

International Materials Ontology

Introduction

Interconnected, interoperable data and modelling resources are essential for advancing materials and manufacturing research, development, deployment and management.

The EMMC is seeking support of the entire materials community for the establishment of common standards underpinning not only materials modelling interoperability and but more widely integration of all types of materials as well as materials processing and manufacturing information. The aim is to facilitate FAIR access to materials resources including data concerning modelling workflows, materials properties and characterisation.

Achieving interoperability should be based on common ontologies. Ontologies also provide for concerted access to repositories of data and of services, and will also enhance interoperability between materials models and integration of services.

Objectives

This session focusses on the semantic foundations for the field of materials, including modelling, characterisation, processing and manufacturing. Many semantic assets are for a particular type of material (domains) only. Materials are very complex and all relevant features and their interrelations have to be captured.

- Build semantic foundations for the field of materials science, including modelling, characterisation, processing and manufacturing.
- Find agreement with stakeholders who work on domain ontologies to make them compliant with a common framework.

Background information and documents

- European Materials Modelling Ontology (EMMO): https://emmc.info/wp-content/uploads/2018/08/emmo_workshop-Ghedini-v2.pdf
- EC ontology meeting (<https://emmc.info/events/ec-workshop-on-materials-ontology/>)
- IntOP2018: EMMC-CSA Workshop on Marketplaces and Interoperability <https://emmc.info/events/intop2018/>
- TAXONDA (Taxonomy Documentations), see <https://emmc.info/taxonda-dashboard/>

Discussion points and questions

- Are ontologies important to you?
- How can we get all relevant stakeholders on board?
- What is needed to keep the international materials ontology going (RDA, new projects/funding, forming a consortium,...)?
- Can we achieve “interoperability”? What does this mean to you?
- What sort of training/ dissemination/ would you like to see?