

Dr. Cathleen Schlundt, née Zindler

Curriculum Vitae

Personal information

Date of birth, 06.03.1984.

Place of birth, Magdeburg.

Nationality, german.

Family status, married, 3 children.

Professional career and education

08/19–
Present **Postdoctoral work with Prof. Dr. Anja Engel**, *GEOMAR Helmholtz Center for Ocean Research, Kiel, Germany.*

Task: Combining CLASI-FISH with structure visualisation in marine gel particles and plastic debris

12/18–07/19 **Parental leave.**

11/16–10/18 **Postdoctoral work with Dr. Linda Amaral Zettler and Dr. Jessica Mark Welch**, *The Josephine Bay Paul Center for Comparative Molecular Biology and Evolution in Marine Biological Laboratory (MBL), Woods Hole, MA, USA*, 2-years research fellowship funding from DFG, *Topic: Visualizing Microbial Communities on Plastic Marine Debris: Identification, Interaction and Impacts.*

Task: Development of an advanced microscope method (CLASI-FISH) for marine ecosystems

12/14–08/15 **Parental leave.**

08/13–10/16 **Postdoctoral work with Prof. Dr. Christa Marandino**, *GEOMAR Helmholtz Center for Ocean Research, Kiel, Germany.*

Task: Sulfur compounds in a mesocosms study and trace gases in the western Pacific convective center

10/12–07/13 **Parental leave.**

11/08–04/13 **PhD in Marine Biogeochemistry**, *GEOMAR Helmholtz Center for Ocean Research, Kiel, Germany*, *magna cum laude.*

2006–2008 **Master of Science in Biological Oceanography**, *University of Southern Denmark, Odense, Denmark*, *Grade – 1.0.*

2003–2006 **Bachelor of Science in Biology**, *Westfälische Wilhelms-University, Münster, Germany*, *Grade – 1.7.*

PhD Thesis

Title *Short-lived trace gases (dimethylsulfide, isoprene, acetaldehyde and acetone) in the surface waters of the western Pacific and eastern Atlantic Oceans (<http://oceanrep.geomar.de/22382/>)*

Supervisors Prof. Dr. Hermann Bange & Prof. Dr. Christa Marandino

Awards

- 2015 **Briese Award 2014 for outstanding PhD theses in marine science**, prize money - 5000€. (<https://idw-online.de/de/news629806>)
- 2014 **Kompass Award 2014 for innovative, marine research**, prize money - 3000€. received for my PhD thesis

Grants

- 2019–2020 **Inge-Lehmann-Fonds**.
Funding for re-entry after parental leave
- 2018–2019 **DFG (Deutsche Forschungsgemeinschaft) Return Stipend**.
Funding for my reintegration into the German research community
- 2016–2018 **DFG Postdoctoral Research Fellowship**.
Funding PostDoc position at MBL in Woods Hole, USA
- 2016 **DAAD - PRIME (German Academic Exchange Service - Postdoctoral Researchers International Mobility Experience)**.
Funding PostDoc position at MBL in Woods Hole, USA
- 2016 **Inge-Lehmann-Fonds**.
Funding for re-entry after parental leave
- 2010–2012 **Promotionsstipendium der Studienstiftung des Deutschen Volkes**.
Funding my PhD studies at GEOMAR
- 2008 **COST-Action-fellowship (European Cooperation in Science and Technology)**.
Funding an internship at the Institut de Ciències del Mar in Barcelona
- 2007 **EU-ERASMUS-scholarship**.
Financial support of one semester during my academic studies in biological oceanography (Bio-Ocean) in Odense (Denmark)

