# Session 4.3

##### Session 4.3 (SEMANTiCS)

#### Time: Thursday, September 19, 2024 - 13:40 to 15:00

#### Chair: TBA

## **Talks**

### An Ontological Framework for Integrating the Heterogeneous Medieval Manuscript Resources: A Case Study of Progetto Irnerio and Mosaico

Purpose: This study aimed to improve the organization and integration of heterogeneous medieval manuscript data across the Mosaico and Progetto Irneiro platforms. It addresses the challenges, such as the need for more standardization in data formats, metadata schemas, and inconsistent data quality, by developing a new ontology that supports the multifaceted analysis of medieval manuscripts. This analysis includes factors such as the historical context, physical characteristics, textual information, and artistic features.

Methodology: The MeLOn methodology is used to develop the Medieval Manuscript Data Integration Ontology (MMDIO), which extends the MeMO ontology. This process involves analyzing existing structures, identifying gaps, integrating elements from other ontologies, and creating new data classes and relationships. Protégé was used to design and validate schemas, GraphDB to test functionality and interoperability, Graffoo to visualize data, and LODE for publishing. Consequently, this comprehensive process significantly enhanced the data integration for the Mosaico and Irneiro systems.

Findings: The use of MMDIO substantially enhanced the organization, accessibility, and uniformity of metadata formats on both platforms. However, it can now handle complex queries and integrate multiple types of manuscript data to facilitate a more comprehensive and organized approach in medieval manuscript research.

Value: The proposed MMDIO framework advances digital humanities research by increasing data semantic richness and interoperability, establishing the foundation for future research in cultural heritage preservation. Moreover, it demonstrates the value of adapted frameworks for handling complex data environments in particular research fields.

| Faria Ferooz | Monica Palmirani |
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### Linked Data Event Streams for cultural heritage networks

| Pieter Colpaert | Gertjan Filarski | Anastasia Sofou |
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Historical Opera and Music Theatre Performances on the Semantic Web: OperaSampo 1830–1960

The OperaSampo is a Linked Open Data (LOD) service and semantic portal for searching, browsing, and analyzing information related to historical opera and music theatre performances performed in Finland during 1830–1960. The key data originates from the Reprises database of the Sibelius Academy, Finland. This paper presents the process of transforming the original data into LOD and the data model created for it, data maintenance, as well as the portal and data service for utilizing the data. The novelty of OperaSampo lays on its focus on studying data about the musical performances and persons involved in different roles using faceted search and browsing combined seamlessly with data-analytic tools for Digital Humanities research. The service was published for open use in October 2023.

| Annastiina Ahola | Eero Hyvönen |
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| Heikki Rantala | Anne Kauppala |

### Representing and searching associations in cultural heritage knowledge graphs using faceted search

This paper presents how relations or associations between entities such as persons in cultural heritage knowledge graphs can be searched and analyzed using faceted search and visualizations. Faceted search using well formed ontologies allows search and comparison of relative numbers in associations of groups of entities, such as artists from different countries, and reveal patterns in the data. This papers presents examples of how this can be done in practice, and how the associations can be conceptualized in different ways that affect the performance of the search, and how the associations can be analyzed. The concept of faceted association search is examined in this paper through case studies including searching relations in Finish and European Biographies, relations in Union List of Artist Names (ULAN), and relations formed by links between Wikipedia pages of persons.

| Heikki Rantala | Petri Leskinen |
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| Lilli Peura | Eero Hyvönen |

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