



ICBM – Alumni News #20

Carl von Ossietzky
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Welcome to the 20. ICBM-Alumni-Newsletter

Dear ICBM Alumni

With our current ICBM Alumni-Newsletter, we would like to continue to stay in touch with you and give a brief overview of what has been happening at the ICBM over the last three months.

Among other things, we report in the 20th issue of our newsletter on current research fields at the institute, such as the research projects on marine spatial planning and plastic pollution in the North Sea and look outside the box to our various activities such as the Beach Day on the beach of Spiekeroog and the ICYMARE at the Oldenburg / Wechloy campus.

We wish you a great start into autumn.

Many greetings and all the best,

Ferdinand Esser and Nadine Haake

Topics of this issue

Science

- Oceans release microplastics into the atmosphere
- Assessing controls on ocean productivity – from space

Outside the box

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- Beach Day on Spiekeroog
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- ICYMARE Conference
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Congratulations

- Marine biologist Meinhard Simon retired
- Sarahi Garcia appointed

In memory of

- Oceanographer Jörg-Olaf Wolff has passed away

Oceans release microplastics into the atmosphere

The ocean air contains microplastic particles even in remote parts of the world. The microplastic particles not only originate from sources on land, but also enter the atmosphere via seawater. This was determined by German and Norwegian researchers led by Dr. Barbara Scholz-Böttcher from the University of Oldenburg. For their study, they analysed air samples taken along the Norwegian coast up to the Arctic. The results have now been published in the journal Nature Communications. [...]

The result: microplastic particles from polyester appeared in all samples, as well as polyethylene terephthalate (PET), which had presumably entered the atmosphere as textile fibres. Other plastics were also detected, including polypropylene (PP), polycarbonate and polystyrene.

[...] Original publication: Isabell Goßmann et al: "Occurrence and backtracking of microplastic mass loads including tyre wear particles in northern Atlantic air", Nature Communications 14, 3707 (2023). doi.org/10.1038/s41467-023-39340-5

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Stormy sea
[© Alvise Vianello]

Assessing controls on ocean productivity – from space

Satellite remote sensing can be used to observe nutrient limitations in the ocean and to understand how these limitations affect the productivity of phytoplankton. These tiny plants form the basis of marine life and are key to important ocean functions such as climate regulation. In an article published today in the scientific journal Nature, an international team of researchers led by Dr. Thomas Browning from GEOMAR Helmholtz Centre for Ocean Research Kiel describes their novel approach. It will also help to improve biogeochemical models and to better predict future impacts of climate change. [...]

“These first findings demonstrate how satellite observations can help us assess the impact of nutrient limitations on phytoplankton and their important role in the global ocean and our climate system”, emphasises Dr. Browning. “However, our study was focussed on the Equatorial Pacific. With the new ERC project ‘Ocean Glow’, we plan to validate this much more robustly for all regions of the ocean.”

Browning, T.J., Saito, M.A., Garaba, S.P, Wang, X., Achterberg, E.P., Moore, M., Engel, A., McIlvin, M.R., Moran, D., Voss, D., Zielinski, O., Tagliabue, A. (2023): Persistent equatorial Pacific iron limitation under ENSO forcing. Nature, doi: <https://doi.org/10.1038/s41586-023-06439-0>

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Bow of the research vessel SONNE with installed radiometer [© ICBM/ Shungudzemwoyo P. Garaba]

OUTSIDE THE BOX

Research projects on marine spatial planning and plastic pollution in the North Sea launched

Marine spatial planning and plastic pollution in the North Sea are the focus of two new research projects at the University of Oldenburg: The "Treasure" project, led by Oldenburg environmental scientists Prof. Dr. Ingo Mose and Dr. Holger Freund, aims to reduce the input of plastic waste from rivers and inland waters into the North Sea. The focus of the "Norsaic" project is to create a transnational cooperation in maritime spatial planning for the North Sea that is future-proof and based on innovative approaches to community governance. The project is led by Malena Ripken, Head of COAST - Centre for Environmental and Sustainability Research at the University of Oldenburg. Both projects will be funded as part of the European Interreg North Sea programme for the next three years; for Norsaic 500,000 euros will flow to the University of Oldenburg, for Treasure 900,000 euros.

