
Title: An ontology for Italian theatrical cultural heritage on wikibase.cloud

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Keywords

IFLA LRM, Theatrical productions, Theatrical works, Digital objects, Bottom-up ontology, Cultural heritage, Digitalization, Wikibase data model, Performing arts

Author(s) biography (preferably within 300 words)

a) Donatella Gavrilovich is Associate Professor of History of Theatre and Digital Technologies at University of Rome "Tor Vergata". She is the Director of the

IDOS_ARTS Research Centre (International Digital Open Space on the Performing and Visual Arts Cultural Heritage), which she designed in 2022 and founded in 2024 in collaboration with Italian and foreign universities.

In 2023 she won as Principal Investigator the PRIN 2022 (Research Projects of National Relevance), entitled HYPERSTAGE. An Open Knowledge base for the semantic reconstruction of theatrical performances through the harvesting and processing resources from the New Italian Network of theatrical digital archives, supported by the Ministry of University and funded by the European Union-Next Generation EU.

Since 2012 she is the Director of the Scientific Publishing Series, entitled *Arti dello Spettacolo/Performing Arts*, and, since 2015, of the ASPA International Scientific Journal Open Access

<http://www.artidellospettacolo-performingarts.com>, both of which she designed and launched.

Her research focused on the Performing Arts digital archives and theatrical exhibitions and on Russian theatre, dance, set designer and visual art from the nineteenth century to contemporaneity.

In 2012 she was invited as an expert to join the ECLAP-EUROPEANA project. In 2014 she designed the ontology of an innovative knowledge base model for cataloguing the theatrical performances, entitled Performance Knowledge base (PKb).

From 2014 to 2016 she as PI coordinated the International Research group in collaboration with the ITMO University of St. Petersburg and University of Lorraine to design «Vera Komissarzhevskaya (1864-1910)» Virtual Museum», launched in 2016.

Since 2016 she has collaborated with Bern University of Applied Sciences (BIAS) on the methodology to create an International Performing Arts Platform and she participated in the Swiss Open Cultural Data Hackathon. Actually, she joins a European and Canadian research network (CAPACOA) dedicated to the issue of digital archives and Linked Open Data in theatre .

She is fellow of CERCLE (University of Lorraine) and a member of CINI Working Group - Cyber Humanities, LODEPA, W3C – PAIR CG, WG “Theatralia” DARIAH, EURODRAM, SIBMAS, SEFER (University of Warwick).

Gavrilovich is the author of five books as well as numerous publications in scientific journals and conference proceedings. She organized a series of national and international conferences.

b) Giovanni Bergamin is a librarian. He currently leads Digital Humanities research at Logos-RI. He is involved in the LIS field as a teacher, author, and seminar speaker. Previously, he served as Head of Information Technology Services at the Biblioteca Nazionale Centrale Firenze (1990-2017) and was a Board Member of the Associazione Italiana Biblioteche (AIB) from 2017 to 2023.

c) Valeria Parainfini is currently a research fellow in the Hyperstage PRIN 2022 project at the University of Rome "Tor Vergata". From 2014 to 2016, she collaborated with a research group at the same university on the design of the ontology for a knowledge base on the Performing Arts. She is a member of the Editorial Staff of the scientific journal "Arti dello Spettacolo/Performing Arts". Valeria is also a choreographer and teaches dance history in the CSEN training courses since 2019.

Author(s) bibliography (optional): max 3 relevant papers/projects for each author

a)

1. Gavrilovich D (2013). *How to Catalogue the Cultural Heritage "Spectacle"*. In a cura di: P. Nesi e R. Santucci, *Information Technologies for Performing Arts, Media Access, and Entertainment* . vol. 7990, Springer, BERLIN 2013, pp. 39-49. ISBN: 978-3-642-40049-0
2. Gavrilovich D (2017). *Performing Arts Archives. Dal Database al Knowledge base: stato dell'arte e nuove frontiere di ricerca*, in *New Frontiers: Live Performances, Archives and Digital technology*, a cura di D. Gavrilovich, L. Zammar, in «Arti dello Spettacolo/Performing Arts», III, settembre 2017, pp. 28-39. ISSN 2421-2679
3. Gavrilovich D (2020). *Open Data for an International Performance Knowledge base (PKb) and a persistent identifier (ASPA Code)*, a cura di D. Gavrilovich, in «Arti dello Spettacolo/Performing Arts», Special Issue, giugno, 2020, pp. 57-70. ISSN 2421-2679

b)

