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Supporting Polymer Membrane Research: Enabling Semantics with PolyMat Ontology

Monday 4 November 2024 15:00 (1 hour)

The laboratory of the future necessitates innovative solutions for efficient digital (meta)data capture. Electronic laboratory notebooks (ELNs) are progressively replacing traditional documentation methods, significantly improving research data management and laboratory processes. However, free-text data entry presents challenges for automation and data quality. Ontologies address these issues by formalising scientific terminology and procedures, creating a semantic model that enhances interoperability and aligns with FAIR principles. These ontologies facilitate structured descriptions of experiments, capturing relationships between steps, instruments, and other components, thereby optimising processes. In the field of polymer membranes, we introduce PolyMat, a domain ontology that bridges material science and chemistry. PolyMat enables standardised, FAIR-compliant data collection and fosters cross-domain discoveries. Designed for integration with ELNs, PolyMat standardises terminology from the outset, supporting advanced features such as consistency checks and cross-experiment analysis.

Please specify "other"

In addition, please add 3 to 5 keywords.

Ontology, Polymer Membrane, Electronic Lab Notebook, Research Data Management, Interoperability

Please specify "other"

For whom will your contribution be of most interest?

Researchers

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

Researchers

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