

## Book of Abstracts

August 6-9, 2024 Arlington, VA, U.S.A.







#### Digital Humanities 2024: Book of Abstracts

**Editors** 

Jajwalya Karajgikar, University of Pennsylvania Libraries Andrew Janco, University of Pennsylvania Libraries Jessica Otis, Roy Rosenzweig Center for History and New Media, George Mason University

Published by DH2024 Program Committee Chairs and Local Organizer Committee

Citation Recommendation

Karajgikar, Jajwalya/ Andrew Janco / Jessica Otis (eds.). Digital Humanities 2024: Book of Abstracts. VA 2024. DOI: 10.5281/zenodo.13761079



#### **Conference Team**

Local Organizers Program Committee

Jessica Otis Co-Chairs

Bridget Bukovich Andrew Janco & Jajwalya Karajgikar

Donna Baker aaDH Tully Barnett

Kristin Jacobsen ACH Alex Wermer-Colan

Alison Langford centerNet Nadezhda Povroznik

Amanda Madden CSDH/SCHN Kyle Dase Luz A. Giraldo Mueller DHARTI Arjun Ghosh

DHASA Rooweither Mabuya

DHd Jan Horstmann EADH Daniel Alves

Humanistica Peter Stokes JADH Chifumi Nishioka

KADH Wonhee Cho RedHD Adån Lerma

TADH Richard Tzong-Han Tsai

#### **Conference Volunteers**

Hernan Adasme

Shukadev Amgain Samantha Messina Rachel Birch Emily Meyers

Keyania Campbell Ru Mo

Daniel Evans

Laura Fretwell

Julie Goforth

Paula Green

Caroline Greer

Daniel Howlett

Mace Jones

Sharika Parmar

Amber Pelham

Tereza Podhajska

Muhammad Saqlain

Savannah Scott

Yashee Singh

Hiba Siraj

Supreet Kaur William Stiller
Jinyi Kim Laszlo Taba
Chang Liu Shu Wan

Vaishnavi Mahurkar Rachel Whyte Maryna Maslova Zhexi Yang

Zhuokai Zhao

# DIGITAL SCHOLAR







**DH CENTER** 





**DE GRUYTER** 







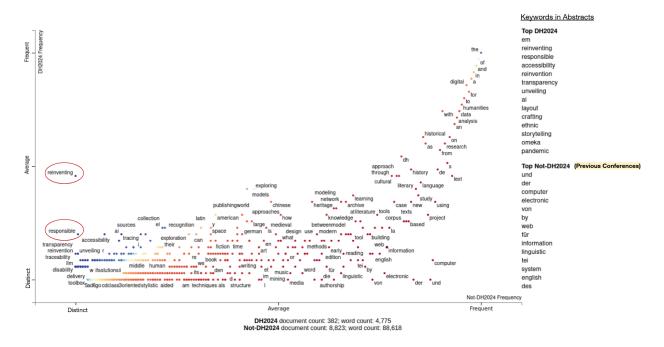




#### Reinvention and Responsibility

It is a delight to share with you the work of our colleagues from DH2024 in this conference Book of Abstracts. From the beginning, the DH2024 team has drawn upon lessons learned during the COVID-19 pandemic to create a fully hybrid conference that unites the accessibility of virtual events with the sociability of in-person events. Our conference theme of "Reinvention and Responsibility" is a call to action, challenging members of our community to move beyond the way things have "always" been done. After the experience of the past four years, we saw an opportunity to reinvent not just the conference experience, but also our field, to make it more accessible, sustainable, and responsible.

While it is impossible to know what the future will bring, this year's presenters took our theme to heart. The graph below compares this year's paper titles against past conferences: there are two words that really stick out!



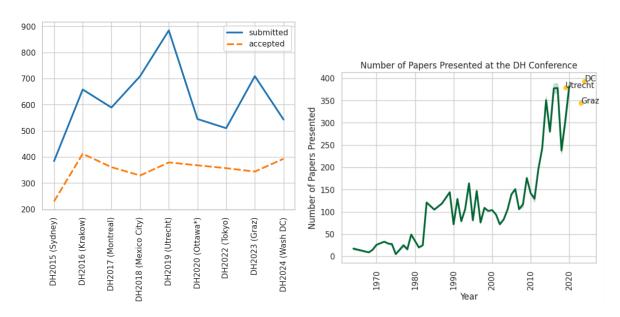
Use the DH24 Abstract Search App (dh24-abstracts.netlify.app) if you are looking for specific keywords, like regions, methodologies, or names in the full text search in the abstracts.

