



ICBM – Alumni News #19

Carl von Ossietzky
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Welcome to the 19. 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 you a brief overview of what has been happening at the ICBM over the last three months.

Among other things, we report in the 19th issue of our newsletter on current research fields at the institute, such as the expedition Tara Europa, and look beyond the horizon of our various activities, such as the exhibition at the Schlaues Haus and the honouring of marine researcher Prof. Dr. Katharina Pahnke.

We wish you a wonderful start to the summer.

Many greetings and all the best,

Ferdinand Esser and Nadine Haake

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- Marine researcher Katharina Pahnke honored

SCIENCE AT THE ICBM

ICBM for the first time on schooner TARA

Dr. Jessika Füssel is the first ICBM researcher on board the research schooner TARA of the French Fondation Tara Océan. The geoscientist's voyage as part of the Tara Europa expedition began on April 2 and will initially last 4 weeks. Füssel, who works at ICBM in the Marine Geochemistry group headed by geochemist Professor Dr. Thorsten Dittmar, will take samples from both shallow nearshore and deeper waters from aboard Tara. In total, the 36-meter research vessel will sail about 25,500 kilometers along the European coastlines during the course of Tara Europa, stopping in 17 countries along the way, and will have had a total of 40 researchers on board in varying crews.

[...]

In late summer, Füssel will again spend four weeks aboard the Tara. The expedition is scheduled to last a total of two years. Each campaign will last from spring to fall.

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Research schooner TARA
[© Yohann Cordelle,
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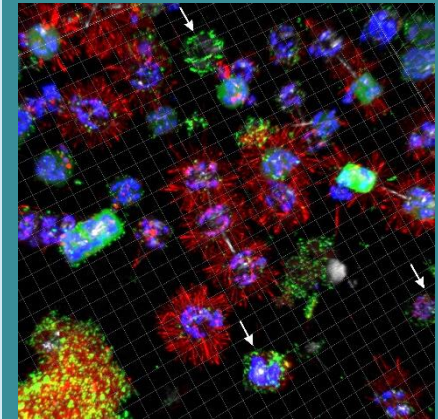
Diatoms provide interesting habitat for bacteria

From the perspective of marine bacteria, unicellular algae are an attractive and surprisingly diverse habitat. The fact that different species of bacteria prefer to settle on different parts of a widespread, microscopic diatom from the North Sea has now been made visible for the first time by a research team led by microbiologist Prof. Dr. Meinhard Simon from the University of Oldenburg. The team presents the results in the current issue of the Journal of Phycology, shedding light on the complex interaction between algae and bacteria, which is of fundamental importance for material cycles and food webs in the sea.

[...]

[\[Original publication: Tran Quoc Den et al: "Distinct glycoconjugate cell surface structures make the pelagic diatom *Thalassiosira rotula* an attractive habitat for bacteria," Journal of Phycology 2023. DOI: 10.1111/jpy.13308\]](#)

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Algal cells (colored blue and red) colonized by bacterial cells (green).

[© University of Oldenburg/BGP]

Study determines fate of plastic particles

Where do larger plastic particles such as shopping bags or disposable bottles in the German Bight come from, and what routes does the trash take? This is what the research project "Macroplastics in the Southern North Sea - Sources, Sinks and Avoidance Strategies" of the University of Oldenburg has comprehensively investigated with an interdisciplinary team. In doing so, the researchers also relied on the participation of citizens to track the distribution paths of the plastic. They have now published an overview of the results in the journal *Frontiers in Marine Science*. Among other things, they found that there are no areas in the North Sea and Skagerrak where plastic waste accumulates permanently, and that a large proportion of the particles quickly end up back on the coasts.

[...]

[Original article: Jens Meyerjürgens et al: "Sources, pathways, and abatement strategies of macroplastic pollution: an interdisciplinary approach for the southern North Sea," *Front. Mar. Sci.*, DOI: 10.3389/fmars.2023.1148714]

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Drifter in the sea
[© Jens Meyerjürgens]

OUTSIDE THE BOX

Parliamentary evening for the Marine Research

At the parliamentary evening of the Deutsche Allianz Meeresforschung (DAM - the German Marine Research Alliance) in Hanover, the participants discussed how marine conservation and use can be reconciled. The event was held 23th of March in the Old Town Hall in Hanover.

Dr. Joachim Harms, Chairman of the DAM Executive Board, presented the activities, goals and current projects of the DAM to the approximately 100 guests. "With the networking of university and non-university research as well as stakeholders, the DAM is the platform for the further development of German marine research," he said. "The seas deserve our full attention: they provide food and resources, serve as transport routes and for recreation and - there is something many don't know: they produce oxygen, which is essential for us humans to survive." [...]

Helmut Hillebrand, Professor at the ICBM and Director of the Helmholtz Institute for Functional Marine Biodiversity, showed why the exchange of research results with politics, society and economy is so important in his keynote "Knowledge of action for change the biodiversity in the example of a DAM-research".

