

Charter of Working Group Bio/Health/Food

Version 1.0 of 6.12.2023, by Jiří Vondrášek in collaboration with the members of the group.

1 Introduction

Life sciences is a key domain of Czech science, and especially their focus on biological, health, and food (B/H/F) topics is highly important to resolve the main scientific questions of current civilisation challenges (sustainable food resources, good health and well-being, and life on Earth in general). In order to deal with scientific challenges in these areas, researchers require data to suggest data-driven policies and solutions. In the Life Sciences fields, huge amounts of valuable data are produced. A big challenge is the storage of Life Science data in all its flavours. The B/H/F domain comprises several different types of data according to utilised technologies and methods, and it is, in principle, highly heterogeneous. Several major data types can be categorised according to the system in question (chemical entities, biomolecules, cells, and organisms), type of the data - omics data (proteomic, genomic, and metabolomic), structural data (X-Ray, NMR, and cryoEM), and imaging data (light microscopy, electron microscopy, and medical imaging), and data accessibility (open access or restricted access to sensitive, e.g., human health data). Several large research infrastructures already operate in this field (e.g., ELIXIR CZ, CZ-OPENSOURCE, CZECRIN, BBMRI.cz, Czech Biolmaging, METROFOOD-CZ, Czech Center for Phenogenomics (CCP), Infrafrontier, etc.), building their own repositories according to international standards but sometimes starting from scratch. The levels of developed standards and schemas for the B/H/F domains and their subdomains are also different — from highly developed ones to domains with only basic support.

WG-B/H/F was established during spring of 2022. The regular group meetings are organized with a monthly frequency. In person workshops are organized quarterly. The organisation of the Working Group, including the election of the leader and his/her representative, is subject to the Statutes and Rules of Procedure of the EOSC CZ Working Groups. The group is led by the WG leader or his/her deputy, in coordination with the WG Secretary.

Previous meetings (recording and minutes – access permit required):

[Document repository.](#)

2 Objectives

The primary aim of the WG-B/H/F is to map and connect human, IT, and technical resources, leading to the improvement of research data management (RDM) and implementing the FAIR (Findable, Accessible, Interoperable and Reusable) and Open Science (OS) principles within the B/H/F domain. The WG-B/H/F will be involved in the development and testing of harmonised metadata schemas and standards, including ontologies and vocabularies already developed and implemented in a particular field. Further, the working group will stimulate and lead a change in data handling and sharing practices across the B/H/F domains. To achieve this goal, the WG-B/H/F will prepare and disseminate best practices and training materials that stimulate such a change. Steps towards the establishment and integration of data stewards and data curators within participating institutions, research groups, and projects will be undertaken.



The WG will tightly collaborate with other working groups of the EOSC CZ ecosystem as well as with international partners, including large research infrastructure such as ELIXIR, and scientific institutions on a world-wide scale.

The important goal for 2023 and 2024 is to contribute to a grant proposal for the Programme Johannes Amos Comenius (P JAC) Open Science II call and formulate clear milestones and deliverables to be achieved. The OS II should provide funds for open science activities within research domains towards field-specific repositories.

1. To **connect Czech life science communities** focused on bio, health and food (i.e., B/H/F communities) domains and enable their cooperation to harmonise scientific data storage, maintenance and sharing aligned with FAIR principles implementation.
2. To map existing **repositories** and data storage systems used by researchers from B/H/F communities in the Czech Republic and help individuals and groups to be aligned with accepted repositories principles.
3. To monitor available **metadata** schemas, ontologies, and vocabularies developed for the B/H/F domain and actively contribute to their interoperability and implementation on an everyday basis.
4. Monitor options and suggest principles for **data quality verification** within communities of the B/H/F domain.
5. To initiate the establishment of **subgroups** responsible for specific research data subdomains within the B/H/F domain (e.g., bioinformatics data, biological imaging data, simulation data, ...).
6. **Help implement FAIR data policies, principles of open science**, and tools for data management plans (DMPs). Maintain and support a community of data stewards and their training and stimulate data sharing within the B/H/F domains as well as with other researchers and the general public (Citizen Science).
7. Share know-how with international partners and align with European and global standards via activities related to the FAIR data and open science in the B/H/F domain.

3 Outputs and their applications

Outputs and their application

- FAIR standards for storing data and their implementation within the B/H/F domains;
- Metadata standards and principles for data quality verification;
- Active contribution to a grant proposal for the P JAC Open Science II call.

4 Membership, expected members, mode of operation

WG-B/H/F membership is based on a voluntary basis and already consists of about 16 member institutes. It is open to new members from Czech institutions/research groups which are not yet represented in the WG. Membership does not require any data management-related skills or expertise; nevertheless, an active involvement and ability to learn and implement shared principles are highly welcome. Membership is based on "in kind" contribution and can be terminated anytime without previous consent.

To join the WG-B/H/F, please fill up the registration form at <https://www.eosc.cz/en/working-groups/biohealthfood>.



5 Outreach

The WG-B/H/F work will be presented on national, European, as well as global conferences focused on data management, FAIR data and open science, but also on thematic conferences to broadcast information about our efforts and our achievements.

Examples of performed outreach activities: EOSC-CZ kick off day (Prague); 3D-BioInfo ELIXIR community meeting 2023 (Prague).