1. Giovanni Bergamin and Cristian Bacchi (2018), *New ways of creating and sharing bibliographic information: an experiment of using the Wikibase Data Model for UNIMARC data* «JLIS.it» 9(2018), n. 3.
<https://doi.org/10.4403/JLIS.IT-12458>
2. Giovanni Bergamin (2024), *Wikibase, or The search for the unicorn* «JLIS.it», 13(2022), n. 3, 49–62. <https://doi.org/10.36253/jlis.it-484>
3. Giovanni Bergamin (2024), *Onore al cane Flush*. «Medium» 14.4.2024, <https://medium.com/@giovanni.bergamin/onore-al-cane-flush-7d74fae6b0df>

c)

1. Paraninfi V. (2020) *Le sacre du Printemps: il balletto più discusso del Novecento* In: *L'Eredità dell'effimero. Dai Ballets Russes alla contemporaneità*, pp. 71 - 118, Edizioni "Efesto 2000". ISBN: 978883381191

Abstract (max 500 words)

The aim of the Hyperstage project is to create an *Open Knowledge Base for the semantic reconstruction of theatrical productions* through the harvesting and processing resources from the New Italian Network of theatrical digital archives, supported by the Ministry of University and funded by the European Union-Next Generation EU. If we want to build services 'semantic web' aware, a domain specific ontology is needed. One useful starting point for identifying existing initiatives is undoubtedly the work done by *Wikidata:WikiProject Performing arts group*. Taking into account that the theatrical domain lacks a single, universally adopted ontology we decided to develop a bottom-up ontology. We decided to start with a ready-to-use technological solution, namely *Wikibase.cloud*. In this context, Wikibase emerges as one of the most suitable platforms due to its data model. This model allows for the enrichment of RDF statements with qualifiers, which is particularly valuable for capturing the complexities of theatrical productions.

According to a recent survey of real databases documenting theater performances, most data models rely on distinction between *theatrical creative work* and *theatrical production* claiming also the need to adapt bibliographic models (namely IFLA LRM) to the specific domain of theatrical performances. It is important to note that *theatrical creative work*, as an intellectual construct, is an abstraction that facilitates the reference to a common identity beyond specific theatrical productions. Consequently, leveraging on this distinction each theatrical production, while unique, will be placed within a broader historical and cultural context through a system of hierarchical relationships highlighting its connections to theatrical tradition. This ontological hierarchy will allow us to trace the evolutionary path of works and identify influences and connections between different productions.

The Hyperstage project also aims to overcome the traditional limitations of theatrical documentation, offering an innovative solution for the collection, organization, and valorization of metadata related to theatrical productions. Archiving performative assets is considered a daunting task, given the ephemeral nature of theatrical events. However, digital technologies offer new perspectives to preserve and give value to intangible cultural heritage. Hyperstage aims to enhance the value of Italy's performing arts cultural heritage by facilitating access to and interoperability of a vast corpus of digital resources associated with each theatrical production. During ontology development, we investigated different methods for linking digital resources to theatrical productions. A key objective is ensuring efficient user access to these

resources. We explored three approaches, using string property or element property each with its own limitations and potentials.

To facilitate user access to digital objects, the Hyperstage ontology utilizes a PKB taxonomy. This taxonomy categorizes digital objects by specific types and assigns them to one of three phases of theatrical production: a) conception, b) staging, and c) post-production documentation. The PKB code streamlines the organization of digital assets related to theatrical production. By automatically aggregating each digital object into one of these three phases, the code addresses challenges posed by the sheer volume and diverse nature of digital resources. This logical temporal classification simplifies the management of large datasets and unifies heterogeneous documents starting from two broad categories: "pictures" and "attachments".

Theme: **Projects and proposals** (The potential of wikibase.cloud for research exploited in the Hyperstage project)

Format of the submission: Individual paper

Language of the presentation: both languages, English or Italian

Confirmation of the physical presence in Florence of at least one of the authors for papers and lightning talks YES

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