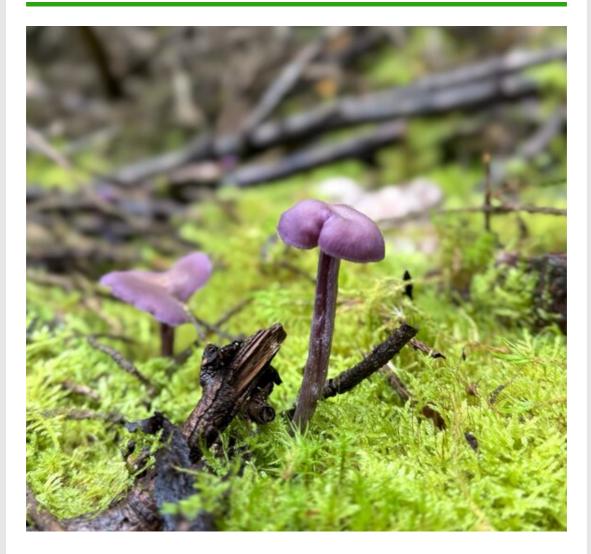


### BayCEER Newsletter Issue 1/2025



Laccaria amethystina in Wallenfels, Germany (October 2024, photo by Mahshad Forghanifar).

#### Dear John Doe,

in our regular BayCEER newsletter, we inform you about a selection of interesting news in the BayCEER community, the University of Bayreuth, the city and region. Please forward this newsletter to others who might be interested (sign-up link). After a break due to changes in the BayCEER office, the BayCEER newsletter is now being published again at regular intervals.

You are very welcome to share your own news via our BayCEER newsletter, too. Please contact us at bayceer@uni-bayreuth.de!

Enjoy our newsletter!
Your BayCEER Newsletter Team

- 1. News
- 2. Research
- 3. Upcoming events
- 4. Retrospective
- 5. Ecological Botanical Garden
- 6. Other

#### News

#### **New BayCEER members**

#### Dr. George Metreveli

Environmental Geochemistry
Dr. Metreveli researches
environmental and water
technology, focusing on the
fate and mobility of substances
in natural systems, with
expertise in nanoparticles and
pollutant distribution.



## Dr. Clara Martínez-Pérez Head of the Limnological Research Station, Department of Hydrology

Dr. Martínez-Pérez investigates aquatic biogeochemistry, microbial interactions, and the algal microbiome.



Ecological Microbiology

Dr. Kaupper focuses on lake restoration and water remediation, studying the use of calcium peroxide to improve water quality, reduce algal growth, and ensure ecotoxicological safety.





#### Dr. Franziska Zahn

Fungal Ecology

Dr. Zahn studies plant-fungal interactions, focusing on carbon and nutrient dynamics, mycoheterotrophy, and the cultivation of rare saprotrophic fungi. She also applies stable isotopes in ecological research.

#### Dr.Anja Ramsperger

Animal Ecology

Her research explores the cellular uptake of microparticles, with a particular focus on the fate, transport, and impact of microplastics on human health within the PlasticsFate project and CRC 1357 Microplastics.



#### News from the BayCEER office

### The BayCEER office is undergoing some changes.

Birgit Thies, former head of the BayCEER office, moved to WWF Germany to contribute to the Fluss.Frei.Raum project, focusing on river restoration. Aileen Thomas, Co-Lead until May 2024, played a vital role in public relations, event organization, and teaching.

We sincerely thank both for their dedication and outstanding contributions to BayCEER and wish them all the best in their future endeavors!





We welcome Florian Steininger and Alana Steinbauer as new members of the BayCEER office.

Florian Steininger is the new Technician at BayCEER. He supports BayCEER by developing and maintaining control systems, assisting with fieldwork, and providing technical support for field sites and events.

As the head of the BayCEER office, Alana Steinbauer coordinates committee work, organizes events, and supports research activities.





#### Obituary

#### Prof. Dr. Britta Planer-Friedrich

It is with great sadness and sorrow that we say goodbye to our colleague Britta Planer-Friedrich, who was taken from us far too soon. We have lost not only an outstanding scientist and committed colleague, but also an extraordinary person. We will not forget you.

Britta Planer-Friedrich - † Jan. 2024

Condolence



#### BayCEER is Now on BlueSky!

Exciting news for the BayCEER community: We're taking our digital engagement to the next level! In line with our mission to share pioneering research and connect with the scientific community, BayCEER is moving from X to BlueSky.

Follow us at @bayceer.bsky.social on BlueSky for the latest in ecology and environmental research. Join the conversation and help shape the future!