Before we get into more details about this year's program, we'd like to take this space to thank everyone who submitted abstracts, reviewed fellow colleague's works, and shared their work with the DH community. Our volunteer reviewers¹ completed 1823 reviews for an average of 3.4 reviews per submission. We thank you for this immense work. Thanks also to the Awards Chair for considering the hybrid format as inclusive to the prizes as well. We are grateful to the Program Committee for their help in the process, and to our Local Organizers, for their attention to detail and consideration towards accessibility. We couldn't have created this conference program without your support and enthusiasm.

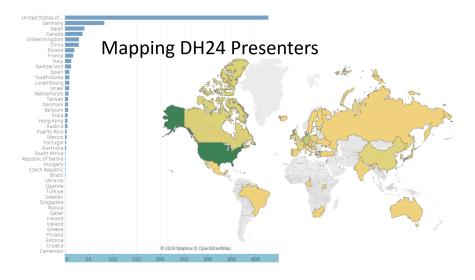
-

<sup>1</sup> https://dh2024.adho.org/about/other-volunteers/

Our goal for the conference was to ensure exciting and thoughtful scholarship has a platform here as long as it is relevant to Digital Humanities. While it is impossible to fully condense such a rich and varied program into a brief introductory summary, we can provide some overarching statistics. This year, for DH2024, we received 545 submissions, of which 383 were accepted.<sup>2</sup> You will note that this is a relatively high acceptance rate of 71%, comparable to the fully online DH2022 hosted by our colleagues in Tokyo. People are attending from 44 countries and 6 of the 7 continents (we don't have DH practitioners in Antarctica... yet!) This reflects our growing community and the expanded access that a hybrid conference allows for.



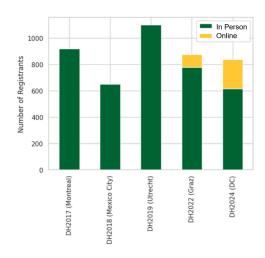
Weingart, S.B., Eichmann-Kalwara, N., Lincoln, M., et al. "DH Conferences Data Extract" in *The Index of Digital Humanities Conferences*. Carnegie Mellon University, 2020. Data last updated 2024-08-03. https://dh-abstracts.library.cmu.edu. https://doi.org/10.34666/k1de-j489



<sup>&</sup>lt;sup>2</sup> dh2024.adho.org/dh2024-submissions

-

Overall, 976 people are joining us in-person, online, or by proxy through a presenting co-author. This year 221 (that is 26%) of us are attending virtually and many of you are presenting virtually as well. This is a marked increase from the 16% that planned to attend online when they first submitted proposed abstracts and indicates a remarkable cultural shift underway in our community. The virtual format enabled people to work around health concerns, child or elder care, accessibility considerations, and visa issues. Other noteworthy features of the hybrid model included our experimental flipped sessions and remote poster presentations. Video presentations and high-resolution poster files were made available on the conference app before live synchronous sessions, allowing participants to review materials and engage with authors and creators beforehand, during, and after the conference.



Weingart, S.B., Eichmann-Kalwara, N., Lincoln, M., et al. "DH Conferences Data Extract" in *The Index of Digital Humanities Conferences*. Carnegie Mellon University, 2020. Data last updated 2024-08-03. https://dh-abstracts.library.cmu.edu. https://doi.org/10.34666/k1de-j489

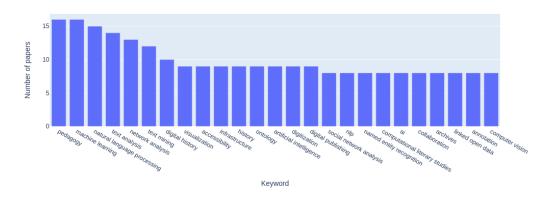
The hybrid format is not the only place where we experimented with reinventing the conference experience this year. We took pointers from the critiques on conference organization shared in the DH community and worked to deliberately address as much as we could. We saw this as an opportunity to actually act on the issues that were raised in scholarship about the conference.

