

## Welcome to NFDI4Microbiota

Here it is: the first NFDI4Microbiota Newsletter! Our consortium officially took up its work in October 2021 and a lot of exciting things have been happening since then. First of all: We are growing! In our ten partner institutions alone, we already have 65 people working enthusiastically on our mission to become the central hub in Germany for supporting the microbiology community with access to data, analytical services, data/metadata standards and training. Furthermore, there are more than 50 participants and 33 ambassadors actively supporting our work and providing the community with our solutions. We are currently working on a procedure to incorporate new participants. So if you are interested in becoming a part of NFDI4Microbiota, please contact us via email ([contact@nfdi4microbiota.de](mailto:contact@nfdi4microbiota.de)). For general information about NFDI4Microbiota please have a look at our new [web portal](#). There, we will continuously extend our services. We are also quite active on [twitter](#), so if you have not by now, do take the chance to follow us for regular updates on our work, training etc. At our first general assembly in November 2021, [Prof. Dr. Konrad Förstner](#) (ZB MED) and [Prof. Dr. Alice McHardy](#) (HZI) were elected to be the official consortial speaker and deputy of our consortium. In this function they will represent our consortium within the association National Research Data Infrastructure Germany (NFDI e.V.). If you want to learn more about the NFDI initiative driven by the Deutsche Forschungsgemeinschaft e.V. you can watch this [short video](#).



*Prof. Dr. Konrad Förstner Prof. Dr. Alice McHardy*

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## How to get in touch with NFDI4Microbiota

You can contact us via the [contact form](#) on our web portal. Please choose the most fitting issue type and your request or question is automatically directed to the right contact person within our consortium.

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## Community, Networking and Training

### Training Announcement Calendar

One of the first services we established at the beginning of the year is our [training announcement calendar](#) that we launched on our NFDI4Microbiota web portal. The calendar gives an overview of past and future training events within the consortium and will be updated regularly. Within the first quarter of 2022 we already carried out nine trainings/workshops successfully. If you want to offer training related to NFDI4Microbiota topics or if you miss a certain training offer, please get in touch via our [contact form](#), choosing the issue type “Training”.

## Upcoming Training events

| Title                                    | Organizer   | Date          | Link                              |
|--|-------------|---------------|-----------------------------------|
| Introduction to deep learning with R     | HZI         | 13 - 15/06/22 | <a href="#">Registration link</a> |
| Workshop on RDM in (Bio-)Medicine        | ZB MED      | 20 & 22/06/22 | forschungsdaten@zbmed.de          |
| Train the Trainers (Carpentry or ELIXIR) | EMBL Bio-IT | 18-22.07.2022 | <i>to be announced</i>            |
| Metagenomics                             | JLU Giessen | 06 - 07/09/22 | <i>tbc</i>                        |

## Community Workshop and Ambassador program

The NFDI4Microbiota community is growing! Our 5<sup>th</sup> Community Workshop took place virtually, launching the NFDI4Microbiota Ambassador program. Our ambassadors are a direct and bilateral connection between NFDI4Microbiota and the community by helping to identify and communicate the needs of their local community and, in return, provide the community with suitable solutions generated by the NFDI4Microbiota consortium. More information and the registration link for the ambassador program can be found [here](#). Further requests and questions can be sent to [ambassador@nfdi4microbiota.de](mailto:ambassador@nfdi4microbiota.de).



Screenshot of the 5<sup>th</sup> Community Workshop

## Conferences

NFDI4Microbiota has been present at various conferences, including [VAAM](#) and [ViBioM \(EVBC\)](#), and we are looking forward to many more possibilities to promote our activities and get in touch with the community. Next, we will be present at the **JCDL – NFDI Satellite event** (June 23<sup>rd</sup>) and discuss the topics FAIR and open data and the restrictions of data publications together with NFDI4Health, NFDI4Biodiversity and KonsortSW. In September we will join the [DGHM conference](#) in Berlin and hold a workshop on NFDI4Microbiota on the 7<sup>th</sup> of September.



NFDI4Microbiota is official partner of the DGHM conference 2022

### Further conferences that we will attend:

Intelligent Systems for Molecular Biology ([ISMB](#)), Poster Sessions, July 10 - 14

German Conference on Bioinformatics ([GCB](#)), Talk, September 06 - 08

European Conference on Computational Biology ([ECCB](#)), Poster Session, September 19 - 20

[ProkaGENOMICS](#), Poster Session, September 25 - 28

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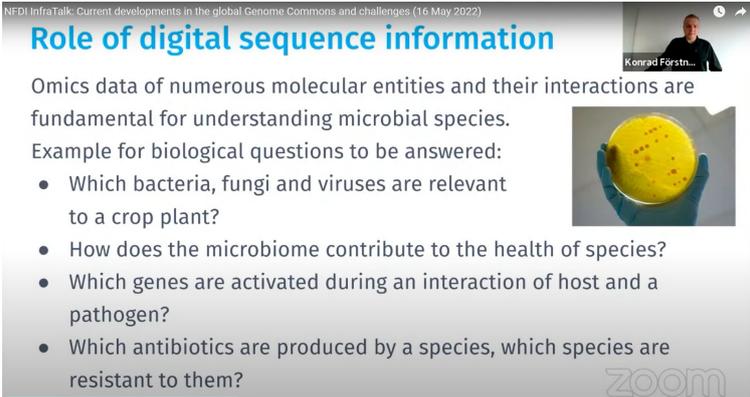
## Networking and collaborations

### Base4NFDI

We participated in the joint DFG application **Base4NFDI** for NFDI-wide basic services. Base4NFDI is a unique joint effort supported by all NFDI consortia to develop and deploy such services in order to increase efficiency and seamless user experience in research data management within and beyond the NFDI. Base4NFDI involves institutions from all relevant infrastructure domains and from all major research organizations in Germany. The proposal has been submitted and we expect the final decision by the DFG in November 2022.