#### New ERC Grant at the University of Bayreuth

We're thrilled to welcome Dr. Jos Kramer to the University of Bayreuth! Starting in June 2025, Dr. Kramer will join the Chair of Evolutionary Animal Ecology, led by Prof. Dr. Sandra Steiger, to explore the fascinating role of microorganisms in the evolution of family life. Backed by an ERC Starting Grant of nearly 1.5 million euros, his innovative research combines microbiology, metagenomics, and behavioral ecology to shed light on the emergence of social structures in the animal kingdom. Stay tuned for exciting discoveries from this promising collaboration!



More information

### Dr. Martin Löder among the World's Most Cited Scientists!

For the third year, Dr. Martin Löder from the University of Bayreuth has been named a 'Highly Cited Researcher' by Clarivate, ranking in the top 1% globally in Environment and Ecology. "This award wouldn't be possible without the outstanding work of my colleagues and technical staff," says Löder, who is part of the Chair of Animal Ecology, heads the CRC-Keylab for Microplastic Analysis, and is a member of BayCEER.

#### **Inoculated Trees for Fungi Conservation**

The University of Bayreuth, in collaboration with the Bavarian Forest National Park, is leading a DBU-funded project (351,250€) to reintroduce endangered fungi species. Host trees are inoculated with lab-cultivated fungi, with their spread monitored at 20 sites.

"This is a first for targeted fungi conservation," says DBU Secretary-General Alexander Bonde. Led by Professor Claus Bässler, the project highlights fungi's crucial role in forest ecosystems.



More information

#### Research

#### Beyond Photosynthesis: Can Tropical Tree Seedlings Tap into Fungal Networks for Carbon?

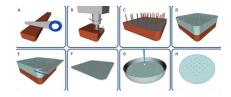
BayCEER researchers have discovered that some tropical tree seedlings in Panama may obtain carbon from fungi through arbuscular mycorrhizal networks, the so-called 'Wood Wide Web.' This groundbreaking study highlights a potential new mechanism in forest regeneration, with carbon likely transferred from mature trees. "Further research is needed to explore the complexity of these networks," says Dr. Franziska Zahn, co-author and BayCEER awardee.



Press release

### New microplastic reference particles developed at the University of Bayreuth

Researchers at CRC Microplastics, University of Bayreuth, have developed innovative reference particles embedded in gelatin discs, ensuring precise particle counts in experiments. This breakthrough improves the validation and harmonization of microplastic analysis methods. "A significant step for reliable research," says Prof. Dr. Christian Laforsch.



Press release

#### The Silence of the Beetles

Dr. Taina Conrad and other researchers from the BayCEER, have discovered that acoustic signals (stridulation) are crucial for burying beetle brood care. When parents were unable to communicate acoustically, larvae exhibited lower weights and higher mortality rates, with effects varying by species. This study marks an important step in understanding the role of communication in coordinating parental care and its evolution.



Press release

### Rainforest deforestation exacerbates climate change

An international study, including BayCEER researchers, reveals that deforestation is severely impacting tropical mountain rainforests and worsening climate change. On Kilimanjaro, over 50% of forest cover has been lost since 1880, raising temperatures, shifting clouds, and reducing water production. Protecting these forests is crucial for biodiversity and human well-being.



Press release

### Balancing Recreation and Conservation: The Role of Outdoor Apps

Researchers at the Chair of Sports Ecology, BayCEER, have studied the impacts of outdoor apps like Komoot and Outdooractive on nature, highlighting the need for better integration of conservation measures. The Digital Ranger project, funded by the Albrecht von Dewitz Foundation, promotes real-time data and sustainable routes to balance recreation with biodiversity protection.

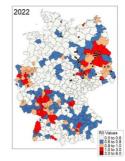




Press release

### Risk of infection with West Nile virus in Germany

Biogeography researchers at the BayCEER have developed the first model to simulate the spatial and temporal risk of West Nile virus (WNV) infection in birds and humans in Germany. With human cases reported since 2019, the model highlights areas at risk due to climate change, laying the foundation for a warning system to guide preventive measures and adapt medical diagnostics.





Press release

#### **CRC 1357 Microplastic**

#### Double Honor for Dr. Anja Ramsperger

Dr. Anja Ramsperger from the University of Bayreuth's CRC 1357 Microplastics has received two prestigious awards for her groundbreaking research on microplastic. She was awarded the Bavarian Culture Prize by Bayernwerk AG for her doctoral thesis on how microplastic surface properties interact with microorganisms and cells. Additionally, the Paul Crutzen Prize 2024 from the Gesellschaft Deutscher Chemiker (GDCh) recognized her publication on microplastics' impact on immune cells. These honors highlight her significant contributions to understanding the environmental and health effects of microplastics.



