Ecological modelling of marine communities: where we are and where we are going

hosted by Livia Oliveira & Silvia Malagoli

Tuesday, 19th September 2023, 11:15 – 12:30, Seminar room A

Marine ecosystems host an enormous variety of marine communities, many of which are crucial to Earth's and our well-being. From theory to management applications, models allow us to disentangle underlying natural mechanisms governing these communities, to make predictions and to inform conservation policies. As such, ecosystem models are a fundamental tool in marine sciences. In this session we invite abstracts presenting state-of-the-art modelling techniques that aim to understand ecological communities at any trophic level, with possible management applications or even data descriptors.

11:15 – 11:30, Seminar room A

The power of unknowns: How generalized modeling uses massively parallel math to unlock insights into uncertain systems

Jana Chiara Massing

Helmholtz Institute for Functional Marine Biodiversity at the University of Oldenburg (HIFMB), Oldenburg, Germany

11:30 – 11:45, Seminar room A

How High Can You Go? A novel approach for height measurements of Corals and Sponges using Stereovideo data

Katharina Paetz

Carl-von-Ossietzky Universität Oldenburg

11:45 – 12:00, Seminar room A

Using hydroacoustic and environmental data to model the vertical distribution of alike clupeid species herring (*Clupea harengus*) and sprat (*Sprattus sprattus*) in the Baltic Sea

Maria Golovaneva

Thünen Institute of Baltic Sea Fisheries, Alter Hafen Süd 2, 18069 Rostock, Germany

12:00 – 12:15, Seminar room A

Simulating the ecological dynamics of a phytoplankton community using an eco- evolutionary model with three traits

Paula Peñalver Pereira

Spanish Institute of Oceanography (IEO Gijón - CSIC); The Ocean Globe Laboratory (oglab)

Impacts of Climate Change on Biogeochemical Processes in Polar Regions

hosted by Claudia Schmidt & Chantal Mears

Tuesday, 19th September 2023, 11:15 – 12:30, Lecture Hall

Polar regions are particularly vulnerable to increasing anthropogenic and climate change impacts, causing repercussions on ice cover, hydrography, water chemistry and pollution levels of water, air and sediment. With continued exposure to stressors, concern arises that these perturbations could potentially lead to irreversible consequences on the functionality of polar ecosystems. To further understanding within these multifaceted, albeit sensitive areas, we invite contributions that shed light on the complex relationships between multiple stressors and changes in biogeochemical cycles of Arctic and Antarctic regions. Here, we aim to focus on how carbon sequestration or other ecosystem services change, across multiple time scales ranging from paleo-oceanography to seasonal cycles.

11:15 – 11:30, Lecture Hall

The role of Subantarctic Pacific dust provenance changes in Pleistocene climate transitions

Kiruba Krishnamurthy

Marine Isotope Geochemistry, Institute for Chemistry and Biology of the Marine Environment (ICBM), University of Oldenburg, Germany

11:30 – 11:45, Lecture Hall

Dissecting temperature responses on multiple functional traits in Arctic key phytoplankton species

Linda Rehder

Alfred-Wegener-Institut

11:45 – 12:00, Lecture Hall

Decadal Trends in Arctic Biogenic Aerosol Precursors

Moritz Zeising

Alfred Wegener Institute Helmholtz Center for Polar and Marine Research, Bremerhaven, Germany

12:00 – 12:30, Lecture Hall

Microbial utilization of ancient carbon and its potential impacts of the global carbon cycle

Manuel Ruben

Alfred Wegener Institute, Helmholtz Centre for Polar- and Marine-Research, Am Handelshafen 12, 27570 Bremerhaven, Germany and University of Bremen, Bibliothekstraße 1, 28359 Bremen Germany

Applications of machine learning in marine sciences

hosted by Hameed Moqadam & Patricia Schöntag

Tuesday, 19th September 2023, 14:00 – 14:45, Seminar room A

With the improvements in computing power and the abundance of already existing data, machine learning has been increasingly applied in a variety of scientific fields. While traditional physical modelling has been proven effective, in marine and earth system sciences there is still much potential in exploiting data-driven methods in order to gain faster and deeper insights from the already existing data and make the most out of new measurements. We would like to invite colleagues using data science, machine learning, data assimilation, and data mining to present their research explaining and forecasting the complex relations ong marine ecosystems.