We relied heavily on semantic text similarity at several steps in the conference program creation process, from submitted reviews to the final program. For reviewer matching, Andy created a system that uses past paper titles from the Index of DH Conferences to match reviewers with submissions.<sup>3</sup> This system is more flexible than ConfTool's strict keyword-matching algorithm and allows for matching across languages. We used a similar approach to group paper presentations into sessions with the same format and then for recurring themes<sup>4</sup> like pedagogy, AI, etc. as represented in the conference topics.

<sup>&</sup>lt;sup>3</sup> github.com/achorg/DH2024-reviewer-matching

<sup>&</sup>lt;sup>4</sup> dh2024.adho.org/dh2024-submissions





This approach and code was generously reviewed by Rebecca Sutton-Koeser, who also raised the need for a technical review process to ensure fair and accurate reviews of our more technical abstract submissions. This was facilitated by DHTech, who provided these reviews to 42 contributions.

Throughout the review process, we were inspired by Roopika Risam and Alex Wermer-Colan's work organizing the ACH Conference and with the assistance of the Program Committee, we conducted manual qualitative analysis of each of the reviews before we came to a final list for accepted submissions. As a result, our decisions were built on a critical assessment of both reviewers' scores, their comments, and their agreement or disagreement with other reviews.

During the process of building the final program, the Program Committee helped us to review every session and track to remove any inconsistencies. We tried to account for the time zones our various virtual paper presenters will be presenting from, though the three-hour time differences are easier to handle than the thirteen-hour ones. Theoretically, this work should make it easier to attend the papers you want without moving from room to room and be reasonably awake for your presentation. This being a global community, we encouraged whisper translation in the vein of DH2018 at Mexico City.

We want to end our remarks with this line from our co-author Jaj, which says it best for all of us: "This conference is filled with people whose work was what I yearned to hold as a beacon for my own and it has been my privilege to serve you all."

Jajwalya Karajgikar, Andrew Janco Program Committee Chairs, August 2024 Jessica Otis Local Organizer Committee Chair, August 2024

### Meaningful Connections, Meaningful Differences



Dr. Susan Brown

Canada Research Chair in Collaborative Digital Scholarship

University of Guelph

Visiting Adjunct Professor, University of Alberta

Keynote Address

Image Courtesy: University of Guelph

## Tackling Misinformation: The Confluence of Platform Integrity and Data Journalism



Linda Ngari

Data Journalist at multiple forums

Keynote Address

Image Courtesy: Africa UnCensored

This conference brings us together as a vibrant and creative community, offering an opportunity to showcase our work on Digital Humanities, exchange ideas, and learn from each other across the world. At the same time, the world around us bears witness to a transformative moment in history in many ways. We are grappling with the environmental and ethical implications of BigTech and other organization's technological (read also: Artificial Intelligence) usage in harmful ways - from warfare to surveillance. The extractive land and labour practices, the depleting sources of materials that make our technological hardware, the looming threat of man-made climate change from this, the devastating global catastrophes that nations wrought onto others, the fiercely fought battles for worker rights, and the ethical dilemmas that loom large in our collective consciousness on all these issues - these are all subjects with humanistic imperatives that are relevant to each of us, regardless of our subject matter expertise. Over these next few days, the conversations we will be engaging in during this conference will serve as a way of reaffirming our core values, not only concerning these pressing issues but also on our beloved field of digital humanities, the academy, and beyond, in practice. It is our hope that this following keynote address will ignite a spark that radiates throughout the Digital Humanities community, a spark that will compel us to hold ourselves accountable to the responsible application of digital and data tools for critical research that is meaningful to the world around us.

With immense gratitude and excitement, on behalf of the DH2024 Program Committee, we welcome the incredible Linda Ngari, our distinguished keynote speaker for today. We have earnestly requested her to share her work, particularly, with insights into the conference theme of responsibility.

Linda Ngari is a journalist in Kenya, experienced in open-source investigative journalism, and trained in fact-checking journalism. She is a data journalist and digital rights advocate with a bachelor's in communications from Daystar University in Kenya. Ngari's work has been featured on platforms such as BBC Africa Eye, Global Voices, Face2Face Africa, Code for Africa, and Africa Uncensored. Her work is in both English and Swahili.

