

# External Projects Biological Oceanography

- Activity, rates, carbon use and high-pressure microbial ecology of the deep sea (ARCHIMEDES, NWO/ALW).  
*T. Reinthaler, G.J. Herndl, H.M. van Aken(FYS), H. Boeke(MTI)*
- Pelagic Archaea in the changing coastal Arctic (PACCA, NWO/ALW – IPY).  
*E. Sintes, G.J. Herndl*
- Prokaryotic activity and phylogeny of oceanic systems (PAPHOS, Marie Curie Fellowship, EU).  
*H. Agogué, G.J. Herndl*
- Microbial diversity and ecosystem functioning: concepts, open questions and recommendations for integration of microbes into general ecological frameworks (Responsive Mode Project, Network of Excellence, MARBEF, EU).  
*G. J. Herndl, in cooperation with Baltic Sea Institute, Warnemünde (Germany)*
- Role of Saharan dust input on DOM cycling in nitrogen- vs. phosphorus-limited systems: a comparison between the subtropical North Atlantic and the Eastern Mediterranean Sea (Network of Excellence EurOceans, EU).  
*G. Spyres, G.J. Herndl, in cooperation with University of the Aegean, Lesvos (Greece)*
- Microbial Population Structure of the World's Oceans (W. & M. Keck Foundation, USA).  
*M. Brink, G.J. Herndl, in cooperation with Josephine Bay Paul Center for Comparative Molecular Biology and Evolution, Marine Biology Laboratory, Woods Hole (USA)*
- Influence of deep ocean viruses on prokaryotes (VIPeR, NWO-ALW).  
*T. Reinthaler, D. de Corte, G.J. Herndl, in cooperation with Earth and Ocean Sciences, University of British Columbia, Vancouver (Canada)*
- Molecular microbiological approach to the ocean biogeochemistry (Japan Society for the Promotion of Science).  
*T. Yokokawa, G.J. Herndl*
- The nitrogen cycle and changes in the carrying capacity of coastal waters (NICYCLE).  
*Usman, G.J. Herndl, in cooperation with NIOO-CEME, Yerseke*
- Reducing the spread of invasive organisms by treating ballast water in ships; the Ecochlor system (various industrial funds).  
*F. Fuhr, P.P. Stehouwer, M.J.W. Veldhuis, in cooperation with the 'Bundesamt für Seeschifffahrt und Hydrographie' (BSH, Germany)*
- Reducing the spread of invasive organisms by treating ballast water in ships; the Hyde-Guardian system (various industrial funds).  
*F. Fuhr, P.P. Stehouwer, M.J.W. Veldhuis, in cooperation with the Maritime and Coastguard Agency, (MCA, UK) & Lloyds Register (London, UK)*
- Marine Ecosystem Connections, southern North Sea. Subproject: secondary production by crustaceans (MEC, NWO-ALW 835.20.041).  
*S.S. Oosterhuis, M.A. Baars in cooperation with Centre for Environment, Fisheries & Aquaculture Science (Cefas), Lowestoft (UK)*
- Coral condition, coral disease and algal/coral overgrowth in the Berau coral reef system. (EKP project, WOTRO).  
*C. Wuchter, F.C. van Duyl, R.P.M. Bak (MEE), M.M. Nugues (MEE)*
- Factors controlling carbonate production and destruction of cold-water coral reefs in the E Atlantic Ocean (Marie Curie Fellowship EU, FRH-FCT Portugal).  
*M. Carreiro-Silva, F.C. van Duyl, in cooperation with Laboratório Internacional de Ecossistemas Profundos (LabHorta, Azores, Portugal)*
- Modelling of Nutrient Tracking in the North Sea (DEFRA, London, UK).  
*P. Ruardij, in cooperation with Centre for Environment, Fisheries & Aquaculture Science (Cefas), Lowestoft (UK)*
- Modelling the causes and consequences of environmental change in the North Sea (DEFRA, London, UK).  
*P. Ruardij, in cooperation with Centre for Environment, Fisheries & Aquaculture Science (Cefas), Lowestoft (UK)*
- Climate-related shifts in the North Sea ecosystem (BSIK Climate and Space Program).  
*S. Saraiva (MEE), P. Ruardij, J. van der Meer (MEE)*
- IPY GEOTRACES (NWO-ALW, NAAP).  
*H.J.W. de Baar*
- Kinetic reactivity of dissolved Fe species in seawater determine the availability of Fe for phytoplankton. (sub-project GEOTRACES, NWO-IPY).  
*C.-E. Thuroczy, L.J.A. Gerringa, H.J.W. de Baar, in cooperation with Alfred Wegener Institute, Bremerhaven (Germany)*
- Dissolved Aluminium and Manganese as Source Tracers for Iron in Polar Oceans (sub-project GEOTRACES, NWO-IPY, NWO-ALW).