14:00 – 14:15, Seminar room A

Improving oceanic mesoscale eddy parameterization using high-resolution simulations and Machine Learning

Rajka Juhrbrandt

Alfred-Wegener-Institute, Bremerhaven, Germany

14:15 – 14:30, Seminar room A

In the face of global warming: Composition and variability of the Decapod larvae communities in a south Iberian estuary

Marta Monteiro

CESAM Centre for Environmental and Marine Studies and Department of Biology, University of Aveiro, Campus Universitário de Santiago, 3810-193, Aveiro, Portugal and MARE / ARNET, School of Tourism and Maritime Technology, Polytechnic of Leiria, 2520-630 Peniche, Portugal

14:30 – 14:45, Seminar room A

Characterizing the benthic community structure of coral reefs in Palau using drone derived orthophotomosaics with a semiautomated and manual approach

Viktoria Sturm

Institute of Geography, Johannes-Gutenberg University of Mainz

Biogeochemical cycles under pressure: Past, present, and future changes

hosted by Melina Knoke & Rieke Schaefer

Tuesday, 19th September 2023, 14:00 – 15:30, Lecture Hall

Marine biogeochemical cycles range from the surface and deep ocean to marine sediments. Anthropogenic pressures on marine biogeochemistry are increasing, including rising temperature, eutrophication and ocean acidification. To understand anthropogenic global impacts on the open ocean, an understanding of past and present biogeochemical cycles is essential to predict changes in our oceans, marine life and organic matter. Approaches and methods for monitoring biogeochemical cycles include, for example, modelling approaches or in situ measurements. We welcome studies improving our understanding of interactions and changes to marine biogeochemical cycles in the global oceans as well as their monitoring.

14:00 – 14:15, Lecture Hall

Brown algal fucoidan secretion around the globe

Inga Hellige

University of Bremen, Faculty of Biology and Chemistry, Marum Centre for Marine Environmental Sciences, Germany and Max-Planck Institute for Marine Microbiology, Germany

14:15 – 14:30, Lecture Hall

The ocean's warm breath - ocean heat and carbon storage under net-negative emissions

Svenja Frey

Carl von Ossietzky University Oldenburg (Germany) and GEOMAR Helmholtz Centre for Ocean Research Kiel (Germany)

14:30 – 14:45, Lecture Hall

Connecting the molecular composition and radiocarbon age of dissolved organic matter in the Mauritanian sub-region of the Canary Upwelling System

Fenna Alfke

Institute for Chemistry and Biology of the Marine Environment (ICBM), Carl von Ossietzky University of Oldenburg, Oldenburg, Germany

14:45 – 15:00, Lecture Hall

Dissolved neodymium isotopes in the Tasman Sea: impact of water mass mixing and non-conservative modifications

Martin Zander

ICBM, Institute for Chemistry and Biology of the Marine Environment, Carl-von-Ossietzky-Universität Oldenburg

15:00 – 15:15, Lecture Hall

Experimental evaluation of the formation and stability of dissolved organic sulfur

Wiebke Freund

Institute for Chemistry and Biology of the Marine Environment (ICBM), Carl von Ossietzky University of Oldenburg, Oldenburg, Germany

Identifying spatial opportunities for NbS design and implementation in marine-coastal areas

hosted by Elena Allegri & Cengiz Arslan

Tuesday, 19th September 2023, 15:00 – 15:30, Seminar room A

Societies are facing ever-growing number of challenges for human health and wellbeing due to biodiversity loss, climate change impacts, and unsustainable economic and social development. Nature-based Solutions (NBS) have emerged as an important component of the overall response to these challenges. However, policymakers, practitioners, and scientists need to better understand how to identify spatial opportunities in a transdisciplinary manner for targeting effective NBS in marine-coastal ecosystems. This session invites presentations on methods, approaches, and applications from various fields of studies that identify opportunities for the design and implementation of marine-coastal NBS and for the prioritization of suitable areas for NBS application.

15:00 – 15:15, Seminar room A

Machine Learning as a key digital tool for shaping environmental change processes and posing the basis for spatial restoration actions

Federica Zennaro

Ca' Foscari University of Venice and Centro Euro Mediterraneo sui Cambiamenti Climatici (CMCC)

15:15 – 15:30, Seminar room A

Small-scale, big picture: Understanding the socio-economic and spatial dependency of small-scale fleets on marine resources

Marissa Levinson

International Master of Science in Marine Biological Resources (IMBRSea) Ghent University, 9000 Ghent, Belgium and INDUROT, Universidad de Oviedo, Oviedo, Spain

Open Session

hosted by Theo Krüger & Jöran Paap

Tuesday, 19th September 2023, 16:00 – 16:30, Lecture Hall

If you think your research does not fit into any of our other sessions, please feel free to submit your abstract to the open session!

16:00 – 16:15, Lecture Hall

Sea spray hygroscopicity in synergy with atmospheric aerosol.

