

Curriculum vitae

Lennart Stock

Group: Organic Geochemistry

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Summary

I am a PhD student at MARUM (University of Bremen) with a multidisciplinary scientific background as well as a versatile field and laboratory experience.

My research:

Cold seeps form when hydrocarbon-rich fluids rise from organic carbon reservoirs at continental margins. These fluids form the basis of a complex food web based on chemoautotrophic microorganisms.

I focus on the molecular composition and interaction of microbial communities in cold seeps and the molecular traces these communities leave in the sediment. In particular, I am interested in the molecular interactions of anaerobic methanotrophic archaea and their sulfate-reducing partner bacteria.

Education

Doctorial Candidate

Bremen, Germany — Oct. 2022 - present

- Center for Marine Environmental Science (MARUM) - University of Bremen
- Cluster of excellence: "The Ocean Floor – Earth's Uncharted Interface"
- Subunit: "REACTOR"
- Hinrichs Lab - Organic Geochemistry

Supervisor: WD Dr. Marcus Elvert

(working) Title: "Investigation of molecular structures in the metabolic network of microbial communities inhabiting active cold seep environments"

Master of Science

Oldenburg, Germany — 2019 - 2022

- Marine Environmental Science
- Institute for Chemistry and Biology of the Marine Environment (ICBM)
- Master thesis in Marine Geochemistry (Dittmar Lab)

Supervisor: Dr. Jutta Niggemann

Title: "Extending the analytical window of untargeted ultra-high resolution mass spectrometry analysis to small, polar metabolites in marine dissolved organic matter by benzoyl chloride derivatization prior to solid-phase extraction"

Bachelor of Science

Bremen, Germany — 2015 - 2019

- Chemistry
- University of Bremen
- Bachelor thesis in Organic Chemistry (Staubitz Group)

Title: "The Synthesis and Investigation of Photo-Switchable Diazocines"

Experiences

Undergraduate student research assistant

2016-2017

For: Dr. Esther Thomsen, Experimental Aquaculture (Ecology)
Where: Leibniz Centre for Tropical Marine Research (ZMT), Bremen
What: Sample preparation for elemental analysis, research field trip preparations

2018

For: Prof. Dr. Anne Staubitz, Staubitz Group
Where: Institute for Organic and Analytical Chemistry, University of Bremen
What: Synthesis of photo-switchable molecules and hydrogels

2019 & 2022

For: Prof. Dr. Jan-Hendrik Hehemann, MARUM MPG Bridge Group Marine Glycobiology
Where: Max-Planck Institute for Marine Microbiology, Bremen
What: Extraction and purification of fucoidan and preparation of research cruises POS531, POS539 & MSM107

Skills

Languages

German (native)

English (fluent in written and spoken form)

Software

Posit (Rstudio)

Microsoft Office package

Analytical analysis software (DataAnalysis, Mnova, TopSpin, etc.)

Data/software visualization (Adobe Illustrator & Photoshop, Chemdraw, etc.)

Analytical instruments (hands-on)

Chromatography (GC & LC applications)

Mass spectrometry (e.g. FT-ICR-MS)

Nuclear magnetic resonance (NMR) spectroscopy

Spectroscopy (UV/VIS, IR, EEM)

Soft skills

Teamwork, adaptability, perseverance, organization, communication, perception

Bremen, April 4, 2023

Experiences

Research trips & internships

Jan.-Feb. 2019

What/where: R/V Poseidon cruise POS531 - Las Palmas (Canary Islands) - Mindelo (Cape Verde)

work: Processing of bulk water samples, affinity chromatography of polysaccharides

March – June 2019

What/where: Internship, Prof. Dr. Sergio Rodríguez Morales, Grupo Productos Naturales Marinos/ Unidad Académica Sisal - UNAM, México

Work: Extraction and purification of neurotoxins and neuropeptides of sea anemones and octopus' saliva and ink. Analysis of water and sediment samples for residues of UV-filter from sunscreens

Nov. 2019

What/where: R/V Poseidon cruise POS539 - Varna (Bulgaria) - Varna (Bulgaria)

Work: Processing of bulk water samples, affinity chromatography of polysaccharides, solid-phase extraction of DOM, spectroscopic algae analysis

May – June 2022

What/where: R/V MARIA S. MERIAN cruise MSM107 - Bremerhaven (Germany) - Tromsø (Norway)

Work: Processing of bulk water samples, tangential flow filtration of polysaccharides, solid-phase extraction of DOM

Publications and scientific outreach

Cruise report POS531 (2019)
(<https://doi.org/10.26092/elib/112>)

Participating at the MARUM log POS531 (2019)
(<https://www.marum.de/Entdecken/Logbuch-POS-531.html>)

Cruise report POS539 (2019)
(<https://doi.org/10.26092/elib/349>)

MARUM log MSM107 (2022)
(<https://www.marum.de/Entdecken/Logbuch-MSM-107.html>)

Cruise report MSM107 (*in prep.*)

Grants

2019

DAAD - PROMOS scholarship - University of Bremen
(Internship UNAM, Mexico)

2020

Mobility grant - University of Oldenburg
(Scientific snorkelling excursion - Manado, Indonesia)