

The Helmholtz Digitization Ontology (HDO): Harmonized semantics for the Helmholtz digital ecosystem

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The Helmholtz digital ecosystem connects diverse scientific domains with differing (domain-specific) standards and best practices for handling metadata. Ensuring interoperability within such a system, e.g. of developed tools, offered services and circulated research data, requires a semantically harmonized, machine-actionable, and coherent understanding of the relevant concepts. Further, this needs to be aligned and harmonized with European and global initiatives to ensure an open and interoperable flow of data and information. Accordingly, the Helmholtz Metadata Collaboration develops the “Helmholtz Digitization Ontology”(HDO), which contains machine-actionable descriptions of digital assets and processes relevant to this ecosystem. Containing consistent and carefully curated semantics, it is intended to serve as an institutional reference thereby supporting the integrity of HMC developments internally as well as externally.

HDO is aligned to practices and conventions of the Open Biological and Biomedical Ontologies (OBO): we create coherent and precise definitions in the OBO recommended genus-differentia form (i.e. for each term we define a Genus as well as its differentia). Class labels and definitions are developed bilingually in both English and German. Additionally, classes have further information, including synonymy, singular, plural, gloss, comments as well as micro-credits of contributions. To ensure the sustainable development of HDO, we implemented it based on the Ontology Development Kit (ODK).

Follow the current development status and engage in discussions on our public git repository [1]. Preliminary documentation of HDO is available online [2].

References

- [1] <https://codebase.helmholtz.cloud/hmc/hmc-public/hob/hdo>
- [2] https://purls.helmholtz-metadaten.de/hob/HDO_00000000

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Resource in the FAIR data landscape

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Ontology, OWL, OBO, Digital assets, Semantics

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Researchers

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