Arindam Mazumdar

University of Milano-Bicocca

16:15 – 16:30, Lecture Hall

Fucus virsoides: metabolic rates of a glacial relict in a changing scenario

Martina Mulas

National Institute of Oceanography and Applied Geophysics - OGS, via Beirut 2, 34151,Trieste, Italy

Dinoflagellates: From (paleo-)environmental reconstructions to modern ecology and harmful algal blooms

hosted by Runa Reuter

Tuesday, 19th September 2023, 16:00 – 16:30, Seminar room A

Dinoflagellates are amongst the major primary producers in the ocean. Some dinoflagellates are known to produce highly resistant and preservable resting cysts making them important research targets for (but not limited to) (paleo-)environmental reconstructions, biostratigraphy, and the study of marine organic matter decomposition. This session aims to bring together marine early career researchers from different disciplines, studying living or fossil dinoflagellates, providing a forum to discuss the latest advances of their studies. Contributions regarding all aspects of dinoflagellate research, from modern settings to the geological past, are invited. Presentations covering novel or unconventional approaches or ideas are particularly encouraged.

16:00 – 16:15, Seminar room A

New insights on the molecular composition and taphonomy of organic-walled dinoflagellate cysts: implications for ecological, eco-evolutionary and affinity studies

Pjort Meyvisch

Department of Geology, Ghent University, Ghent, Belgium

16:15 – 16:30, Seminar room A

Environmental factors influencing the dinoflagellate cysts production and their preservation in the bottom sediment in the upwelling region off Cape Blanc, Mauritania: a comparison of sediment trap with down-core sediment cyst record

Surya Eldo Virma Roza

MARUM - Center for Marine Environmental Sciences, University of Bremen

Physical, biogeochemical as well as microbiological processes and their interactions in coastal ecosystems

hosted by Magali Roberts & Felix Auer

Wednesday, 20th September 2023, 09:45 – 15:15, Lecture Hall

Coastal ecosystems are major transition zones at the land-sea interface where physical changes strongly influence biogeochemical and microbiological processes. Costal systems are subject to different gradients, redox and freshwater-saltwater, as well as strong hydro- and morphodynamics, tides and waves. Those gradients and dynamics have an impact on flow and transport patterns, biogeochemical reactions and microbiological habitats. Investigating how these interactions can affect costal ecosystems requires interdisciplinary research. In our session, we aim to bring together young scientists from different backgrounds to present their work addressing physical, biogeochemical or microbiological processes and their interactions in coastal ecosystems.

09:45 – 10:00, Lecture Hall

Do coastal environments function as important reaction interfaces for new technology metals?

Corinna Mori

Research Group for Marine Isotope Geochemistry Institute for Chemistry and Biology of the Marine Environment (ICBM), University of Oldenburg, Oldenburg, Germany

10:00 – 10:15, Lecture Hall

Molecular fingerprints of dissolved organic matter in porewater of German coastal vegetated ecosystems

Darya Baiko

Institute for the Chemistry and Biology of the Marine Environment (ICBM), University of Oldenburg, Germany

10:15 – 10:30, Lecture Hall

Depositional processes and controlling factors for the preservation of particulate organic matter in the Helgoland Mud Area, SE German Bight

Daniel Müller

Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research, Bremerhaven, Germany and Faculty of Geosciences, University of Bremen, Bremen, Germany

10:30 – 10:45, Lecture Hall

Effects of Burrowing Mud Lobsters (Thalassina) on Carbon Fluxes in Malaysian Mangroves

Moritz Nusser

Leibniz Centre for Marine Tropical Research (ZMT) and University of Bremen

11:15 – 11:30, Lecture Hall

Trends in temperature, heat fluxes, phytoplankton blooms and sea level in the 21st century - time series analysis for the German Wadden Sea (Spiekeroog)

Ronja Schwenkler

University of Oldenburg, Marine Sensor Systems and Technical University Braunschweig, Institute for Geosystems and Bioindication

11:30 – 11:45, Lecture Hall

Longstanding hard coastal protection structures in tidally dominated areas: its impact on the sedimentology (Harle inlet, Southern North Sea)

Anna-Lena Geßner

Carl von Ossietzky Universität Oldenburg, ICBM

11:45 – 12:00, Lecture Hall

On the intertidal morphology and sedimentology of Spiekeroog Island, German Bight: Insights from DynaDeep joint project

Jairo Cueto

Coastal Geology and Sedimentology Group, Institute of Geosciences, Christian-Albrechts-Universität zu Kiel

12:00 – 12:15, Lecture Hall

Spatio-temporal variability of redox conditions in the deep subterranean estuary of a high energy beach

Magali Roberts

Marine Isotope Geochemistry, Institute for Chemistry and Biology of the Marine Environment (ICBM), Carl von Ossietzky Universität Oldenburg, Oldenburg, Germany

