

Personal Data

Name **Frickenhaus, Stephan, Prof. Dr.**
Institution AWI
Department Computing Centre
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Education

2018 Prof. of Technical Mathematics in Earth System Sciences, University Bremen, Germany
2004 Prof. of Algorithms in Molecular Biology, Hochschule Bremerhaven, Germany
1998 PhD in Theoretical Biophysics, Humboldt-University Berlin, Germany
1992 Diploma in Theoretical High Energy Physics, University Dortmund, Germany

Research Experience

2018 Coordinating Data Science
2004-2017 Bioinformatics, Transcriptomics, Meta-Barcoding, Statistics, AWI Bremerhaven
2003-2004 Project developer in HPC/parallel modelling at HLRN/Bremen, AWI Bremerhaven
1999-2003 Scientist, numerical parallel computing of coupled climate models

Awards/Committees/Functions

2018 Head of Computing Centre, Member of Extended Board of Directors
2016 Head of Group of Scientific Computing
2009- Speaker of Virtual Genomics Platform at AWI
2004 Head of Bioinformatics Group

Research Areas

- High-resolution Ocean General Circulation Modelling
- Computer Sciences, Parallel Numerics
- Statistical Analyses and Data Exploration, Big Data

5 Most Relevant Publications (total of 123, h-index=22)

Mock T, Otilar RP, Strauss J, McMullan M, Paajanen P, Schmutz J, Salamov A, Sanges R, Toseland A, Ward BJ, Allen AE, Dupont CL, **Frickenhaus S**, Maumus F, Veluchamy A, Wu T, Barry KW, Falciatore A, Ferrante MI, Fortunato AE, Glöckner G, Gruber A, Hipkin R, Janech MG, Kroth PG, Leese F, Lindquist EA, Lyon BR, Martin J, Mayer C, Parker M, Quesneville H, Raymond JA, Uhlig C, Valas RE, Valentin K, Worden AZ, Armbrust EV, Clark MD, Bowler C, Green BR, Moulton V, van Oosterhout C, Grigoriev IV. (2017) Evolutionary genomics of the cold-adapted diatom *Fragilariopsis cylindrus*. *Nature* 541, pp. 536–540, 26 January 2017, DOI:[10.1038/nature20803](https://doi.org/10.1038/nature20803), online 2017 January 16

Storch D, Menzel L, **Frickenhaus S**, Poertner HO (2014) Climate sensitivity across marine domains of life: Limits to evolutionary adaptation shape species interactions. *Global Change Biology*, 20:10, pp. 3059–3067 DOI:[10.1111/gcb.12645](https://doi.org/10.1111/gcb.12645), online 2014 June 25

Brenner M, Broeg K, **Frickenhaus S**, Buck BH, Koehler A (2014) Multi-Biomarker approach using the blue mussel (*Mytilus edulis* L.) to assess the quality of marine environments: season and habitat-related impacts. *Marine Environmental Research* 95, April 2014, pp. 13–27, DOI: [10.1016/j.marenvres.2013.12.009](https://doi.org/10.1016/j.marenvres.2013.12.009), online 2014 December 27

Bombosch A, Zitterbart DP, Van Opzeeland I, **Frickenhaus S**, Burkhardt E, Wiszc MS, Boebel O. (2014) Predictive habitat modelling of Humpback (*Megaptera novaeangliae*) and Antarctic Minke (*Balaenoptera boaerensis*) Whales in the Southern Ocean as a planning tool for seismic surveys. *Deep-Sea Research Part I* 91, pp. 101–114, DOI:[10.1016/j.dsr.2014.05.017](https://doi.org/10.1016/j.dsr.2014.05.017), online 2014 June 12

Frickenhaus S, Kannan S, Zacharias M. (2009) Efficient evaluation of sampling quality of molecular dynamics simulations by clustering of dihedral torsion angles and Sammon mapping, *Journal of Computational Chemistry* 30, pp. 479-492, DOI:[10.1002/jcc.21076](https://doi.org/10.1002/jcc.21076)

Education Expertise (PhD)

Teaching Numerical Math in international master courses, Hochschule Bremerhaven
Teaching R-Programming and Statistics, Grad-School POLMAR and Hochschule Bremerhaven
Supervision of Bachelor- and Master thesis in Biotechnology, Bioanalytics and Informatics, Hochschule Bremerhaven
Co-Advisor and Supporter of PhD Theses wrt. numerics, bioinformatics and data analyses