

LOD 4 Interdisciplinary Research

Workshop | Monday, March 24, 2025

Pfarrsaal, Steiner Landstraße 55, 3500 Krems an der Donau, Stein

ABSTRACTS

Institute for Medieval and Early Modern Material Culture (IMAREAL) Krems, University of Salzburg

Discovery of Things (DiscoThings) – Linking Data for Interdisciplinary Research

With its focus on the study of material culture, IMAREAL combines research from various disciplines, including archaeology and building history, art history, German literature studies and history. Digital humanities have been an important cornerstone of the institute in Krems from the very beginning, resulting in the creation of digital data collections on various areas of material culture. Their structure and depth of annotation go in many cases far beyond the 'classical' data collection in GLAM institutions. In various projects (such as [Raumordnungen](#) or [ONAMA](#)), IMAREAL has already explored how data can be modeled for interdisciplinary research. With Discovery of Things (DiscoThings), starting with data from historical sources like inventories and account books (ITEM) and the REALonline image database, we aim at bringing together resources from different IMAREAL-DH projects and their controlled vocabularies in the Semantic Web and enrich them with links to LOD frameworks and other ontologies. In the paper, we will report on the work in progress and discuss difficulties encountered and outstanding issues and questions in the context of LOD and interdisciplinary research.

David Wigg-Wolf, Römisch-Germanische Kommission des Deutschen Archäologischen Instituts, Frankfurt am Main | University of Leicester

Bringing Coins Out of the Cabinet: Nomisma.org, a Controlled Vocabulary and Ontology for Numismatic Linked Open Data

As more or less standardised, mass-produced serial products, coins are ideally suited to digital applications, in particular in the context of databases, linked open data and the semantic web.

Since 2011 the [Nomisma.org](#) consortium has developed a controlled vocabulary and ontology for numismatics that is now widely applied in the discipline and beyond. For example, by employing the concepts of Nomisma.org, The American Numismatic Society alone hosts data on more than 500,000 coins from 86 international projects and institutions that are accessible via portals such as [Online Coins of the Roman Empire](#) and the [Nomisma.org SPARQL endpoint](#).

Many other projects such as [Coin Hoards of the Roman Empire](#) implement the Nomisma.org vocabulary and so are fully integrated into the wider world of linked open data.

The ARIADNE EU-FP7 project “Report on the ARIADNE Linked Data Cloud” mentioned Nomisma.org as a particular example of good practice from which the archaeological community can benefit.

Whereas work initially focused primarily on coins from collections and typologies, coins from excavations, as well as finds made by the public, have increasingly become a focus. This not only involves resources such as the Portable Antiquities Scheme of England and Wales aligning their data with Nomisma.org, but also portals such as [Numisdata](#) that publish excavation coins.

This paper will present the development and architecture of Nomisma.org, as well as the philosophy behind it. Questions addressed will include how Nomisma.org can – and cannot – be a paradigm for archaeological data, as well as how it can facilitate better integration of numismatic data (and thus numismatics) into archaeological research and discourse.

Stephen Hart, University of Bern

From Text to Graph: Automatic Knowledge Extraction and Semantification of Texts

Recent developments in Large Language Models allow the automatisisation of many complex tasks, one of them being the extraction and structuration of information available in texts. With successive steps of information reformulation into semi-structured format, topic modelling, NLP on individual assertions and conversion scripts based on semantic ontologies, it becomes possible to quickly generate a large Knowledge Graph of well-structured data directly from natural language texts. Such workflows would allow researchers to easily mobilize large quantities of data that can be queried and explored.

Sofia Baroncini, Leibniz-Institut für Europäische Geschichte (IEG), Mainz

Representing Artwork Iconography and Meanings with ICON Ontology

In this talk, I will provide an overview of ICON, an ontology that models artistic interpretations of artworks' iconography and meanings (i.e., symbols, and iconological aspects). Developed by conceptualizing authoritative knowledge and notions taken from Panofsky's levels of interpretation theory, ICON ontology allows a granular description of an interpretation from the pre-iconographical, iconographical, and iconological levels. The ontology includes a detailed description of the subjects' appearance, multi-level relations, visual pattern copies, deeper concepts and phenomena, and the indication of sources used to conduct the recognition. The application of the ontology will be illustrated by showing examples taken from the [Iconology Dataset](#), a manually curated LOD dataset containing interpretations by Panofsky about ca. 400 artworks from Medieval and Early Modern Western art.

Stefan Eichert, Naturhistorisches Museum, Wien

One Ring to Link Them All? OpenAtlas and Its Integration of Data from Multiple Disciplines

This paper discusses the [OpenAtlas software](#), which has been developed for over ten years by the author and a team from the Natural History Museum Vienna and the Austrian Centre for Digital Humanities and Cultural Heritage.

OpenAtlas is a database system with a web-based user interface that facilitates workflows for entering data from various fields within the humanities and cultural heritage sectors. The system maps this data to triples according to the CIDOC CRM.

It also integrates controlled vocabularies, IIF, and an API that enables the exposure of data in multiple technical and conceptual formats, such as JSON-LD, XML, RDF, and linked.art, as well as linked places, among others—ensuring compatibility with linked open data standards.

The paper will present use cases from THANADOS, DeVill, and bITEM, all of which are based on the same OpenAtlas instance. It will illustrate how their data is interconnected both within OpenAtlas and with external resources.

Christopher Pollin, Department of Digital Humanities, Graz / Digital Humanities Craft, Graz

LLM-Supported Modelling, Operationalising and Exploration of Historical Information: Using Historical Financial Information as an Example

This presentation examines the application of Large Language Models (LLMs) in processing historical information, focusing on historical financial records. The Digital Edition Publishing Cooperative for Historical Accounts (DEPCHA) serves as a case study, demonstrating how LLMs can support ontological modelling through systematic prompt engineering. Novel workflows combining LLMs with Semantic Web technologies are introduced, alongside "Promptotyping" – a rapid, data-driven software development method that integrates frontier LLMs with requirements engineering. The objective of this discourse is to delve into the application and potential of AI within the realm of cultural heritage systems.