12:15 – 12:30, Lecture Hall

PHYSICAL AND BIOGEOCHEMICAL INFLUENCES ON OXYGEN DYNAMICS IN THE BEACH SEAWATER INFILTRATION ZONE

Felix Auer

Alfred Wegener Institute Helmholtz Center for Polar and Marine Research, Am Handelshafen 12, 27570, Bremerhaven, Germany

14:15 – 14:30, Lecture Hall

Iron and dissolved organic matter coupling at redox interfaces in high energy subterranean estuaries

Kojo Amaoko

Research Group for Marine Geochemistry (ICBM-MPI Bridging Group), Institute for Chemistry and Biology of the Marine Environment (ICBM), University of Oldenburg, Germany

14:30 – 14:45, Lecture Hall

Differential transformation of freshwater and seawater dissolved organic matter by subterranean estuary microbial community

Grace Abarike

Research Group for Marine Geochemistry, Institute for Chemistry and Biology of the Marine Environment (ICBM-MPI Bridging Group), University of Oldenburg, Oldenburg, Germany

14:45 – 15:00, Lecture Hall

Microbial communities in the subterranean estuary of Spiekeroog beach

Simone Brick

Carl-von-Ossietzky-Universität Oldenburg

15:00 – 15:15, Lecture Hall

Exploring the Complex Interactions between Physical, Biogeochemical, and Microbiological Processes in Coastal Ecosystems: Implications for Sustainability and Management

Edward Kusewa

St. Pauls University

Tropical coastal ecology: biodiversity, research and conservation

hosted by Roman Petrochenko & Vadim Merkin

Wednesday, 20th September 2023, 09:45 – 12:00, Seminar room A

Tropical ecosystems are seriously affected by modern environmental changes, but coastal ecosystems are doubly suppressed both due to terrestrial and marine pollution and global warming. Thus, they need to be prospected and protected as ones of the most diverse ecosystems on the Earth. We are looking for new researches in the field of coastal tropical biodiversity, new methods and approaches for coastal ecosystems to have more rational research, conservation and usage. If you have some new ways to improve our knowledge of tropical coastal ecosystems or contribute to further conservation, please be sure to send us your abstracts!

09:45 – 10:00, Seminar room A

Scaling marine restoration through industry-research partnerships: Tourism-led coral reef rehabilitation on Australia's Great Barrier Reef

Rachael Isabella Scott

University of Technology Sydney, Sydney Australia

10:00 – 10:15, Seminar room A

Protecting the Sea Living Fossil: Frontier Social Conservation Action and Research of Horseshoe Crabs in Indonesia

Rizky Eko Muliawan

Sahabat Belangkas Nusantara

10:15 – 10:30, Seminar room A

Coalescent-based species delimitation using multilocus data of Red Sea haplosclerids

Joëlle van der Sprong

Department of Earth and Environmental Sciences, Palaeontology and Geobiology, Ludwig-Maximilians-Universität München, Munich, Germany

10:30 – 10:45, Seminar room A

Deciphering the potential of hydrogen-enriched seawater to boost coral holobiont health

Malte Ostendarp

Department of Marine Ecology, Faculty of Biology and Chemistry (FB 2), University of Bremen, 28359 Bremen, Germany

11:15 – 11:30, Seminar room A

Physiological and behavioural responses of the snail *Faunus ater* to temperature, salinity and tidal regime

Max Lambrecht

Carl von Ossietzky University of Oldenburg, Oldenburg, Germany and Institute for Chemistry and Biology of the Marine Environment (ICBM), Wilhelmshaven, Germany

11:30 – 11:45, Seminar room A

Population genetics and functional ecology of mangroves across the Galápagos archipelago

Tobias Poprick

Leibniz Centre for Tropical Marine Research (ZMT), Bremen, Germany and Faculty 2 Biology/Chemistry, University of Bremen, Bremen, Germany

11:45 – 12:00, Seminar room A

The effect of shipwrecks as artificial reef structures on fish assemblages in Colombo, Sri Lanka

Anjleen Hannak

Bremen University & ZMT, Bremen, Germany

Marine Governance and Conservation

hosted by Wiebke Homes & Jana Stahl

Wednesday, 20th September 2023, 14:00 – 15:30, Seminar room A

Human dimensions have traditionally been lacking in marine and coastal science and policy. However, as anthropogenic pressures on the marine ecosystem continue to increase, there is a growing need to consider the multifaceted relationships between people and oceans to develop effective conservation and management measures. In our session, we are looking forward to discussing how governance structures, formal and informal institutions, and other social processes drive the evolution and choice of different conservation approaches. We are excited to receive abstracts that apply methods and approaches from social and political sciences to local, regional, or national marine governance and conservation issues.

