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# Metadata and Semantic Research


16th Research Conference, MTSR 2022  
London, UK, November 7–11, 2022  
Revised Selected Papers

 Springer

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Emmanouel Garoufallou · Andreas Vlachidis  
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# Metadata and Semantic Research

16th Research Conference, MTSR 2022  
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# Preface

Metadata and semantics are integral to any information system and important to the sphere of Web of Data, Semantic Web, and Linked Data. Research and development addressing metadata and semantics is crucial to advancing how we effectively discover, use, archive, and repurpose information. In response to this need, researchers are actively examining methods for generating, reusing, and interchanging metadata. Integrated with these developments is research on the application of computational methods, linked data, and data analytics. A growing body of literature also targets conceptual and theoretical designs providing foundational frameworks for metadata, knowledge organization, and semantic applications. There is no doubt that metadata weaves its way through nearly every aspect of our information ecosystem, and there is great motivation for advancing the current state of understanding in the fields of metadata and semantics. To this end, it is vital that scholars and practitioners convene and share their work and research findings.

Since 2005, the International Metadata and Semantics Research Conference (MTSR) has served as a significant venue for the dissemination and sharing of metadata and semantic-driven research and practices. This year marked the 16th edition of MTSR, drawing scholars, researchers, and practitioners who are investigating and advancing our knowledge on a wide range of metadata and semantic-driven topics. The 16th International Conference on Metadata and Semantics Research (MTSR 2022) was organized by the Department of Information, University College London (UCL), UK, taking place between November 7th and 11th, 2022, in central London (Bloomsbury Campus). The 16th edition marked the return to in-person events following the COVID-19 pandemic. The MTSR 2022 Organizing Committee decided to organize the conference as a hybrid event to accommodate the diverse requirements of delegates.

The MTSR conference series has grown in terms of the number of participants and paper submission rates over the past decade, marking it as a leading international research conference. Continuing the successful legacy of previous MTSR conferences, MTSR 2022 brought together scholars and practitioners who share a common interest in the interdisciplinary field of metadata, Linked Data, ontologies, and the Semantic Web. In total, 54 in-person and 303 online delegates from 29 countries registered for the MTSR 2022 conference. The program and the proceedings show a rich diversity of research and practices from metadata and semantically focused tools and technologies to linked data, cross-language semantics, ontologies, metadata models, semantic systems, and meta-data standards. The sessions of the conference included 27 papers covering a broad spectrum of topics, proving the interdisciplinary view of metadata. The benefits and challenges of making data findable, accessible, interoperable, and reusable (FAIR) across domains and disciplines have been recognized and the opportunities for reuse, repurposing, and redeployment of data using semantic technologies have been verified. Recent advances in neural networks, natural language processing, and knowledge graphs have been presented, promoting innovations and methods for topic modelling, semantic annotation, and automatic metadata generation.

Metadata as a research topic is maturing, and the conference supported the following eight tracks: Digital Libraries, Information Retrieval, Big, Linked, Social, and Open Data; Agriculture, Food, and Environment; Open Repositories, Research Information Systems, and Data Infrastructures; Digital Humanities and Digital Curation; Cultural Collections and Applications; European and National Projects; Knowledge IT Artifacts in Professional Communities and Aggregations; and Metadata, Identifiers, and Semantics in Decentralized Applications, Blockchains, and P2P Systems. Each of these tracks had a rich selection of short and full research papers, giving broader diversity to MTSR that spans across health records, cultural heritage collections, environmental data, and manufacturing, enabling deeper exploration of significant topics. MTSR 2022 also brought together researchers, scholars, practitioners, educators, and information professionals coming from libraries, archives, museums, cultural heritage institutions, and organizations from the educational sector and industry.