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Herr Prof. Dr. Helmut
Hillebrand
[© Sinje Hasheider]

Postgraduate Symposium at ICBM

On April 4, young scientists met on the Wechloy campus of the University of Oldenburg for the 6th Postgraduate Symposium of the ICBM. A total of 45 postgraduates exchanged ideas on current scientific topics at ICBM and beyond in an independently developed program across working groups.

[...]

Already through the program design, the PhD students were able to gain experience in conference organization and moderation of scientific events. As a guest speaker, Ulrike Prange, science communicator at the Bremen Center for Marine Environmental Sciences MARUM, explained to the young scientists in an impulse lecture how research results can be communicated to the public in a contemporary way.

[...]

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The participants of the ICBM postgraduate symposium. [© ICBM]

Discover the colorful diversity of the oceans

From April 14 to May 24, the Helmholtz Institute for Functional Marine Biodiversity at the University of Oldenburg (HIFMB), in collaboration with the Institute of Chemistry and Biology of the Sea (ICBM), will present the diversity of the oceans in an exhibition at the Schlaues Haus. The exhibition "Discover the colorful diversity of the oceans" will be opened with a vernissage on April 14, at 1:00 pm.

[...]

The exhibition draws attention to these threats and shows how they are being investigated in research and field work by German marine scientists. The exhibition offers visitors an exciting journey from the North Sea coast to the tropical coral reef, entertainingly combining the fascination of the sea, man-made threats and scientific research.

[...]

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Exponat Ausstellung
[© Stephanie Helber]

Meet the Scientists!

How can we repopulate coral reefs? How do we make corals fit for warmer water temperatures? And is my sunscreen actually coral-friendly? Researchers at the Institute for Chemistry and Biology of the Sea (ICBM) at the University of Oldenburg are trying to answer these and many other questions. Student Laura Fiegel, Dr. Matthias Kellermann and Prof. Dr. Peter Schupp will provide insight into their research at a casual "Meet the Scientists!" in the Schlaues Haus.

The perfect setting for our "Meet the Scientists!" is the photo and art exhibition "Discover the colorful diversity of the oceans". We will take you on a journey to the dazzling world of tropical coral reefs and explore with you the beauty and biodiversity of our native North Sea. The exhibition from the Helmholtz Institute for Functional Marine Biodiversity at the University of Oldenburg (HIFMB) and the ICBM is on display at the Schlaues Haus until May 24.

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„Meet the Scientists!“ im
Schlaues Haus.

No Race without ICBM

On May 6, there was a new edition of the Zwischenahner Meerlauf, a charity run for the benefit of the Ammerland Hospice. And ICBM employees have been regular participants since 2017. They take to the 11.8-kilometer running course around the Zwischenahner Meer, at least when the event takes place. Due to Corona, the event had to be suspended in 2020 and 21.

After a somewhat restrained restart in 2022 with 267 running enthusiasts, 429 runners took part in the event again this year, according to the results list. Among them from the ICBM side were Dr. Marvin Dörries, Matthias Friebe and Dr. Lars Wöhlbrand, all three of whom also took part last year. For health reasons, the ICBM group was somewhat small this year, Wöhlbrand regretted. But they had fun and it was for a good cause.

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Matthias Friebe,
Dr. Lars Wöhlbrand and
Dr. Marvin Dörries
[from left; © private].

"Species are disappearing faster than we thought"

The number of species is not a reliable measure to monitor ecosystems. A new study by Lucie Kuczynski and Helmut Hillebrand shows that systematic biases can mask an impending decline in species diversity.

Seemingly healthy ecosystems with constant or even increasing species numbers may already be on their way to a worse state with fewer species. Even in long-term data series, such upheavals may show up only after a delay. This is due to systematic biases in temporal trends in species numbers, according to a recent study now published in the journal Nature Ecology & Evolution.

"Our results are important for understanding that species numbers alone are not a reliable measure of how stable the biological balance is in a given ecosystem at the local level," says Dr. Lucie Kuczynski, an ecologist at the Institute of Chemistry and Biology of the Sea (ICBM) at the University of Oldenburg and lead author of the study, in which she and her colleagues combined observational data from freshwater fish and birds with simulation calculations.

[...]

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Blue Tit
[© Pexels/Sony Dude]

2nd Long Night of Science in Wilhelmshaven

The information event started again this year in the late afternoon at 5 p.m. and extended into the late evening hours.

By the end of the event at 10 p.m., the organizing team from the Northwest German University Society (NWDUG) could look back on around 1,200 visitors, almost doubling the number of visitors from last year.

[...]

During the visit of the state secretary of the Ministry of Science and Culture of Lower Saxony, Prof. Dr. Schachtner, ICBM director Prof. Dr. Ralf Rabus was able to introduce the institute and its current research topics in a presentation at the booth and report about some research projects.

[...]

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State Secretary of the
Ministry of Science and
Culture of Lower Saxony
Prof. Dr. Schachtner and
ICBM Director Prof. Dr.
Ralf Rabus.