14:00 – 14:15, Seminar room A

Using Leverage Points to identify the transformation potential of interventions: An example of the South Pacific atoll of Ouvéa

Lilly Baumann

14:15 – 14:30, Seminar room A

Social Outcomes of Marine Spatial Management Measures

Gideon Kweku Enimah

Brunel University London, Dept of Biosciences, UB8, 3PH, UK

14:30 – 14:45, Seminar room A

The legal regulation hurdles of the exploitation of marine genetic resources beyond national jurisdiction

Mariam Mgeladze

Ankara University National Center for the Sea and Maritime Law (DEHUKAM)

14:45 – 15:00, Seminar room A

High Seas Treaty in confrontation with Climate Change

Nastaran Sadeghi Gandom Abad

International Law Department, Faculty of Law, Central Tehran Branch, Islamic Azad University,Tehran, Iran

15:00 – 15:15, Seminar room A

Governance of Marine Protected Areas for the conservation of the harbour porpoise in the (German) North Sea

Wiebke Homes

Leibniz Centre for Tropical Marine Research (ZMT)

15:15 – 15:30, Seminar room A

Collective action for the conservation of non-target species in the German Baltic Sea

Jana Katharina Stahl

Humboldt-Universität zu Berlin, Global Climate Forum e.V.

Open Session

hosted by Theo Krüger & Jöran Paap

Wednesday, 20th September 2023, 16:00 – 17:15, Lecture Hall

If you think your research does not fit into any of our other sessions, please feel free to submit your abstract to the open session!

16:00 – 16:15, Lecture Hall

Changes in faunal community dynamics before and after major volcanic ash deposition at the ABE vent field, Lau Basin (Kingdom of Tonga)

Livia Brunner

Department of Ocean Systems, Royal Netherlands Institute for Sea Research, Texel, Netherlands

16:15 – 16:30, Lecture Hall

Social structure of Taiwanese humpback dolphin (*Sousa chinensis taiwanensis*) off the western coast of Taiwan

Hui-Yo Kuo

Institute of Marine Ecology and Conservation, National Sun Yat-sen University, Taiwan

16:30 – 16:45, Lecture Hall

Complementarity of morphological and molecular tools in zooplankton monitoring at the Berlengas Biosphere Reserve, Portugal

Marco Simões

MARE / ARNET, Polytechnic of Leiria; Faculty of Sciences of the University of Porto, Portugal and CIIMAR - Interdisciplinary Centre of Marine and Environmental Research, Matosinhos, Porto

16:45 – 17:00, Lecture Hall

Biotic and abiotic drivers of barnacle (*Semibalanus balanoides*) recruitment onto a sub-Arctic intertidal rocky shore.

Marta Prieto

UiT- The Arctic University of Norway, Tromsø, Norway

17:00 – 17:15, Lecture Hall

The Efficacy of Ocean Farming: From Omics to Economy

Justin Tierney

S2AquaCoLab

What options do we have? Integrated scenarios for shaping the future of our oceans

hosted by Jonathan Heimer

Thursday, 21st September 2023, 09:45 – 12:00, Lecture Hall

Under human pressure, the oceans are changing at a rapid pace. To map future pathways on a local or global scale, science-based scenarios can be a powerful tool. They make scientific knowledge tangible and help communities adapt and shape their ocean-related futures based on options for action. Whether you are working on ocean assessment, modelling, building coastal oceans in collaboration with local communities, or any other area of work related to the ocean of the future, we invite you to contribute your expertise and share your experiences.

09:45 – 10:00, Lecture Hall

The potential for regional economic development on German coasts through sustainable use of Coastal Vegetated Ecosystems

Sarah Rabe

University of Hamburg

10:00 – 10:15, Lecture Hall

Profiles of priority projects in order to develop mitigation measures to reduce the loss of mangroves in the Colombian Pacific

Jenny Paola Trujilo Ortigoza

10:15 – 10:30, Lecture Hall

Fishing for Climate Resiliency: A participatory approach to develop adaptation measures to cope with climate change

Miguel Pinto

Centro de Ciências Do Mar (CCMAR), Universidade do Algarve, Campus de Gambelas, 8005-139 Faro, Portugal

10:30 – 10:45, Lecture Hall

The crab fishery in Portugal - Rebuilding the past, assessing the present and planning the future

João Monteiro

CCMAR - Algarve Centre of Marine Sciences, Universidade do Algarve

11:15 – 11:30, Lecture Hall

Flow in Stasis: Data-driven analysis of immobilities in marine transport

Ole Müller

Helmholtz-Institute for Functional Marine Biodiversity (HIFMB), Oldenburg, Germany

