

Curriculum Vitae Maria-Elena Vorrath

- Qualification:** 3rd year PhD candidate in marine geology, paleo sea ice reconstructions, broad experience in ship expeditions, teaching and science communication
- Personal Profile:** Highly motivated early career scientist focusing on an international scientific career
- Motivation:** Working on interdisciplinary science projects with high impact covering key aspects in marine biogeochemistry in interaction with the earth climate system and the ocean under current and future global warming

Education

- Since Feb '17 **PhD candidate**, Marine Geology, Alfred Wegener Institute, Bremerhaven, Germany, (graduation planned for September 2020)
"Reconstruction of paleo sea ice and climate dynamics based on highly branched isoprenoids at the Western Antarctic Peninsula"
- Oct '14 – Jan '17 **Master of Science**, Geosciences, University of Hamburg, Germany
"Analysis of sinking particle flux patterns in the Benguela Upwelling System",
- Oct '11 – Sep '14 **Bachelor of Science**, Geosciences, University of Hamburg, Germany
"Partikelflussuntersuchung am Kontinentalhang im Benguela-Auftriebsgebiet vor Namibia"
- Oct '08 – Sep '11 **Bachelor of Arts**, systematic Musicology, University of Hamburg, Germany
"Semantik des Geräusches im Film am Beispiel „Das Waisenhaus“"
- Mar '06 – Dec '07 **Traineeship Audio Engineer**, School of Audio Engineering, SAE Hamburg, Germany

Research and working experience

- Since Feb '17 **PhD Candidate in the Helmholtz Young Investigators Group PALICE**, Dr. Juliane Müller, Marine Geology, Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Bremerhaven, Germany
- Investigation of a novel sea ice proxy based on the organic biomarker IPSO₂₅ from sea ice algae for paleo sea ice and environmental studies in Antarctica
 - Organic wet-chemical lipid biomarker analyses with gas chromatography mass spectrometry
 - International presentation and peer-reviewed publication of scientific results
- Sep '12 – Jan '17 **Student Assistant in the working group Biogeochemistry, research project GENUS**, Prof. Dr. Kay-Christian Emeis, Institute of Geology, University of Hamburg, Hamburg, Germany
- Laboratory assistance, inorganic wet-chemical processing of sea water and marine sediment samples, data analysis
 - Preparation and conduction of several ship expeditions, maintenance service, operation of water and sediment sampling equipment, filtration and sediment traps
 - Supervision and training of laboratory assistants
- Jan '08 – Dec '11 **Freelance Sound Engineer**
- Operation and mixing of music events
 - Maintenance and supervision of students at SAE Hamburg

International expeditions

- Nov '18 **Training on RV Polarstern (PS116), Germany-Canary Islands, 8 days:**
Echosounding training for marine sediment sampling
- Jan '18 – Mar '18 **Expedition "FROST" on RV Polarstern (PS111), Weddell Sea, Antarctica, 54 days:**
Sampling of marine sediments with multicorer and gravity corer to study past sea ice conditions in Antarctica
- Okt '16 – Nov '16 **Expedition „SACUS PREFACE“ on RV Meteor (M131), Brazil-Angola-Namibia, 36 days:**
Nutrient sampling, deployment and recovery of a sediment trap to study the geochemistry in the Benguela Upwelling System
- Dec '13 – Jan '14 **Expedition „NAMUFIL GENUS II“ on RV Meteor (M103-1), Namibia, 22 days:**
Sampling of sediment and water, deployment and recovery of sediment traps to study the geochemistry and particle flux in the Benguela Upwelling System

Teaching and supervision activities

- 2015 – 2017 **"Marine-geological practical training"** on RV Heincke and RV Alkor (cruises HE454, HE468, AL494, 26 days), training on different sampling methods to study marine geology with master students
- Jul 2015 **"Geochemical laboratory training"**, conducting and supervising experiments with bachelor students
- 2015 **"GIS for geoscientists"**, training the application of ArcGIS on geological surveys
- 2013 – 2016 **"Geological maps"**, teaching drawing and interpretation of geological maps to bachelor students, one course every summer semester
- Jan '08 – May '09 **Training and supervision** of Audio Engineering students for studio-based audio recordings and audio data processing at the SAE Hamburg

Awards

- 2500€ travel grant from POLMAR graduate school
- Roland Schlich Travel Award, June 2020 (withdrawn due to Covid-19)
- Congress travel grant from DAAD, May 2020 (withdrawn due to Covid-19)
- Science communication training fellowship, Fulbright Germany, June 2019
- Request for manuscript review (Journal of Marine Systems)

Science communication

- **Presentations about paleoclimate and global warming** at events (up to 700 persons), festivals, in schools, climate protests, local newspapers. Link: <https://bit.ly/2qV9ELF>
- **Award-winning science slammer**, finalist at the German Science Slam Championship 2019, participant at European Researchers' Night 2019 i.a. Link: <https://bit.ly/2FhPBul>
- **Climate communication** on social network (Twitter: @MEVorrath) and via www.speakerinnen.org

Memberships

- Association of Polar Early Career Scientists (APECS)
- Young Earth System Scientists community (YESS)
- Scientists4Future (Bremen & Bremerhaven), AWIs4Future

Skills and further professional education

Scientific trainings	Scientific, peer-reviewed publishing, presentation at international conferences, third-party funding, career development and leadership, media communication, data visualisation
Software	From good to basic: ODV, Grapher, SigmaPlot, CorelDraw, QGIS, R, GMT, ArcGIS
Languages	German (mother tongue) English (fluent, academic level) Spanish and Portuguese (communicative level) French (beginner)