Teaching and Outreach

- 2019 Lecture about marine plastic - in the lecture series "Introduction of integrated marine sciences" by Prof. Dr. Ralph Schneider and Dr. Nina Keul
- 2018 Supervision of a student in the Woods Hole Partnership Education Program (PEP) - PEP is a student internship program in marine and environmental science for minority groups. (<http://www.woodsholediversity.org/pep/about.html>)
- 2018 Supervision of high school students in the program "Falmouth STEM Boosters" to inspire students for nature sciences
- 2017 Lecturer in Children's school of science, Woods Hole, MA, USA - Teaching children of the ages 12 to 16 in "How plastic litter affects marine life".
- 2015 and 2016 Lecture about biogenic sulfur in marine environments - in the lecture series "Air-Sea Gas Exchange" by Prof. Dr. Christa Marandino
- 2010–2011 Mentor in CyberMentor – MINT (Mathematik, Informatik, Naturwissenschaften und Technik) - to inspire girls and young women to study nature sciences
- 2009 Mentor in the Research Internships in Science and Engineering (RISE) funded by German Academic Exchange Service (DAAD) - Mentor for undergraduate students in a science internship to inspire for research in nature science.
- 2009–2016 Supervision of 4 Bachelor and 2 Master students

Additional Education

- 2017 **Participation in STAMPS - Strategies and Techniques for Analyzing Microbial Population Structure**, Woods Hole, MA, USA.
First steps in bioinformatics and statistical training (USEARCH, DADA2, Qiime2, mothur, Anvi'o, oligotyping and PCA) to analyze DNA/RNA next generation sequencing datasets

- 2011–2013 **Participation in the PhD Program of the Integrated School of Ocean Science (ISOS).**
Participating in the workshops: Analysis of univariate data sets (training in the statistical computer program 'R'); Biostatistics; MATLAB/Octave; scientific writing; network training; marine conservation workshop
- 2011 **Participation in the 5th International SOLAS Summer School.**
Theoretical and practical courses in "Ocean atmosphere interactions"
- 2008 **Internship at the Institut de Ciències del Mar, CMIMA-CSIC, Barcelona, Spain.**
Learning purge and trap method to measure sulfur in water samples

Additional Activities

- 2019–present **PostDoc Speaker of Research Department 2 at GEOMAR.**
Activity: contact person for PostDocs; support to modulate PACT 'PostDoc Academic Career Support'
- 2014–2016 **Postdoc Representative of GEOMAR Woman's Executive Board (WEB).**
Activity: Mediate interests of female Postdocs to the chair of WEB

Instrumentation and Computer skills

- Instruments Gas chromatograph equipped with a flame photometer detector or a mass spectrometer to measure trace gases in the ocean
Flow cytometry
High Performance Liquid Chromatography (HPLC) to measure phytoplankton pigments
Confocal laser scanning microscopy
- Computer Matlab, R, L^AT_EX, ARB, Image J and Fiji

Languages

- German Mother tongue
English Conversationally fluent
French Basic

Ship campaigns

- 2015 **SO243 on the FS Sonne from Guayaquil (Ecuador) to Antofagasta (Chile).**
Measurements: DMS, isoprene, methyl mercaptan
- 2011 **SO218 on the FS Sonne from Singapur to Manila (Philippines).**
Measurements: OVOC and DMS, DMSP, DMSO
- 2011 **MSM 18/3 on the FS Maria S. Merian from Mindelo (Cap Verde) to Libreville (Gabon).**
Measurements: OVOC and DMS
- 2009 **Transbrom on the FS Sonne from Tomakomai (Japan) to Townsville (Australia).**
Measurements: DMS, DMSP and DMSO
- 2008 **ANTXXV-1 on the FS Polarstern from Bremerhaven (Germany) to Cape Town (South Africa).**
Measurements: DMS and DMSP
- 2008 **ATA-3 on the R/V L'Atalante from Dakar (Senegal) to Mindelo (Cap Verde).**
Measurements: DMS and DMSP

Publications

- 2021 **de Vogel, F.A., Schlundt, C., Stote, R.E., Ratto, J.A., Amaral-Zettler, L.A.,** *Comparative Genomics of Marine Bacteria from a Historically Defined Plastic Biodegradation Consortium with the Capacity to Biodegrade Polyhydroxyalkanoates*, Microorganisms, 9, 186.
<https://doi.org/10.3390/microorganisms9010186>
- 2020 **Schlundt, C., Mark Welch, J. L., Zettler, E. R., Amaral-Zettler, L. A.,** *Spatial structure in the "Plastisphere": Molecular resources for imaging microscopic communities on plastic marine debris*, Molecular Ecology Resources.
<https://doi.org/10.1111/1755-0998.13119>