11:30 – 11:45, Lecture Hall

"From Sea to Street": The role of murals in shaping our images of the future ocean

Sophia Kochalski

CRETUS, Universidade de Santiago de Compostela, Spain

The future ocean biological carbon pump

hosted by Kea Witting

Thursday, 21st September 2023, 09:45 – 12:00, Seminar room A

In a changing ocean, assessing possible scenarios for the Biological Carbon Pump (BCP) locally and globally becomes more important than ever. With rising atmospheric carbon dioxide, ecosystem structures are likely altered which results in alterations in the BCPs carbon export potential. Detangling pathways of the BCP on ecosystem scales still poses a challenge. Harmonizing in situ observation methods with classical approaches across research institutes could help solve this problem. This session invites contributions on changing pathways of the BCP and future indications they can hold. Example studies using various techniques to investigate BCP dynamics are welcome.

09:45 – 10:00, Seminar room A

Understanding carbon cycling across coastal soft sediments: the contribution of macrofauna to community respiration

Eva Karin Rohlfer

10:00 – 10:15, Seminar room A

A first estimate of the effect of offshore wind farms on sedimentary organic carbon stocks

Knut Heinatz

Institute of Marine Ecosystem and Fishery Science, Marine Ecosystem Dynamics, Universität Hamburg, Hamburg, Germany and Institute for Marine and Antarctic Studies, University of Tasmania, Hobart, Australia

10:15 – 10:30, Seminar room A

Quantifying the bioavailability of coastal iron sources from South Georgia to natural phytoplankton communities

Jasmin Stimpfle

Alfred-Wegener-Institut

10:30 – 10:45, Seminar room A

Effects of seasonal changes in phytoplankton biodiversity on the carbon cycle

Catharina Uth

Tvärminne Zoological Station, University of Helsinki, Hanko, Finland

11:15 – 11:30, Seminar room A

Effects of climate change induced dominance shifts in zooplankton community composition on the carbon cycle

Tjardo Stoffers

Tvärminne Zoological Station, University of Helsinki, Hanko, Finland

11:30 – 11:45, Seminar room A

Shit happens - Fecal pellet production of copepods as part of the passive carbon flux

Hanna Stegemann

BreMarE - Bremen Marine Ecology, Marine Zoology, Universität Bremen, Bremen, Germany

11:45 – 12:00, Seminar room A

Influence of the Amazon River Plume on particles and zooplankton distribution in the Tropical Atlantic

Claudeilton de Santana

GEOMAR Helmholtz Center for Ocean Research Kiel and Christian-Albrechts-Universität zu Kiel

Effects of Host-Microbiome Interactions - from Single Cell Physiology to Ecosystem Impacts

hosted by Marrit Jacob & Alessandra Kronschnabel

Friday, 22nd September 2023, 09:45 – 10:30, Lecture Hall

Host-bacteria interactions occur in all ecosystems and affect the physiology of the interacting partners. These interactions can be beneficial, neutral, or harmful for one or both partners and may have cascading effects on ecological communities. The recognition and chemical communication between interacting partners are often mediated through the exchange of metabolites. In the marine realm, the exact processes behind these cross-kingdom interactions are largely unknown. This session invites studies exploring the mechanisms involved in host-microbiome interactions and their small- and large-scale effects on single cells, populations, ecological communities, and ecosystems.

09:45 – 10:00, Lecture Hall

Immunity: an essential force for animal-microbe crosstalk

Angela Marulanda-Gomez

Research Unit Marine Symbioses, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany

10:00 – 10:15, Lecture Hall

Positive effects of probiotics on two common Red Sea hard corals under short-term heat stress

Mareike de Breuyn

Marine Ecology Department, Faculty of Biology and Chemistry, University of Bremen, 28359 Bremen, Germany

10:15 – 10:30, Lecture Hall

The trials and errors of adapting chemical methods to diatom-bacteria systems

Leila Patzelt

Leipzig University and University of Bremen

Marine megafauna in the Anthropocene: threats, challenges, and perspectives

hosted by Ramona Mattmueller & Svenja Woehle

Friday, 22nd September 2023, 09:45 – 12:15, Seminar room A

Despite conservation efforts, marine megafauna is challenged by increasing threats: chemical and plastic pollution, ghost nets, increasing noise levels, fishing, tourism, oil spills, and habitat changes caused by anthropogenic climate change, to name a few. These anthropogenic threats alter the acoustic space, (acoustic) behaviour, energetics, and physiology of these species, including impacts on potential populations such as genetic bottlenecks, increasing mortality, or displacement from important foraging or breeding areas, as well as other impacts on the biodiversity of marine megafauna. This session aims to bring together current knowledge on marine megafauna ecology and methods for studying and protecting these elusive species.