[...]

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Waste collection on the North Sea coast
[© UOL / Ingo Mose]

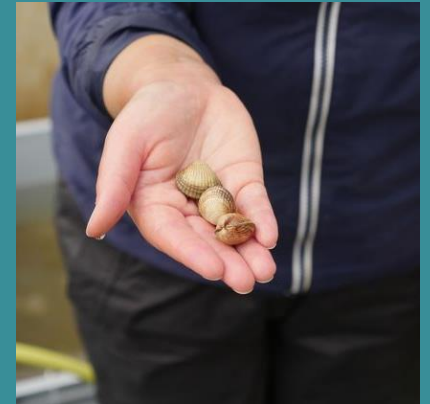
Mudflat dwellers under heat stress

July was the hottest month ever recorded, and heat events are becoming more frequent. How do they affect the flora and fauna of the Wadden Sea? Scientists from the Institute for Chemistry and Biology of the Sea (ICBM) and the Institute for Biology and Environmental Sciences (IBU) in Wilhelmshaven are currently investigating this. At the ICBM site in Wilhelmshaven, they are carrying out a large-scale experiment lasting about four weeks. [...]

The large-scale experiment is part of the DynaCom project. The research groups Benthic Microbiology (ICBM, Prof. Dr. Martin Könneke), Planktology (ICBM, Prof. Dr. Helmut Hillebrand), Environmental Biochemistry (ICBM, Prof. Dr. Peter Schupp) and Biodiversity and Evolution of Animals (IBU, Prof. Dr. Gabriele Gerlach) are involved.

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How well do flora and fauna in the Wadden Sea cope with heat? The researchers are investigating this using cockles. [© ICBM/ Sibet Riexinger]

Beach Day Spiekeroog

How does it look like under the beaches of the island of Spiekeroog? What happens when fresh and salt water meet underground? Scientists from the University of Oldenburg answered these and other questions on Tuesday, 12 September on the beach of the North Sea island. At the "Beach Day" the public, tourists and the other people interested in research had the opportunity to gain insights into the investigations of the DynaDeep research group at five stations. The team offered two tours. Participation was free of charge, the meeting point was the research group's measuring pole on Spiekeroog's dog beach. [...]

In addition to the DynaDeep pole, groundwater measuring points and information containers, the five stations of the Beach Day also included the research group's drilling caterpillar. There, the researchers explained what goals they were pursuing with their project, what measuring instruments they were using and what chemical reactions were taking place under the feet of the visitors when the tide went out. [...]

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ICBM (IBU) cooperating professor Gudrun Massmann explains her research work to interested participants.

[© ICBM]

Light in the Indian Ocean

Engineer Daniela Voß and marine scientist Dr. Jochen Wollschläger, both members of the ICBM working group Marine Sensor Systems, carried out extensive measurements in the upper ocean layer of the Indian Ocean last month during the expedition of the research vessel SONNE SO299-2. The cruise, this time led by GEOMAR Helmholtz Centre for Ocean Research Kiel, was essentially geologically oriented. After the team of geologists had finished their investigations around the active volcano Anak Krakatau, there was an opportunity for the two ICBM researchers on the transit route from Singapore to Port Louis on Mauritius to take high-resolution "en route" measurements of temperature, salinity, turbidity and water colour, among other things. [...]

The measurements of the two ICBM researchers were compared with laboratory values. They enable a hyperspectral bio-optical characterisation of the transit route - unique to date on such a scale. The values and variables derived from them can contribute to further understanding of the dynamics and processes in the Indian Ocean. They are also used in the context of satellite observations and bio-optical modelling.

[...]

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FS Sonne in the working area at Krakatau, Indonesia
[© UOL / Daniela Voß]

ICYMARE Conference at ICBM

ICBM is hosting this year's International Conference for Young **MA**rine **RE**searcher ICYMARE. From September 18 - 22, about 250 international early career marine scientists met in Oldenburg for ICYMARE 2023.