- R. Middag, H.J.W. de Baar*

  - CO2 & ncp (BSIK).
- M. Klunder, H.J.W. de Baar*

  - Ocean Carbon Cycle (NEBROC-2).
- H.J.W. de Baar, L.J.A. Gerringa*

  - CO2 buffering capacity of the North Sea (NWO-ALW).
- L.E. Salt, H.J.W. de Baar*

  - CARBOOCEAN (Integrated Project 6th FWP of EU).
- H. Zemmeling, H.J.W. de Baar*

  - Prominent uptake of anthropogenic CO2 by the Southern Ocean via Antarctic Intermediate Water (NWO-ALW 813.03.003).
- H. Zemmeling, H.J.W. de Baar*

  - The UK SOLAS Deep Ocean gas Exchange Experiment (UK SOLAS NE/C001702/1).
- H.J. Zemmeling, in cooperation with the University of East Anglia, Norwich (UK)*

  - Time Series Measurements of Dimethyl Sulfide Dynamics at BATS.
- H.J. Zemmeling, in cooperation with Woods Hole Oceanographic Institution (USA)*

  - Carbon dioxide emission from a Dutch intertidal estuary (CARBOOCEAN and CarboEurope).
- H.J. Zemmeling, in cooperation with Imares, Wageningen*

  - Improved quantification of Southern Ocean diatoms as indicators for carbon fixation (KERGUELEN) (SRON).
- Vacancy, K.R. Timmermans, M. R. Wernand (FYS), in cooperation with Institute for Environmental Studies (IVM, Vrije Universiteit, Amsterdam)*

  - Southern Ocean primary productivity in a high CO2 world (Dutch Antarctic Programme, ALW-NWO).
- B.M Bontes, K.R Timmermans, H.J.W. de Baar, in cooperation with Groningen University*

  - Microbial carbon fixation in past and future high CO2 oceans (ALW-NWO).
- Hoogstraten, K.R. Timmermans, H.J.W. de Baar*

  - Group specific primary production & limiting factors (ZKO carrying capacity, ALW-NWO).
- Vacancy, K.R. Timmermans, M.J.W. Veldhuis, in cooperation with NIOO-CEME (Yerseke)*

  - Trace elements and isotopes of the international GEOTRACES program (ZKO Oceanen, ALW-NWO).
- Vacancy, K.R. Timmermans, H.J.W de Baar*

  - Phytoplankton production and physiology in relation to changes in vertical stratification (ZKO Oceanen, ALW-NWO: STRATIPHYT).
- Vacancy, K.R. Timmermans, C.P.D. Brussaard*

  - European Project on Ocean Acidification (EPOCA, EU-FP7).
- C.P.D. Brussaard*

  - The significance of viruses for polar marine ecosystem functioning (VIRPOL, NWO-IPY).
- Evans, C.P.D. Brussaard*

  - Virus control of the picophytoplankter *Micromonas pusilla* population dynamics in European waters (MICROVIR, NWO-ALW).
- J. Martínez Martínez, C.P.D. Brussaard*

  - Fast Advanced Cellular and Ecosystems Information Technologies (FACEIT, EU-FP6).
- L. Peperzak, C.P.D. Brussaard*

  - European network of excellence for ocean ecosystem analysis (EUROCEANS; EU-FP6).
- C.P.D. Brussaard*

  - Comparative genomic analysis of viruses infecting *Phaeocystis globosa* and *Micromonas pusilla*, two eukaryotic microalga of global distribution (US-DOE JGI, USA).
- C.P.D. Brussaard, in cooperation with University of Delaware (USA)*

  - Whole genome sequencing of a *Phaeocystis globosa* virus (GENOSCOPE, France).
- C.P.D. Brussaard, in cooperation with Structural & Genomic Information Laboratory, Marseille (France)*



Photo: J. van Iperen (NIOZ).