More information

#### Bavarian Environmental Award for MainFlussFilmFest

The Bavarian State Foundation has awarded the Main FlussFilmFest and the Water Month of the Bayreuth Region with the Bavarian Environmental Award 2024 at the Bavarian State Chancellery as a unique cooperative project. Minister of State Albert Füracker presented the award to representatives from the Bayreuth region and the Franconian River Paradise Association.



### Congratulations to Dr. habil. Benjamin Gilfedder!

Congratulations to Dr. habil. Benjamin Gilfedder, who served as the head of the Limnological Research Station at the Department of Hydrology until 2024. Starting in October 2024, he will take on a new, permanent position at the University of Trier within the Hydrology Group of Prof. Dr. Tobias Schütz. We are pleased that Ben will continue as the project leader of B02 in the CRC Microplastics team.



More information

### Water Month March 2025: Exploring Water, Nature, and Sustainability

The Water Month March 2025 will feature a diverse program of exhibitions, lectures, film screenings, and interactive activities focused on water and natural resources. The Collaborative Research Centre Microplastics is actively involved in several events:

**March 1–31:** Poster Exhibition: Microplastics in Our Living Environment (neuseum, Bayreuth)

March 13: Lecture & Lab Tour: Microplastics in the Environment (Dr. Martin Löder, University of Bayreuth, NWI, 19:00–20:30)

March 14–16: Children's Cinema & Live Microscopy (Bayreuth, Würzburg, Lichtenfels – Free admission)

March 14: Main RiverFilmFest 2025 (Franz & Gloria Cinema, Bayreuth, 18:00 – Short films & expert talks)

#### More Highlights:

March 12 & 19: Interactive Exhibition: Water in Town, Country, and River (Bayreuth District Office, 13:30–15:00) March 15: Main CleanUp – Join efforts to remove waste from rivers and protect nature.



#### Save the dates

March 12, 2025, 6 p.m, Iwalewahaus: Stadtgespräch mit Dr. Manuel Steinbauer, Sportökologie, BayCEER

March 14-29, 2025: Main FilmFlussFest

March 17–21, 2025: Zertifikatskurs "Sustainability Management"

April 12, 2025: Gärtnern mit Terra preta – gärtnerische Praxis mit Köpfchen

April 29, 2025: Einführung ins Nature journaling

June 14, 2025, Ökologisch-Botanischer Garten, Registration until May 25, 2025: BANU Feldbotanik Zertifikat

September 21–26, 2025, Registration until March 16, 2025: BaySISS 2025: Stable Isotope Summer School

#### BaySISS 2025

#### **Bayreuth Stable Isotope Summer School**

This summer in Bayreuth, Bavaria, the BaySISS stable isotope workshop for Ph.D. and interested Master's students will kick-start your scientific endeavor in the world of stable isotopes. Through interesting lectures from renowned specialists in the field, hands on training, and intensive training, you will be able to apply the tool box of stable isotopes to your research in the field of (microbial) ecology, limnology, or biology.



Apply by March 16, 2025!

#### **BayCEER Colloquium**

### The BayCEER Colloquium continues in the Summer Semester 2025!

The BayCEER Colloquium is an interdisciplinary platform where students, researchers, and the interested public can engage with current scientific topics. During the Summer Semester 2025, invited speakers and BayCEER members will present their latest research, each followed by discussions in a collaborative and informal setting. The colloquium offers an excellent opportunity to exchange ideas across disciplines and to connect with experts in environmental and ecological sciences.



More information

#### Retrospect



#### **Agro-Ecological Modelling with DAISY**

From September 9-13, 2024, the University of Bayreuth hosted a successful and well-received short course on the DAISY agro-ecological model. Organized by the Soil Physics group at BayCEER, the course featured experts from the University of Copenhagen and Bayreuth, covering key processes such as water flow, solute transport, heat dynamics, soil organic matter turnover, and crop modeling. Through lectures and hands-on exercises, students gained practical experience in data preparation, model simulations, and result analysis, with opportunities to apply DAISY to their own research.





