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Digital sample management and documentation of analytical methods –Development of an electronic lab notebook at the Helmholtz-Institute Freiberg

Monday 4 November 2024 14:00 (1 hour)

At the Helmholtz-Institute Freiberg for Resource Technology (HIF), researchers develop new technologies to improve circular economy. In this context, different types of samples (e.g. rock samples, recycling material) play an important role. The sample passes through different states and labs –starting at the sample preparation, through the analysis of the particular sample to the final storage.

With electronic lab notebooks (ELNs) this entire process is digitized, thus improving findability, accessibility, interoperability and reusability (FAIR) of the samples and their corresponding data. Once the sample is registered in the system, every further work on the sample will be connected to this sample, explicitly. Thus, all important metadata can be recorded digitally in a structured way.

At the HIF, we are developing an ELN based on semantic MediaWiki. For this, we are incorporating all analytical methods existing at the HIF into the system. Thus, scientists and lab personnel need to adjust accustomed processes of data documentation. Therefore, the system needs to be as user friendly and as close to the familiar processes a possible. Where this is not possible, future users need to be motivated and included into the entire development process. For this, personal exchange between scientists/ lab personnel and developers is of great importance.

In this contribution, we will discuss the challenges in the development of an ELN, including technical and personal aspects and present the structure of our ELN.

Please specify "other"

In addition, please add 3 to 5 keywords.

Electronic lab notebook, Sample management, semantic MediaWiki

Please specify "other"

For whom will your contribution be of most interest?

Scientists and technicians who maintain and operate research infrastructure for data generation

Please assign yourself (presenting author) to one of the following groups.

Scientists and technicians who maintain and operate research infrastructure for data generation

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