring work.
- 2019 Research cruise SR1914 on *R/V Sally Ride*. Tropical Pacific north of Palau.
Chief Scientist. Mooring work, microstructure measurements, CTD.
- 2019 Research cruise SP1917 on *R/V Robert Gordon Sproul*. San Diego Trough.
Chief Scientist. Mooring work.
- 2019 Research cruise AR35-02 on *R/V Neil Armstrong*. Iceland Basin.
Chief Scientist. Mooring work, CTD.
- 2018 Research cruise TN357 on *R/V Thomas G. Thompson*. Tropical Pacific north of Palau.
Mooring work, chameleon (vertical microstructure profiler).
- 2017 Research cruise OC1710A on *R/V Oceanus*. Central Californian Coastal Waters.
Mooring work.
- 2017 Research cruise RR17078 on *R/V Roger Revelle*. Tropical Pacific north of Palau.

	Chief Scientist. CTD, LADCP, mooring work.
2016	Research cruise RR1607 on <i>R/V Roger Revelle</i> . Tropical Pacific north of Palau. Co-PI. SWIMS, fastCTD, MMP, CTD, LADCP, mooring work.
2015	Research cruise SKQ201511S on <i>R/V Sikuliaq</i> . Beaufort Sea & Bering Strait. SWIMS, MMP, CTD, LADCP, mooring work.
2015	Research cruises RR1501 & RR1503 on <i>R/V Roger Revelle</i> . Tasman Sea. CTD, LADCP and mooring work.
2014	Research cruise PS1415 on <i>R/V Point Sur</i> . Monterey Bay. Biosonics echosounder & CTD.
2014	Research cruise OC1408B on <i>R/V Oceanus</i> . Washington Shelf. SWIMS, MMP and mooring work.
2014	Research cruise TN305 on <i>R/V Thomas G. Thompson</i> . Samoan Passage. CTD, LADCP, VMP and mooring work.
2013	Research cruise MV1306 on <i>R/V Melville</i> . CLIVAR/Carbon P02E (Honolulu - San Diego). Co-Chief Scientist.
2012	Research cruise RR1209 on <i>R/V Roger Revelle</i> . Samoan Passage. CTD, LADCP, VMP and mooring work.
2008	Research cruise HM610 on <i>Håkon Mosby</i> . Faroe-Bank Channel. CTD, LADCP, VMP (vertical microstructure profiler).
2007	Research cruise MSM05-4 on <i>MS Merian</i> . Irminger Sea / Denmark Strait. CTD, LADCP and mooring work.
2006	Research cruise D311 on <i>RRS Discovery</i> . Irminger Sea / Denmark Strait. CTD, vmADCP and mooring work.
2005	Research cruise A0805 on <i>Árni Friðriksson</i> . Irminger Sea / Denmark Strait. CTD and mooring work.
2002	Research cruise 44/02/05 on <i>FS Alexander von Humboldt</i> . North Atlantic. CTD.

VII. Professional Services:

Peer-review of scientific publications in *Journal of Physical Oceanography*, *Journal of Geophysical Research*, *Geophysical Research Letters*, *Ocean Modelling*, *Ocean Science*, *Deep Sea Research*, *Journal of Marine Research*, *Journal of Marine Systems*, *Oceanography*, *Marine Geodesy*, *Chinese Journal of Oceanology and Limnology*, *Science Bulletin*, *Nature Communications*.

Peer-review of research proposals for NSF and NOAA.

Member of the *American Geophysical Union*.

VIII. Stipends and Awards:

2007	Awarded with the <i>Annette-Barthelt-Preis für Meeresforschung</i> for an outstanding thesis in the field of seagoing ocean research, including a research grant from the German Federal Ministry of Education and Research (BMBF).
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IX. Other Qualifications:

2021	UC Fieldwork Toolkit Leadership Training Series
2014	UNOLS Chief Scientist Training Workshop

2013	Co-Chief Scientist CLIVAR/Carbon P02E.
2008	3 rd EGO Workshop and “Glider School”, NATO Undersea Research Centre, La Spezia, Italy.
2007	CKO International Summer School on Physical Oceanography, Les Diablerets, Switzerland. Organized by the <i>Netherlands Centre for Climate Research</i> .

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