All the papers underwent a thorough and rigorous peer-review process, with two to five reviewers assigned to each paper. The review and selection for this year was highly competitive, and only papers containing significant research results, innovative methods, or novel and best practices were accepted for publication. From the general session, only 10 submissions were accepted as full research papers, representing 12.6% of the total number of submissions, and one submission was accepted as a short paper. An additional 11 contributions from tracks covering noteworthy and important results were accepted as full research papers, and three were accepted as short papers, bringing the total of MTSR 2022 accepted contributions to 25. The acceptance rate of full research papers for both the general session and tracks was 27.8% of the total number of submissions.

University College London (UCL) was founded in 1826 in the heart of London and is amongst the best universities in the world, 8th in the world (QS World University Rankings 2022) and 2nd in UK for research power (REF 2021). UCL is London's leading multidisciplinary university, with more than 16,000 staff and 50,000 students from over 150 different countries. The UCL Department of Information Studies is an international centre for knowledge creation and transfer in the fields of librarianship, archives and records management, publishing, information science, and digital humanities. It is the only department in the UK which brings together in one place programmes in library and information studies, information science, archives and records management, publishing, and digital humanities. Starting as the first British School of Librarianship in 1919, the department paved the way for other Higher Education institutions in Britain, leading training programmes for information professionals in an expanding job market. The success helped to establish its worldwide reputation, promoting professional standards that influenced information management practices worldwide through an international cohort of students.

MTSR 2022 was pleased to host a remarkable keynote presentation by Jenny Bunn, Head of Archives Research, The National Archives, UK. In her presentation "Modelling Metadata for Archives and Records Management", Jenny addressed the field of archival metadata and computerised development of the material through the lenses of an archivist, delivering an important historical account whilst setting the scene of current challenges of datafication and opportunities of semantic systems. Dr. Bunn argues that "Metadata modelling can be seen to have become a subject of interest to the archives

and records management (ARM) domain from the late 1970s onwards. From that point, modelling activity has increased, culminating in the recent development of the Records in Contexts conceptual model and ontology”. In her presentation she placed the Records in Contexts-Conceptual Model (RiC-CM) in its own contexts, highlighting past metadata modelling activity within the ARM community, the models that arose because of it, and the perspectives thereby surfaced. She concluded with reflections on recent modelling activity at The National Archives, in connection with the Towards a National Collection funded research project (UKRI-AH/W00321X/1) ‘Our Heritage, Our Stories’, and Project Omega, which aims to create a pan-archival catalogue from an ecosystem of more than 10 separate databases.”

We conclude this preface by thanking the many people who contributed their time and efforts to MTSR 2022 and made this year’s conference possible despite the unforeseen obstacles caused once more by COVID-19. We also thank all the organizations that supported this conference. We thank all the institutions and universities that co-organized MTSR 2022. We extend our sincere gratitude to the members of the Program Committees (both main and special tracks), the Steering Committee, and the Organizing Committees (both general and local), to all the special track chairs, and to the conference reviewers who invested their time generously to ensure the timely review of the submitted manuscripts. A special thanks to keynote speaker Jenny Bunn. Also, a special thank you goes to Anxhela Dani, Esmeralda Dudushi, Vasiliki Georgiadi, and Chrysanthi Chatzopoulou, for supporting us on social media platforms, in the organization and communication tasks, as well as in the technical support of the website throughout the year for this event. To Anxhela Dani, Esmeralda Dudushi, Chrysanthi Chatzopoulou and Vasiliki Georgiadi who assisted us with the preparation of these proceedings and the Book of Abstracts, and to Nikoleta, Vasiliki, and Stavroula for their endless support and patience. Our thanks go to our best paper and best student paper awards sponsor euroCRIS, and to this year’s Premier sponsor EBSCO. Finally, our deepest thanks go to the MTSR community, all the authors and participants of MTSR 2022 for making the event a great success.

December 2022

Emmanouel Garoufallou  
Andreas Vlachidis



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## **Special Track on Metadata, Identifiers and Semantics in Decentralized Applications, Blockchains and P2P systems**

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