

## ELN-DIY-Meta: Creating Interoperability for ELNs

Electronic lab notebooks (ELNs) serve as means to gather analog metadata, e.g. experimental parameters, that would otherwise be hard to digitalize. However, different systems are often used within the same research institution or community, especially when covering a long, interdisciplinary process chain. The use of different systems in the same institution - each addressing distinct requirements for discipline-specific needs - enables the availability of a broad functionality but results in challenges due to an often missing interoperability of the metadata. We are addressing this lack of interoperability for the two ELNs Herbie and Chemotion with an API-based data exchange.

A specific use-case in membrane research is treated as a starting point. As a first step, the necessary metadata for the use case were defined in both ELNs and their data fields implemented. A mapping of the corresponding data fields and the adaptation of general metadata schemes lead to a discipline-specific metadata exchange format being processed via the ELNs' APIs.

The entire process will be generalized in a guideline, motivating other ELN developers to implement interconnections for metadata transfer. The envisaged reduction of boundaries between different disciplines will enable the creation of large and coherent data sets in experimental research.

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Tools

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ELN, Interoperability, Experimental Metadata

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