#### 3rd D-A-CH Geobiology Symposium

The 3rd D-A-CH Geobiology Symposium was held from September 30 to October 1, 2024, at the University of Bayreuth. The symposium is part of the D-A-CH collaboration, which brings together researchers from Germany (D), Austria (A), and Switzerland (CH) to foster scientific exchange in geobiology. This event specifically aimed to connect early-career researchers in the field. Organized by passionate scientists from the University of Bayreuth and supported by the University of Bayreuth Graduate School, BayCEER, and other partners, the symposium featured engaging talks, poster sessions, and roundtable discussions. It served as a vibrant platform for knowledge sharing, networking, and collaboration in the geobiology community.

More information



#### **BayCEER Jubilee Workshop 2024**

The BayCEER Jubilee Workshop 2024 was held on October 10-11, 2024, at the University of Bayreuth, celebrating 20 years since the founding of the Bayreuth Center for Ecology and Environmental Research (BayCEER). The event brought together BayCEER alumni, current researchers, and students to exchange ideas, showcase research, and foster interdisciplinary collaboration across ecology and environmental sciences.

Participants presented their work through talks and posters, with awards given for the best student contributions. The workshop provided an excellent networking platform for newcomers, experienced researchers, and alumni to reconnect, share perspectives, and explore the breadth of environmental research at the University of Bayreuth.

### Introduction to environmental measurement technology with Arduino and Raspberry Pi

In October 2024, this hands-on BayCEER short course introduced Arduino and Raspberry Pi for environmental research. Participants learned sensor integration, data logging, and analysis, gaining practical skills to automate environmental measurements.

More information



#### Wasserkontroversen 2024: Wasserrückhalt in der Landschaft

Am 8. November 2024 fand an der Universität Bayreuth das vierte Dialogforum Wasserkontroversen statt, das sich mit dem Wasserückhalt in der Landschaft beschäftigte. Fachleute aus Forschung und Praxis diskutierten ökologische und rechtliche Aspekte und die Herausforderungen des Klimawandels. Die hybride Veranstaltung bot wertvolle Einblicke in umsetzbare und umweltfreundliche Lösungen.



#### Waldkontroversen 2024:Klimawandel: Neue Bäume braucht der Wald?

Im November 2024 diskutierten Experten beim Forum Waldkontroversen in Bayreuth über die Anpassung von Wäldern an den Klimawandel. Themen waren u.a. die Ansiedlung klimaresistenter Baumarten, die Bedeutung hochwertiger Saaten und heimischer Arten sowie die Auswirkungen exotischer Baumarten auf die Biodiversität. Die Veranstaltung bot wertvolle Einblicke in Strategien zur Förderung widerstandsfähiger und artenreicher Wälder und wurde mit einer Podiumsdiskussion und Exkursion abgerundet.

In the past month, the Ökologisch-Botanischer Garten (ÖBG) at the University of Bayreuth has hosted a series of enriching events. On September 29, the Bayreuther Blockflötenensemble, under Heinz-Ulf Hertel's direction, celebrated a decade of performances with a matinée featuring diverse musical pieces. October 6 saw the "Ein GeNuss! Nüsse aus aller Welt" tour, where attendees explored the botanical aspects and global diversity of nuts, complemented by Friedhelm Haun's display of walnut varieties. The Bayreuther Pilztage on October 12 and 13 captivated visitors with an exhibition of freshly collected mushrooms, guided forays, and workshops on mushroom cultivation, offering insights into the fungal kingdom. On October 18, Richard Regner from the Bayerisch-Böhmischen Geopark led a tour titled "Gesteine im Ökologisch-Botanischen Garten," educating participants about the region's geological history through its diverse rocks. Additionally, on October 20, the ÖBG offered a general garden tour, providing visitors with insights into the garden's design and current highlights. These events enriched public engagement with nature, offering valuable educational experiences in a dynamic and inspiring setting.



More information

#### Other

### forum1.5 erhält Umweltpreis der Stadt Bayreuth

Das an der Universität Bayreuth entstandene Klimaschutzund Bürgerbeteiligungsprojekt forum1.5 ist mit dem Umwelt- und Naturschutzpreis 2024 der Stadt Bayreuth ausgezeichnet worden. Das forum1.5 ist eine Plattform für alle, die sich in Bayreuth und Region für eine klimagerechte Zukunft einsetzen und den Weg in eine nachhaltige Zukunft mitgestalten wollen.



More information

#### **Photo Credits**

Most images in this newsletter are from the University of Bayreuth and BayCEER members, with a few taken by the editor. We appreciate all contributors for their support.

We are looking forward to your compliments, criticism - and above all your content for the BayCEER Newsletter! Please feel free to contact us if we may also present content from your area in the newsletter: bayceer@uni-bayreuth.de.

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