09:45 – 10:00, Seminar room A

Effects of tourism on whale shark behavior

Mariana Arguero Tejeda

Centro Interdisciplinario de Ciencias Marinas - Instituto Politécnico Nacional (CICIMAR - IPN)

10:00 – 10:15, Seminar room A

Causes and Consequences of Individualized Foraging Behaviour in an Endangered Marine Predator

Svenja Stoehr

Bielefeld University

10:15 – 10:30, Seminar room A

Decomposition of trait variability in a decreasing marine mammal population

Ane Liv Berthelsen

The Hoffman Lab, Department of Animal Behaviour, Bielefeld University

10:30 – 10:45, Seminar room A

Prevalence of morbillivirus, herpesvirus and influenza virus in Fin whales (*Balaenoptera physalus*) in the waters around Chañaral Island

Christina Aldana

IMBRsea, Panthalassa NGO and Ghent University

11:15 – 11:30, Seminar room A

Baleen whales in a changing Arctic Ocean – Investigating acoustic occurrence and habitat usage of endemic and seasonally migrating species

Marlene Meister

Alfred Wegener Institute, Bremerhaven

11:30 – 11:45, Seminar room A

Defining the Unknown: Exploring spatio-temporal patterns and characteristics of an unknown sound signal discovered in acoustic recordings from the Southern Ocean

Mercedes Chumbley

Alfred Wegener Institute for Polar and Marine Research, University of Bremen

Animal telemetry from freshwater to the oceans

hosted by Arc'hantael Labrière and Lotte Pohl

Friday, 22nd September 2023, 11:15 – 12:15, Seminar room A

Aquatic telemetry is becoming a common technique using animal-borne tags to study movement on various scales or even intra- and inter-specific interactions. By quantifying animal movement remotely, management decisions involving fisheries, protected areas and conservation can be greatly improved. Telemetry helps to complete knowledge gaps of the tagged species by detecting individuals without having to capture them. It also provides fundamental knowledge on endangered or invasive species, including large-scale animal migrations. This session aims to bring together current telemetry research across a diversity of taxonomic groups as well as spatio-temporal scales.

11:15 – 11:30, Lecture Hall

Thelma Biotel - Open Protocol in telemetry and recent innovations

Hilde Johannesen

Thelma Biotel

11:30 – 11:45, Lecture Hall

Movement of the starry smooth-hound shark *Mustelus asterias* in the North Sea

Lotte Pohl

Flanders Marine Institute

11:45 – 12:00, Lecture Hall

I'm loving' it! High site fidelity of cod outside the spawning season to an artificial reef in the western Baltic Sea

Carl J. F. Bukowski

Thünen Institute of Baltic Sea Fisheries, Alter Hafen Süd 2, 18069 Rostock, Germany

12:00 – 12:15, Lecture Hall

Spawning migration and behaviour of twaite shads (*Alosa fallax*) in the Scheldt estuary, Belgium

Arc'hantael Labrière

IMBRSea, INBO - Research Institute for Nature and Forest in Flanders and Gent University, Belgium

Open Session

hosted by Theo Krüger & Jöran Paap

Friday, 22nd September 2023, 12:00 – 12:30 & 16:00 – 16:45, Seminar room A

If you think your research does not fit into any of our other sessions, please feel free to submit your abstract to the open session!

12:00 – 12:15, Seminar room A

Are persistent organic pollutants (POPs) affecting egg quality from female green (Chelonia mydas) sea turtles?

Inês Morão

MARE - Marine and Environmental Sciences Centre, ESTM, Politécnico de Leiria, Portugal and Faculdade de Ciências & CESAM, Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Portugal

12:15 – 12:30, Seminar room A

Understanding biofilm assemblages on aquatic plastics and their potential as a dating tool for plastic pollution

Skylah Reis

University of Cambridge

16:00 – 16:15, Seminar room A

Biodiversity, trophic position, and nutritional ecology of Euphausiid species in the Benguela Upwelling System

Tine Jordan

University of Bremen, Bremen Marine Ecology (BreMarE), Marine Zoology

16:15 – 16:30, Seminar room A

The diet of three Arctic amphipod species during the Polar Night based on DNA metabarcoding

Ann-Kathrin Dischereit

Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research

16:30 – 16:45, Seminar room A

Genetic and morphological diversity of the genus Pontostratiotes in the North Atlantic

Fanny Sieler

University of Hamburg

Utilizing DNA metabarcoding methods to overcome challenges in studying marine organisms

hosted by Annkathrin Dischereit & Ayla Murray

Friday, 22nd September 2023, 14:00 – 15:15, Seminar room A

DNA metabarcoding is a promising tool in marine research with a wide range of applications. It is used to supplement or replace traditional methods such as net catches and visual surveys as well as being employed in trophic and microbiome studies. In this session we welcome all studies using DNA metabarcoding to investigate biodiversity, rare or invasive species detection, monitoring, or diet spectra in marine environments. We also welcome all studies in closely related fields including bioinformatics or OMICs.