[...]

After the evening event at the Landesmuseum Natur und Mensch in Oldenburg, various event formats took place on the university's campus. Plenary lectures, research talks, poster presentations, roundtables, workshops, and a wide variety of opportunities to get to know each other and network will combine to form a varied program. What is special about ICYMARE is that the conference is organized entirely by early career researchers and many volunteers. It is an initiative of the Bremen Society for Natural Sciences.

[...]

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Young scientists presented their talks
[© UOL / Dr. Ferdinand Esser]

Visit of the State Secretary Schachtner

State Secretary Prof. Dr. Joachim Schachtner gained exciting insights into marine research during his visit at the ICBM.

How can climate and currents be reconstructed on the basis of the seafloor, and how can the finest traces of various elements be detected in seawater in a so-called clean room lab? State Secretary Prof. Dr. Joachim Schachtner gained theoretical and practical insights into this at the university's Institute for Chemistry and Biology of the Marine Environment (ICBM).

ICBM Director Prof. Dr. Ralf Rabus welcomed the State Secretary with a brief overview of the institute's focus on marine and environmental research. Geochemist Prof. Dr. Katharina Pahnke provided a special insight into her research and took State Secretary Schachtner into her completely dust- and metal-free clean room lab, special protective clothing included. The ICBM Board of Directors, consisting of Director Prof. Dr. Ralf Rabus and the Vice Directors Prof. Dr. Katharina Pahnke and Prof. Dr. Heinz Wilkes, informed State Secretary Schachtner about current ICBM topics in research and teaching.

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Prof. Dr. Katharina Pahnke reported the State Secretary Prof. Dr. Joachim Schachtner on her expedition with the research vessel SONNE
[© UOL / Daniel Schmidt]

Science in the pub

Exciting research insights in a relaxed atmosphere - that's what the series "Hirn vom Hahn - Wissen frisch gezapft!" offered: On Thursday the 28th of September scientists from Oldenburg's research landscape once again left their offices and laboratories and made their way to report about their projects in an understandable way in a total of seven Oldenburg pubs and bars. The events each began at 7.30 pm. After a first contribution, the second followed at each venue at 8.45 pm.

Interested participants could choose from a wide range of 14 topics: Pub guests learned, for example, how the famous TV doctor Dr. House swotted up on anatomy - and how medical students learn today; what "egg dance" political teachers try to do to teach their students balanced political judgement; or how to get the ocean floor to reveal the secrets from its past. The range of subject areas spanned from computer science, environmental science and engineering to special education, Protestant theology and didactics ...

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Prof. Dr. Katharina Pahnke
presented at the Ols
Brauhaus in Oldenburg
[© UOL]

Reef corals - in future from Wilhelmshaven

ICBM researchers Dr. Mareen Möller and Dr. Samuel Nietzer are the winners of the first Wilhelmshaven Innovation Award in category 1 - Startups, Founders and Project Teams. The basis for their success was the expertise gained through their scientific work at the ICBM in Wilhelmshaven on the sexual reproduction of stony corals in the laboratory. What followed was the idea to breed these often colourful and ecologically highly valuable tropical cnidarians on a large scale as part of a company spin-off. The pair of scientists beat out 18 competing projects to win the prize.

The sexual reproduction of stony corals, which has only been successful a few times in the laboratory worldwide, will - operated on a large scale - contribute to reducing their removal from nature for science and aquaristics and thus further improve knowledge about the tropical reef corals, which are under massive pressure due to climate change and marine pollution, in order to protect them. The importance of coral reefs in the tropical belt of the oceans is roughly comparable to that of tropical rainforests on land.

[...]

