



Exponent®
Engineering & Scientific Consulting

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Professional Profile

Dr. Busch specializes in regulatory ecotoxicology for the purpose of registration of pesticides and biocides within Europe. She is currently responsible for evaluating ecotoxicological data, monitoring laboratory studies, and conducting environmental risk assessments according to EU legislation. Her specific interests/expertise include statistical data analysis, the application of ecological effect modeling (e.g. toxicokinetic/toxicodynamic models) in higher tier risk assessments and endocrine disruption.

Dr. Busch holds a MSc in environmental resource management and a Ph.D. in plankton ecology. Through her research she has gained experience in conducting and planning aquatic laboratory and field experiments, as well as in applying a range of statistical methods for the analysis and interpretation of experimental data. Prior to joining Exponent, she worked as Regulatory Ecotoxicologist with a consultancy in Germany where she also gained experience in general EU regulatory project management.

Academic Credentials & Professional Honors

Ph.D., Plankton Ecology, University of Oldenburg, Germany, 2016

M.Sc., Environmental Resource Management, University of Giessen, Germany, 2010

B.Sc., Agricultural Sciences, University of Giessen, Germany, 2007

Prior Experience

Regulatory Ecotoxicologist, GAB Consulting GmbH, 2016 – 2018

Research Associate, Institute for Chemistry and Biology of the Marine Environment, University of Oldenburg, Germany 2011-2016

Publications

Busch, M., Caron, D. and Moorthi, S. (2019), Growth and grazing control of the dinoflagellate *Lingulodinium polyedrum* in a natural plankton community, *Mar Ecol Prog Ser* 611:45-58.

Moorthi S.D., Ptacnik R., Sanders R.W., Fischer R., Busch M., Hillebrand H. (2017). The functional role of planktonic mixotrophs in altering seston stoichiometry. *Aquat Microb Ecol* 79:235-245.

Presentations

Busch M., Giebel H.-A., Hillebrand H., Moorthi S. Effects of nutrient concentrations, phagotrophic feeding and allelopathy on bloom dynamics of potentially harmful dinoflagellates. Harmful Algal Blooms and Climate Change Symposium, Gothenburg, Sweden, 19. – 22.05.2015, poster presentation.

Busch M., Caron D., Hillebrand H., Moorthi S. Growth, competition and grazing control of the potentially harmful dinoflagellate *Lingulodinium polyedrum* in a natural plankton community. 16th International Conference on Harmful Algae, Wellington, New Zealand, 27. - 31. October 2014, Talk

Busch M., Bialonski S., Ansmann G., Caron D., Feudel U., Hillebrand H., Kantz H., Moorthi S. Extreme Events in Spatially Extended Excitable Systems: Harmful algal blooms. Volkswagen Foundation, Symposium "Extreme Events: Modeling, Analysis, and Prediction". Herrenhausen Palace, Hanover/Germany, 6. – 7. October, 2014, Talk

Busch M., Peiffer F., Giebel H.-A., Hillebrand H., Moorthi S. Effects of nutrient concentrations, phagotrophic feeding and allelopathy on bloom dynamics of potentially harmful dinoflagellates. ASLO 2014 Ocean Sciences Meeting. Honolulu, HI, USA, 23.- 28. February 2014, Talk

Busch M., Peiffer F., Hillebrand H., Moorthi S. Effects of nutrient limitation and different prey species on feeding of potentially harmful mixotrophic dinoflagellates. 11th INTECOL Congress, 18. – 23. August 2013, London, UK. Talk

Busch M., Hillebrand H., Moorthi S. Effects of nutrient limitation and different prey species on feeding of potentially harmful mixotrophic dinoflagellates. ASLO 2012 Aquatic Sciences Meeting. Lake Biwa, Shiga, Japan, 08. -13. July 2012. Poster Presentation

Busch M., Ebke K.P., Düring R.A. Mixture toxicity of three pharmaceuticals Carbamazepine, Diclofenac and Ibuprofen on the non-biting midge *Chironomus riparius*. UWSF 22(4), Tagungsband der 4. Gemeinsamen Jahrestagung: Umwelt 2010, Dessau-Roßlau, September 2010. SETAC GLB e.V. und GDCh e.V. Poster presentation

Additional Education & Training

Postgraduate studies in ecotoxicology (SETAC GLB and GDCh).