14:00 – 14:15, Seminar room A

The importance of restriction enzyme selection for genome reduction in conservation genomics

Ainhoa Lopez Rivero

Departament de Genètica, Microbiologia i Estadística, Facultat de Biologia, Universitat de Barcelona (UB), Av. Diagonal 645, Barcelona 08028, Spain and Institut de Recerca de la Biodiversitat (IRBio), Universitat de Barcelona (UB), Barcelona, Spain

14:15 – 14:30, Seminar room A

Quantifying TRUE fish abundance using Bayesian joint models combining eDNA and bottom trawl observation

Gledis Guri

Norwegian Institute of Marine Research, Framsenteret, Tromsø, Norway and Dept. of Arctic and Marine Biology, UiT The Arctic University of Norway, Tromsø, Norway

14:30 – 14:45, Seminar room A

The importance of DNA reference libraries for metabarcoding biodiversity assessments

Luisa Düsedau

Alfred Wegener Institute, Helmholtz Center for Polar and Marine Research, Am Handelshafen 12, 27570 Bremerhaven, Germany and Marine Botany, BreMarE - Bremen Marine Ecology, University of Bremen, Germany

14:45 – 15:00, Seminar room A

Sandy-beach meiofauna communities are impacted by coastal protection measure

Iryna Kapshyna

Senckenberg am Meer Wilhelmshaven, Germany; 1Institute of Marine Biology of the NAS of Ukraine

15:00 – 15:15, Seminar room A

Implementing eDNA metabarcoding to investigate gelatinous zooplankton biodiversity and community composition in a rapidly changing Arctic

Ayla Murray

Alfred-Wegener Institute, Bremerhaven; 2University of Bremen

Interactions and stressors in benthic communities: predicting future changes and advancing behavioral ecology

hosted by Lola Nader

Friday, 22nd September 2023, 14:00 – 16:30, Lecture Hall

Benthic invertebrates, like sponges and bivalves, vastly affect nutrient cycling in the marine realm, fuel ecosystem productivity and biodiversity, and structure the surrounding habitat. Therefore, it is important to understand the functioning of benthic invertebrates in complex interactions and a changing ocean. This illuminates the evolutionary history and behavioral traits of the studied organisms beyond undisturbed experimental conditions. Sharing knowledge on intrinsic feedbacks and future changes in benthic communities supports further research and management strategies. Presenters are invited to share insights on the role of interactions and variables of global change on metabolism, microbiome, distribution, and resilience of benthic organisms.

14:00 – 14:15, Lecture Hall

Stressed or relaxed bioturbators: physiological impacts of eutrophication and low oxygen conditions on ragworms from the Baltic Sea

Leo Gottschalck

University of Rostock, Institute for Biosciences, Marine Biology

14:15 – 14:30, Lecture Hall

The metabolic requirement and feeding plasticity of photosymbiont *Aplysina aerophoba* (Nardo 1843) under tissue regeneration

Lola Nader

Carl von Ossietzky Universität Oldenburg

14:30 – 14:45, Lecture Hall

The metabolism and carbon balance of benthic communities exposed to extreme climatic events

Ludovica Pedicini

University of Pisa

14:45 – 15:00, Lecture Hall

Temperature increase alters fatty acid composition and has negative effects on reproductive output of the benthic copepod *Microarthridion littorale*

Julieta Vigliano

Ghent University

15:00 – 15:15, Lecture Hall

Will climate change influence the biochemical performance of the bivalve species *Mytilus galloprovincialis* when exposed to antineoplastic drugs?

Vanessa Queirós

Centre for Environmental and Marine Studies (CESAM) and Department of Biology, University of Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro, Portugal

16:00 – 16:15, Lecture Hall

Biochemical and histopathological alterations induced by praseodymium and europium in the mussel species *Mytilus galloprovincialis*

Carla Leite

Centre for Environmental and Marine Studies (CESAM) and Department of Biology, University of Aveiro, Campus Universitário de Santiago, 3810-193, Aveiro, Portugal

16:15 – 16:30, Lecture Hall

Metabolic responses of Mediterranean corals to inorganic iron enrichment

Walter Dellisanti

University of Copenhagen, Department of Biology, Marine Biology section