- 2019 **Lutz, Holly L., Ramírez-Puebla, S.T., Abbo, L., Durand, A., Schlundt, C., Gottel, N. R., Sjaarda, A. K., Hanlon, R. T., Gilbert, J. A., Mark Welch, J. L.,** *A Simple Microbiome in the European Common Cuttlefish, Sepia officinalis*, mSystems, American Society for Microbiology.
<https://doi.org/10.1128/mSystems.00177-19>
- 2017 **Schlundt, C., Tegtmeier, S., Lennartz, S. T., Bracher, A., Cheah, W., Krüger, K., Quack, B., Marandino, C. A.,** *Oxygenated volatile organic carbon in the western Pacific convective center: ocean cycling, air-sea gas exchange and atmospheric transport*, Atmospheric Chemistry and Physics.
<https://doi.org/10.5194/acp-17-10837-2017>
- 2017 **De Tender, C., Schlundt, C., Devriese, L. I., Mincer, T. J., Zettler, E. R., Amaral-Zettler, L. A.,** *A review of microscopy and comparative molecular-based methods to characterize “Plastisphere” communities*, Analytical Methods.
<https://doi.org/10.1039/C7AY00260B>
- 2017 **Booge, D., Schlundt, C., Bracher A., Endres, S., Zäncker, B., Marandino, C. A.,** *Marine isoprene production and consumption in the mixed layer surface ocean – A field study over 2 oceanic regions*, Biogeosciences.
<https://doi.org/10.5194/bg-2017-257>
- 2016 **Booge, D., Marandino, C. A., Schlundt, C., Palmer, P. I., Schlundt, M., Atlas, E. L., Bracher, A., Saltzman, E. S., Wallace, D. R.,** *Can simple models predict large-scale surface ocean isoprene concentrations?*, Atmospheric Chemistry and Physics.
<https://doi.org/10.5194/acp-16-11807-2016>
- 2015 **Zindler-Schlundt, C., Lutterbeck, H. E., Endres, S., Bange, H.W.,** *Environmental control of dimethylsulfoxide (DMSO) cycling under ocean acidification*, Environmental Chemistry.
<http://dx.doi.org/10.1071/EN14270>
- 2014 **Zindler, C., Marandino, C. A., Bange, H.W., Schütte, F., Saltzman, E.S.,** *Nutrient availability determines dimethyl sulfide and isoprene distribution in the Eastern Atlantic Ocean*, Geophysical Research Letters, 3181-3188.
<http://onlinelibrary.wiley.com/doi/10.1002/2014GL059547/full>
- 2014 **Mesarchaki, E., Yassaa, N., Hein, D., Lutterbeck, H. E., Zindler, C., Williams, J.,** *A novel method for the measurement of VOCs in seawater using needle trap devices and GC–MS*, Marine Chemistry 159 (0), 1-8.
<http://dx.doi.org/10.1016/j.marchem.2013.12.001>
- 2013 **Zindler, C., Bracher, A., Marandino, C.A., Taylor, B., Torrecilla, E., Kock, A., Bange, H.W.,** *Sulphur compounds, methane, and phytoplankton: Interactions along a north–south transit in the Western Pacific Ocean*, Biogeosciences 10 (5), 3297-3311.
<http://doi.org/10.5194/bg-10-3297-2013>
- 2013 **Marandino, C.A., Tegtmeier, S., Krüger, K., Zindler, C., Atlas, E.L., Moore, F., Bange, H.W.,** *Dimethylsulphide (DMS) emissions from the western Pacific Ocean: A potential marine source for stratospheric sulphur?*, Atmospheric Chemistry and Physics 13 (16), 8427-8437.
<http://doi.org/10.5194/acp-13-8427-2013>
- 2012 **Zindler, C., Peeken, I., Marandino, C.A., Bange, H.W.,** *Environmental control on the variability of DMS and DMSP in the mauritanian upwelling region*, Biogeosciences 9 (3), 1041-1051.
<http://doi.org/10.5194/bg-9-1041-2012>

