



HARMONise

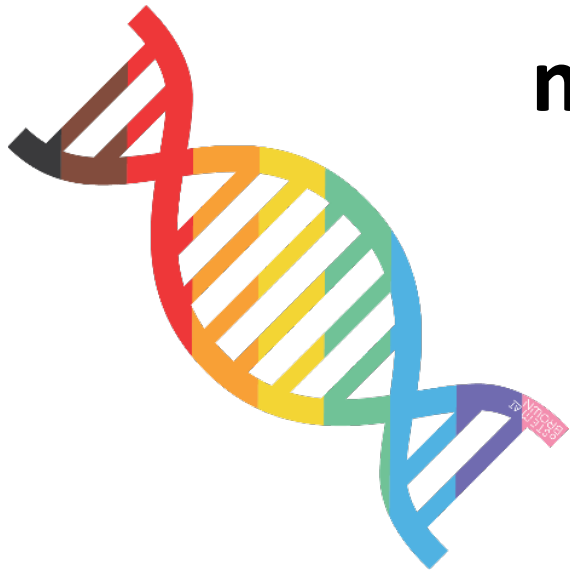


Enhancing interoperability of marine biomolecular (meta)data across Helmholtz Centres

Christina Bienhold
christina.bienhold@awi.de

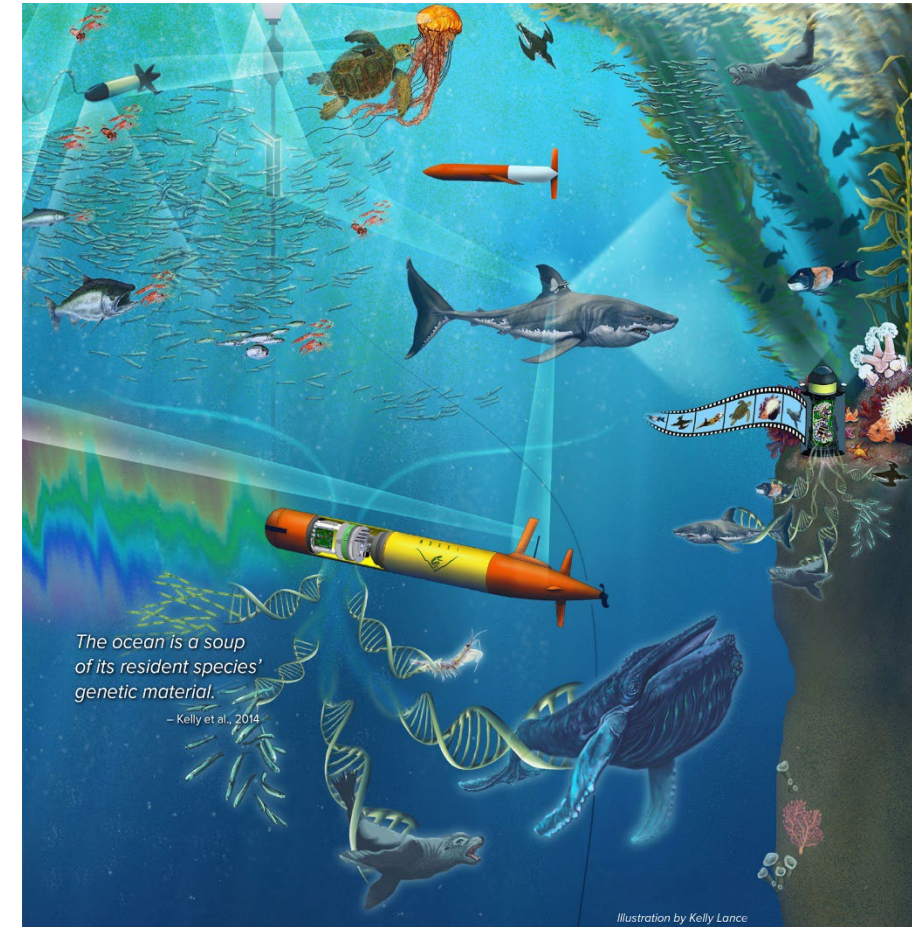
HMC Welcome Meeting

30 March 2022



Biomolecular (meta)data

- All ocean life is built from „biomolecules“ such as **DNA** and **RNA**
- Biomolecular data provides insights into the **structure and function of marine communities in space and time**
- Biomolecular (meta)data has **great internal diversity and complexity**
- To date, biomolecular (meta)data management is not well integrated across Helmholtz Centres
- A lack of interoperability prevents efficient exploitation of available datasets, and FAIR data exchange internally and externally
- Resolving it will increase the value of biomolecular (meta)data across research fields
- Added value for Researchers and Helmholtz



*The ocean is a soup
of its resident species'
genetic material.*

- Kelly et al., 2014

Chavez et al. 2021

<https://doi.org/10.5670/oceanog.2021.218>

Project aims and partners

The project aims to develop sustainable local-to-global workflows that support:

- 1. High-quality curation and management of marine biomolecular metadata**
- 2. FAIR exchange and publication of (meta)data within HMC systems and globally**
- 3. Interlinking biomolecular (meta)data to other Helmholtz digital holdings and services**

AWI (FRAM Molecular Observatory)