[© ICBM]

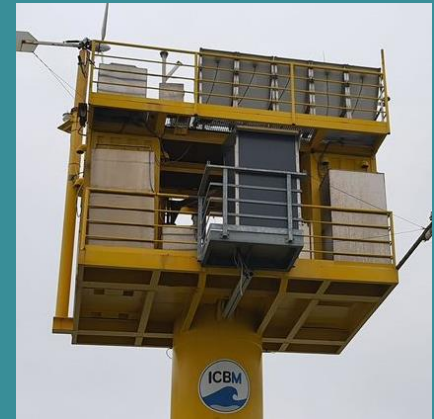
AI makes sampler fit for autonomy

In December last year, a device for autonomous sampling was installed at the ICBM monitoring station near Spiekeroog. In principle, the so-called autosampler can take water samples around the clock, especially during challenging weather conditions such as storms, storm surges and icy conditions. The samples can be filtered or unfiltered, as required, and stored at defined temperatures. The material obtained is chemically analyzed, for example, for its content of nutrients such as nitrate, nitrite or phosphate.

Currently, sampling is triggered by computer access directly at the ICBM; in the future, the system, supported by artificial intelligence, is to do this completely independently. The algorithms and methods required for this are being developed as part of the ChESS (Change Event based Sensor Sampling) project, which is funded by the Volkswagen Foundation until 2024, based on the real-time data measured at the station.

[...]

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Autosampler
[© ICBM].

“Gute Küste” Niedersachsen

The Institute for Chemistry and Biology of the Sea (ICBM) at the University of Oldenburg is closely connected to the coast as a marine science institute. But what exactly is a good coast? Students from Oldenburg, Hannover and Braunschweig investigated this question on an excursion as part of the project "Gute Küste Niedersachsen". In a blog article, our master's student Nina Hildebrandt reports on the excursion and her final impressions.

In the "Gute Küste Niedersachsen" project, three universities in Lower Saxony are conducting research on coastal protection in cooperation with a total of seven institutes. The research is carried out directly on site in so-called real laboratories with the aim of being able to formulate recommendations for action for coastal protection for politicians. In addition to the University of Oldenburg with the ICBM, the Leibniz University of Hannover and the Technical University of Braunschweig are also involved in the project.

[...]

[read more](#)



Project "Gute Küste
Niedersachsen"
[© Nina Hildebrandt].

Ocean and atmosphere in exchange

Our oceans have a central function for the global climate. They store greenhouse gases and heat, can transport them thousands of kilometers, and partially release them back into the atmosphere. All these exchange processes between ocean and atmosphere take place in the less than one millimeter thin surface layer and their role in marine biogeochemistry and climate science is still poorly understood. Scientists of the DFG Research Unit BASS (Biochemical Processes and Air-Sea-Exchange in the Sea-Surface-Microlayer) want to change this and have invited for a large-scale experiment at the ICBM site in Wilhelmshaven. For five weeks, 18 researchers from 6 institutions collected samples in the Jade Bay, conducted experiments in the experimental facility and analyses in the laboratory. In the basin of the Sea Surface Facility (SURF), they observed the water surface in a 30-day time series study, including the formation of biofilms on the water surface and the exchange of heat and climate-relevant gases. [...]

In addition to the ICBM, the universities of Hamburg, Kiel and Vienna, the GEOMAR Helmholtz Centre for Ocean Research Kiel, Leibniz Institute for Tropospheric Research TROPOS and the Helmholtz Center Hereon are involved in the large-scale experiment and the DFG Research Unit BASS.

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Research catamaran
Halobates
[© Riaz Bibi].

CONGRATULATIONS!

Marine researcher Katharina Pahnke honored

Prof. Dr. Katharina Pahnke, university lecturer in "Marine Isotope Geochemistry" at the University of Oldenburg, has received the Georg Wüst Award from the German Society for Marine Research (DGM) and the journal Ocean Dynamics, published by the scientific Springer-Verlag. With the prize, the professional society recognizes an individual every two years who has made "a significant contribution to marine research." The award will be presented at the European Geosciences Union meeting in Vienna.

Katharina Pahnke is "among the world's leading scientists in marine isotope geochemistry," said Frank Schweikert, vice chairman of the DGM, in his laudation in Vienna. "She is not only instrumental in advancing our understanding of the oceans and their dynamics, but also in strengthening the reputation of German research and making the research fleet fit for the future," Schweikert added. Pahnke was recently appointed by the German Science Council to a committee that is developing recommendations for the further development of the German research fleet.

[...]

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Prof. Dr. Katharina Pahnke
[© University of
Oldenburg/Daniel Schmidt]

If you have comments:

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Imprint

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

Dr. Ferdinand Esser and Nadine Haake

Carl-von-Ossietzky-Straße 9-11

26129 Oldenburg

Tel: +49 (0)441-798-5342

E-Mail: icbm@uol.de

Internet: www.icbm.de

Text: [FE] Ferdinand Esser, [PR] Pressemitteilung UOL, [SR] Sibet Riexinger, [NH] Nadine Haake

Layout: NH