Oral presentations

- 2018 **C. Schlundt, Mark Welch, J.L., Zettler, E.R., Amaral-Zettler, L.A.,** *Visualization of bacterial communities on marine plastic using ‘CLASI-FISH’*, Research Alumni Conference – Frontiers on Ocean Sustainability, Dalhousie University, Halifax, Canada.
invited talk
- 2018 **C. Schlundt, Mark Welch, J.L., Zettler, E.R., Amaral-Zettler, L.A.,** *Spatial structure in the “Plastisphere”: Imaging bacterial communities on plastic marine debris using CLASI-FISH*, The 24th annual Boston Bacterial Meeting, Cambridge, MA, USA.

- 2017 **C. Schlundt**, *Biogenic Trace Gases between the Surface Ocean and Atmosphere*, Woods Hole Oceanographic Institution, Woods Hole, MA, USA.
invited talk
- 2015 **C. Schlundt**, *Kurzlebige biogene Spurengase: zwischen Ozean und Atmosphäre*, Bries Award, Warnemünde, Germany.
invited talk
- 2014 **C. Zindler, Marandino, C., Bange, H., Schütte, F., Saltzman, E.**, *Nutrient availability determines DMS and isoprene distribution in the eastern Atlantic Ocean*, The 6th International Symposium on DMSP and related compounds, Barcelona, Spain.
- 2014 **C. Zindler, Marandino, C., Schütte, F., Bange, H., Saltzman, E.**, *Nutrient availability determines dimethyl sulfide and isoprene distribution in the eastern Atlantic Ocean*, EGU, Vienna, Austria.
- 2012 **C. Zindler, Marandino, C., Bange, H.**, *Marine Sources and Sinks of the OVOCs: Acetone and Acetaldehyde*, 5th Annual SOPRAN Meeting, Kiel, Germany.
- 2010 **C. Zindler, Matthiessen, B., Krug, S., Bange, H.**, *The influence of elevated pCO₂ on the DMS and DMSP production of coccolithophorids*, 5th International Symposium on biological and environmental chemistry of DMS(P) and related compounds, Goa, India.

Poster presentations

- 2017 **C. Schlundt, J. L. Mark Welch, E. R. Zettler, L. A. Amaral-Zettler**, *Bacterial communities on plastic marine debris: Advanced visualization techniques using laser scanning confocal microscopy*, CERF's 24th Biennial Conference, Providence, RI, USA.
- 2014 **C. Zindler, Lutterbeck, H., Marandino, C. A., Bange, H. W.**, *The effect of ocean acidification on Dimethylsulfoxide (DMSO)*, Ocean Science Meeting, Hawaii, USA.
- 2013 **C. Zindler, Bracher, A., Marandino, C., Taylor, B., Torrecilla, E., Kock, A., Bange, H.**, *Sulphur compounds, methane, and phytoplankton: interactions along a north-south transit in the western Pacific Ocean*, 6th Annual SOPRAN Meeting, Leipzig, Germany.
- 2012 **C. Zindler, Marandino, C., Bange, H.**, *Marine Sources and Sinks of the OVOCs: Acetone and Acetaldehyde*, SOLAS Open Science Conference, Cle Elum, WA, USA.
- 2008 **C. Zindler, I. Peeken, and H.W. Bange**, *DMS and DMSP in the upwelling area off Mauritania (NW Africa)*, ASLO Aquatic Sciences Meeting, Nice, France.
- 2008 **C. Zindler and H.W. Bange**, *Dimethylsulfide (DMS) in the eastern tropical North Atlantic Ocean*, 1st Annual SOPRAN Meeting, Warnemünde, Germany.