### NFDI InfraTalk

Together with NFDI4Biodiversity, DataPLANT and FAIRagro we gave an **NFDI InfraTalk on the "Current developments in the global Genome Commons and challenges for service provision in NFDI"**. Thereby, we expressed the importance of **digital sequence information (DSI)** for researchers in the microbiological field. We do support the DSI Scientific Network, organized by Leibniz Institute DSMZ-German Collection of Microorganisms and Cell Cultures GmbH. You are wondering why this might be important to you? „DSI is used by researchers in a wide of contexts including for studying and monitoring biodiversity, understanding ecosystem impacts from climate change, improving crops, developing new medicines, and tracking the spread and evolution of new infectious diseases. Access to DSI is therefore crucial to research supporting many of the UN Sustainable Development Goals. A wide range of organizations and experts have called for DSI policy solutions that provide equitable benefit-sharing through multilateral mechanisms that protect open access DSI.” We invite all scientists to sign this open letter initiated by the DSI Scientific Network to protect open access of DSI. [Source, possibility to sign the letter, and more information](#). If you missed the InfraTalk, you can watch it [here](#).



NFDI InfraTalk: Current developments in the global Genome Commons and challenges (16 May 2022)

### Role of digital sequence information

Omics data of numerous molecular entities and their interactions are fundamental for understanding microbial species.  
Example for biological questions to be answered:

- Which bacteria, fungi and viruses are relevant to a crop plant?
- How does the microbiome contribute to the health of species?
- Which genes are activated during an interaction of host and a pathogen?
- Which antibiotics are produced by a species, which species are resistant to them?

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## Use Cases

We launched our first two Use Cases („MULTI“ and „GUT“) during the 1<sup>st</sup> NFDI4Microbiota Use Case Workshop. Further information on current and planned Use Cases will be made available on our web portal. Are you interested in submitting a new Use Case? New Use Cases by partners and participants can be submitted until **20<sup>th</sup> of June**. Please get in touch through our [contact form](#), choosing the issue type “Use Cases”.

## Publication

Congratulations to Dr. Lorenz Reimer, Dr. Konrad Förstner and Dr. Jörg Overmann, who just published the first paper for and about NFDI4Microbiota in Biospektrum. The paper is dealing with the advantages of open and FAIR data for the microbial community. The German paper can be found [here](#).

## Policies & Standards

### Microbiome Working Group

An important point within the scope of NFDI4Microbiota is the establishment of working groups for leading national and international scientists. They will be invited to engage with the NFDI4Microbiota network to discuss emerging topics, foster creativity, and identify cutting-edge trends in microbiota research. On the 17<sup>th</sup> of May, we kicked-off our Microbiome Working Group, taking a look at different workflow management systems and discussing their usage within our consortium and by international partners. Do you have questions or want to get involved? Please get in touch with us via [contact@nfdi4microbiota.de](mailto:contact@nfdi4microbiota.de).

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## Services

### Data Quality & Provenance Services

Data quality is a major prerequisite for qualified, interpretable, and valid research results. Another often underrated aspect is data provenance, which allows the tracing of data sources and processing steps. Well-documented provenance helps to confirm the authenticity of data and allows researchers to assess the comparability of studies. Therefore, we developed a first concept for provenance tracking & data quality checks and are now working on its implementation.

### Long-term preservation

As long-term preservation of data is crucial for future research, we started to create and collect training material on long-term preservation. The intended audience is researchers who would like to learn about digital preservation and data storage in trusted repositories. In the future, all training materials will be made accessible on the NFDI4Microbiota web portal.

**For questions regarding our services**, please get in touch through our [contact form](#), choosing the issue type “Services”.

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## Technical Infrastructure

### Data Storage Platform

We are also working on a scalable and easily accessible domain-agnostic data storage platform. As the requirements and technologies used for this measure are highly similar to the infrastructure which is being developed within the NFDI4Biodiversity consortium, we collaborate very closely with NFDI4Biodiversity. The first conceptual design of the storage platform will serve as a prototype, which is currently being extended to include the needs of NFDI4Microbiota. An alpha version of the platform has been deployed on the de.NBI Cloud infrastructure.

### Infrastructure Software Components

This measure will provide ready-to-use computational frameworks for data analysis and computing services to the NFDI4Microbiota community. Initial deployment and the start of beta testing of core infrastructure components have been established. This includes a? platform as a service (PaaS) solution, providing easy access to an HPC cluster in cloud computing environments. Bottlenecks and limitations identified during this first testing phase have led to feature requests which are currently being integrated.

**For questions around our technical infrastructure**, please get in touch through our [contact form](#), choosing the issue type “Software” or “Others”.