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Dr. Samuel Nietzer and Dr. Mareen Möller, winners in the category 1 - Startups
[© UOL / Sibet Rixinger]

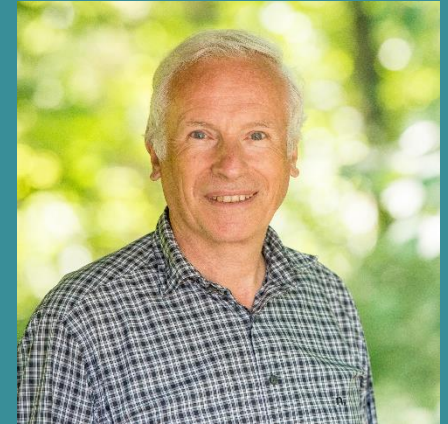
CONGRATULATIONS!!

Marine biologist Meinhard Simon retired

Prof. Dr. Meinhard Simon, Professor of Biology of Geological Processes and Aquatic Microbial Ecology at the Institute for Chemistry and Biology of the Marine Environment (ICBM) at the University of Oldenburg, has retired. Simon taught and researched in Oldenburg for a good quarter of a century and led, among other things, a collaborative research centre (SFB) on the marine bacteria of the Roseobacter group. "He is at home on the research ships of this world and is highly regarded by colleagues as a personality who integrates both professionally and humanly," said specialist colleague Prof. Dr. Thorsten Brinkhoff, who has worked with Simon over the past 25 years, at the farewell symposium.

[...]

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Prof. Dr. Meinhard Simon
[© UOL / Daniel Schmidt]

Sarahi Garcia appointed

Professor Dr Sarahi Garcia has been appointed to the professorship in Pelagic Microbiology at the Institute for Chemistry and Biology of the Marine Environment.

Garcia studied biochemical engineering at the Universidad Autónoma de Coahuila (Mexico) and received a master's degree in bioengineering from the University of Georgia (USA). She completed her PhD in microbiology at the University of Jena, Germany. She then became a postdoctoral researcher at the University of Wisconsin-Madison (USA), followed by a period at Uppsala University (Sweden), where she studied the ecology of freshwater bacteria. In 2019, she received a fellowship from the Swedish Science for Life Laboratory (SciLifeLab) and became an assistant professor at Stockholm University, where she focused on environmental genomics of aquatic microorganisms.

Garcia is particularly interested in aquatic bacteria, their interactions and their influence on the global carbon cycle. She uses an integration of cultivation and omics methods, i.e. methods that allow the analysis of all genes present in a sample.

[...]

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Prof. Dr. Sarahi Garcia
[© UOL / Daniel Schmidt]

IN MEMORY OF

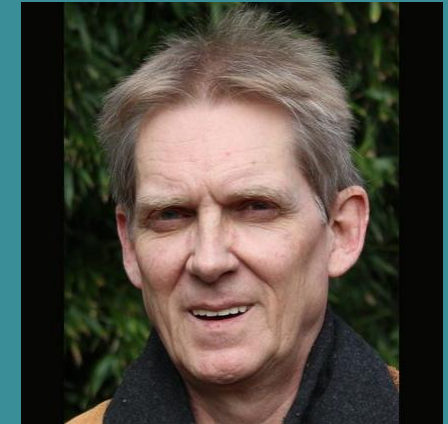
Oceanographer Jörg-Olaf Wolff has passed away

The marine researcher Prof. Dr. Jörg-Olaf Wolff passed away unexpectedly on 20 August at the age of 64. Prof. Wolff had been a university lecturer in "Physical Oceanography" at the Institute for Chemistry and Biology of the Marine Environment (ICBM) at the University of Oldenburg since 1999. "We mourn the loss of an outstanding scientist. Jörg Wolff was a universally popular and professionally valued colleague and lecturer at the ICBM," says Institute Director Prof. Dr. Ralf Rabus. Especially in recent years, Prof. Wolff and his research group have conducted research on the current topic of long-lived plastic waste in the oceans and have achieved important, highly regarded findings on its dispersal pathways and pollution areas. [...]

Jörg-Olaf Wolff studied oceanography, meteorology and physics at the University of Hamburg, where he received his doctorate in physical oceanography in 1990. Until 1992 he worked as a research assistant at the Max Planck Institute for Meteorology in Hamburg.

[...]

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Prof. Dr. Jörg-Olaf Wolff
[© UOL / Daniel Schmidt]

If you have comments:

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Imprint

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