

Name	Hans Burchard
Position	Deputy department head
Affiliation	Leibniz Institute for Baltic Sea Research Warnemünde
Higher education	<ul style="list-style-type: none"> • 2001 Habilitation in Physical Oceanography at the University of Hamburg on <i>Applied Turbulence Modelling in Marine Waters</i> • 1992-1995 PhD Student at the Institute for Oceanography at the University of Hamburg (Germany), PhD passed with distinction in 1995 • 1989-1992 University study (Master) of Applied Mathematics at the University of Hamburg (Germany) • 1985-1987 Training as high school teacher at the Seminar Elmshorn (Germany) • 1978-1984 University Study (Staatsexamen) of Mathematics and Sport for high school teachers at the University of Kiel (Germany)
Academic career	<ul style="list-style-type: none"> • 2002-present University Professor for Physical Oceanography and Instrumentation at the Leibniz Institute for Baltic Sea Research Institute Warnemünde at the University of Rostock • 2000-2001 Researcher at the Institute for Oceanography, Hamburg • 1999-2000 Visiting Scientist, grant holder of the German Research Foundation, Institute for Oceanography, University of Hamburg • 1996-1998 Researcher at the Space Applications Institute, Joint Research Centre of the European Communities, Ispra, Italy. • 1995-1996 Research Assistant at the International Centre for Computational Hydrodynamics, Danish Hydraulic Institute, Hørsholm, Denmark
Teaching activities	<p>Regular lectures (one per semester) at the University of Rostock in the framework of the Master in Physics: Hydrodynamics, Marine Turbulence, Coastal Ocean Processes, Numerical Methods of Conservation Equations</p> <p>Various summer school presentations, e.g. at the AWI-GKSS-IOW summer schools, the Physics Summer School of the Deutsche Physikalische Gesellschaft on “Physics of the Ocean” (2011, 2014), the BioCat summer school in the framework of the SOPRAN projects (2008). Furthermore teaching at the Nippon Foundation-POGO Centre of Excellence (NF-POGO CofE) at AWI on Helgoland (2014) and the Russian-German Master Programme for Marine and Polar Science (POMOR, 2013, 2015).</p>
Research and development projects during the past 5 years	<p>German Research Foundation: “Baltic TRANSCOAST, subproject H3: Downscaling (process oriented localization) of larger scale simulations of sea water currents to assess interactions between sea and groundwater bodies”, 2016-2020, 180.000 Euro.</p> <p>German Research Foundation: “TRR181 - Energy Transfers in Atmosphere and Ocean, subprojects M5 (Reducing spurious diapycnal mixing in ocean models) and T2 (Energy budget of the ocean surface mixed layer)”. 2016-2020, 350.000 Euro. German Federal Ministry for Research and Education: “Modular System for Shelves and Coasts - Synthesis”, 2016-2019, 250.000 Euro.</p>

Name	Hans Burchard
	<p>German Research Foundation: “Morphodynamic response of the Wadden Sea to climate change”, 2016-2019, 230.000 Euro.</p> <p>Leibniz Society (SAW), “Greenland glacial system and future sea-level rise”, 2014-2016, 160.000 Euro.</p> <p>German Federal Ministry for Research and Education: “Modular System for Shelves and Coasts”, 2013-2015, 280.000 Euro.</p> <p>Leibniz Society: “International Graduate School on Waves and Turbulence in Atmosphere and Ocean”, 2012-2016, 250.000 Euro.</p> <p>German Federal Ministry for Research and Education: “The future of the Wadden Sea sediment fluxes: still keeping pace with sea level rise?”, 2012-2014, 190.000 Euro.</p> <p>German Research Foundation: “Impact of physically relevant and numerically induced diapycnal mixing and meso-scale dissipation on meridional mass and tracer transports in the Southern Ocean”, 2010-2013, 150.000 Euro.</p> <p>German Research Foundation: “The Role of Estuarine Circulation for Transport of Suspended Particulate Matter in the Wadden Sea”, 2010-2013. 150.000 Euro.</p> <p>German Federal Ministry for Research and Education: “The response of upper ocean small and meso-scale processes to atmospheric forcing”, 2010-2013, 120.000 Euro.</p>
Significant publications during the past 5 years	<p>Selected publications from overall 105</p> <p>Burchard, H., N.B. Badurak, U. Gräwe, M. Knoll, V. Mohrholz, S. Müller, Salinity inversions in the thermocline under upwelling-favorable winds, <i>Geophys. Res. Lett.</i>, 44, doi:10.1002/2016GL072101, 2017.</p> <p>Gräwe, U., T. Gerkema, M. Duran-Matute, T.H Badewien, E. Schulz, and H. Burchard, A numerical model for the entire Wadden Sea: skill assessment and analysis of hydrodynamics, <i>J. Geophys. Res.</i>, 121, 5231–5251, doi:10.1002/2016JC011655, 2016.</p> <p>Schulz, E., H.M. Schuttelaars, U. Gräwe, and H. Burchard, Impact of the depth-to-width ratio of a tidally energetic estuary on the residual along-channel circulation, <i>J. Phys. Oceanogr.</i>, 45, 2048-2069, 2015.</p> <p>Burchard, H., E. Schulz, and H.M. Schuttelaars, Impact of estuarine convergence on residual circulation in tidally energetic estuaries and inlets, <i>Geophys. Res. Lett.</i>, 41, 913-919, 2014.</p> <p>Klingbeil, K., M. Mohammadi-Aragh, U. Gräwe, and H. Burchard, Quantification of spurious dissipation and mixing – Discrete Variance Decay in a Finite-Volume framework, <i>Ocean Modelling</i>, 81, 49-64, 2014.</p>
Activities in scientific organizations and associations during the past 5 years	<ul style="list-style-type: none"> • 2015-present Member of the board of the Department of Maritime Systems of the Interdisciplinary Faculty of the University of Rostock • 2012-2016 Associate Editor of Continental Shelf Research (Elsevier) • 2012-present Elected member of the Fachkollegium 313 (Physics, Biology and Chemistry of the Ocean) of the German Research Foundation

Name	Hans Burchard
	<ul style="list-style-type: none">• 2012-present Representative of DFG Fachkollegium 313 at the Senatskommission Ozeanographie• 2012-2016 Member of the Scientific Board of the North-German Supercomputing Alliance (HLRN).• 2003-present Organizer of the biannual Warnemünde Turbulence Days (WTD)
Awards	<ul style="list-style-type: none">• 2013-2018 Honorary Professor of Physical Oceanography at the University of Aarhus, Denmark• 2001-2002 Alexander-von-Humboldt-Prize of the National Belgian Research Foundation (Fonds National de la Recherche Scientifique)• 1995 Best dissertation at the Geophysical Faculty of the University of Hamburg