Christina Bienhold
Katja Metfies
Matthias Wietz

AWI Data Center

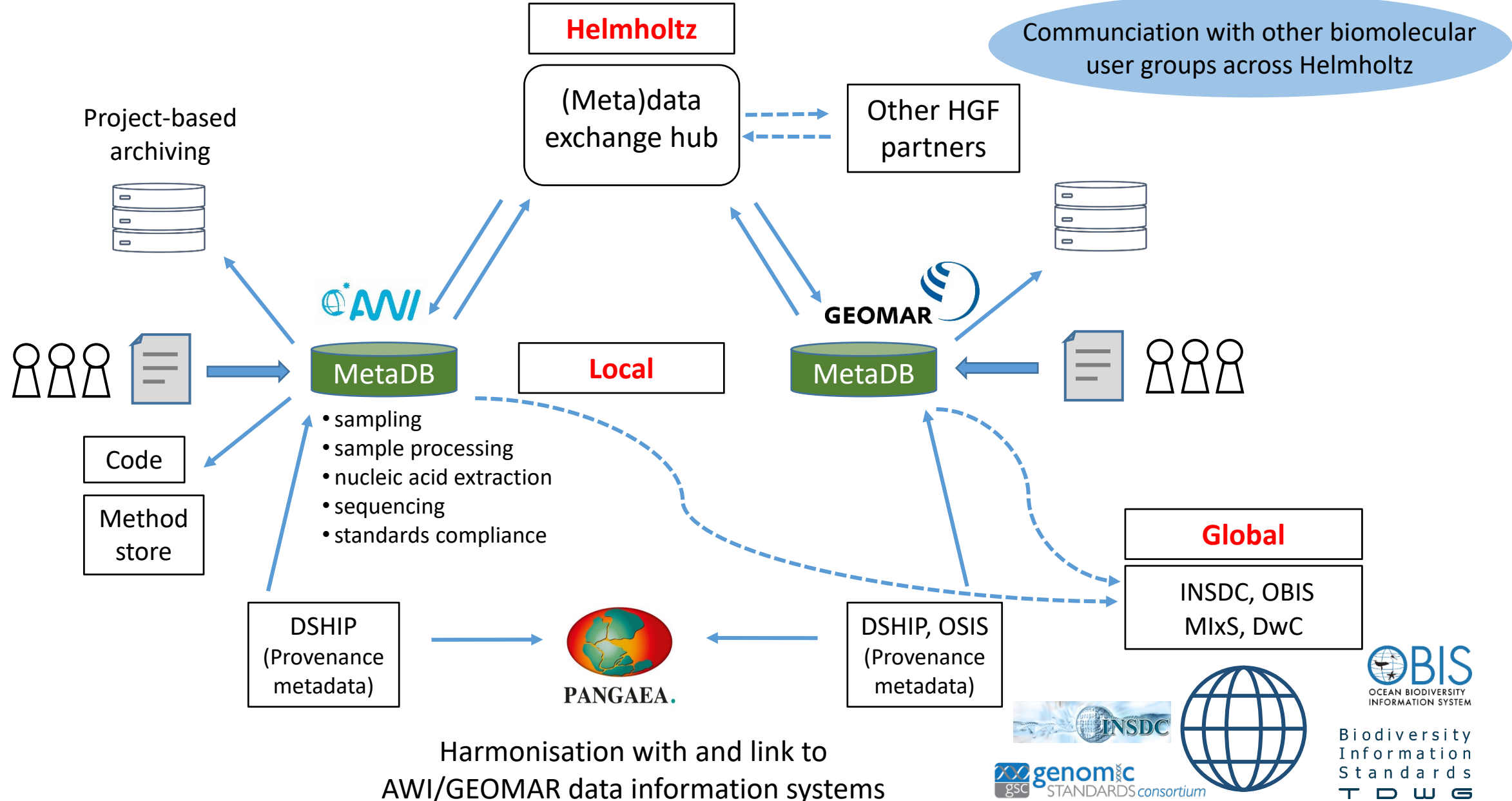
Lars Harms
Stefan Neuhaus
NN

GEOMAR

Till Bayer
Henk-Jan Hoving
NN

All routed in PoF IV Topic 6 „Marine and Polar Life – Sustaining Biodiversity, Biotic Interactions and Biogeochemical Functions“

Project approach - HARMONise project sketch



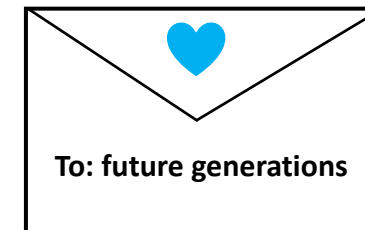
HMC support - How can HMC support the project?

- Provide a platform for community- and culture- building, e.g. exchange with other HMC Projects, and with other biomolecular user groups across Helmholtz
- Exchange with HMC groups (e.g. Fair Data Commons, FDO, CCT3 FAIR concepts and implementation, CCT4 Develop2Deploy)
- Link to national initiatives, e.g. NFDI4Biodiversity
- Link to international initiatives:
 - OBON (Ocean Biomolecular Observing Network)
 - UN Decade OBPS (Ocean Best Practices System)
 - ENVO (The Environment Ontology)
 - OBIS (Ocean Biodiversity Information System)
 - TDWG - Sustainable DarwinCore MlxS Interoperability



Links to the HMC goals:

- Enhance **local (meta)data management** and culture (bottom-up approach)
- Enhance **biomolecular (meta)data exchange** (interfacing with and enhancing the Helmholtz digital ecosystem)
- Enhance **Helmholtz-to-global interoperability** through use of international standards





HARMONise

starts 1 April 2022



Thank you for your attention



Christina Bienhold
Alfred-Wegener-Institut
Helmholtz Zentrum für Polar- und Meeresforschung
christina.bienhold@awi.de

ORCID: <https://orcid.org/0000-0003-2269-9468>