Notably, she is a recipient of The International Center for Journalists' Michael Elliott Award for Excellence in African Storytelling and Amnesty International's Media Awards' Gaby Rado Award for New Journalists. These are remarkable achievements that celebrate her work on health and gender reporting about abortion rights in Kenya. She directed *Breaking the Silence: Abortion Rights in Kenya* for BBC Africa Eye, spotlighting challenges faced by Kenyan women.

She is also the recipient of the International Sports Press Association and Media Council Sports Journalism awards for an open source investigation on a Ponzi scheme targeting betting fans in Kenya. Linda is an inspiration for the kinds of things our beloved field of Digital Humanities also could represent, if it does not already. With her commitment to intentional storytelling and transparency she has set a high standard for digital and data literacy. Today, she will be sharing with us the incredible potential of data journalism when wielded with the ethics of responsibility and care.

Asante, Linda, thank you for joining us.

#### Keynote Abstract

In her keynote speech, Kenyan data journalist Linda Ngari delves into the intersection of data journalism and digital humanities, focusing on content moderation and platform transparency to combat misinformation. Drawing from her extensive experience in reporting on influence operations during elections, Ngari explores the use of data analysis techniques; to highlight insights and trends informing content moderation strategies. She questions the role of platform transparency in promoting accountability and shows how data journalism scrutinizes platform practices to uphold integrity. Through compelling narratives, Ngari's work has demonstrated how data journalism is important for digital literacy and fighting misinformation and disinformation-even unto defending democracy during campaigns and elections. Join her in exploring how multidisciplinary efforts can shape the information ecosystem.

#### Socio-Technical Assemblages for Tumultuous Times



Dr. Shannon Mattern

Penn Presidential Compact Professor of Media Studies and the History of Art, University of Pennsylvania.

Director of Creative Research and Practice at the Metropolitan NY Library Council.

Keynote Address | Slides

Image Courtesy: Shannon Mattern

Over the course of the conference week, we have clearly grown as a community. Fellow colleagues are checking that virtual attendees can see the slides and participate in discussion. There's a learning curve, but we're clearly moving forward together. A fully hybrid conference is reinvention in practice.

In the article, "The circus we deserve? A front row look at the organization of the annual academic conference for the Digital Humanities," past conference organizers remind us that the issues in our field, "will not be solved once and for all overnight, but will require ongoing vigilance and monitoring to be sure that the "Big Tent" [of DH] is as open to all as it can possibly be."

We invited Professor Shannon Mattern to speak on the topic of reinvention because she has a unique way of making sense of big problems and finding footing when everything seems in flux. Shannon Mattern is the Penn Presidential Compact Professor of Media Studies and the History of Art at the University of Pennsylvania, and the Director of Creative Research and Practice at the Metropolitan New York Library Council, which, by the way, is a job they created just for her. Rightly so! She has contributed to public design, interactive projects and exhibitions there. In 2025 she will be the Kluge Chair in Modern Culture at the Library of Congress. You can find her in one of the most organized and creative spots on the web at wordsinspace.net.

For 40% of her life, she served in the Department of Anthropology and the School of Media Studies at The New School in New York. She has written books about community-oriented urban intelligence, media archaeology, and information infrastructures. She contributes a column about urban data and mediated spaces to Places Journal. One of the last classes she taught at the New School was "Redesigning the Academy" where and I quote, "students created speculative syllabi and curricula; composed manifestos and critical pitch decks, and designed other pedagogical materials and epistemological infrastructures to assess the state of the American academy and imagine it otherwise." Generations of scholars, artists, and students have benefitted from her astute and candid observations on the academy.

In this talk Shannon will inspire us to let the possibilities we dream about be the ones we work towards.

#### Keynote Abstract

Despite hopes that the pandemic's shared suffering would cultivate long-lasting networks of solidarity and investment in civic infrastructures, the past few years have instead incited regression. From right-wing attacks on higher education and public institutions; to the impulsive roll-out of technologies with the potential to wreak vast political, economic, and epistemological havoc; to the resurgence of authoritarianism; to the collapse of university leadership amidst campus turmoil: it's clear that we need not only to reinvent, but also to reinforce, our shared (or productively discordant?) values and organizational alignments. In this talk, she will focus on what we might learn from — and how we might engage with — ethically-rooted technical and creative collectives, radical media-makers, and civic information advocates who've navigated turbulent terrains in other geographic and historical contexts. Our examples will range from samizdat presses, guerrilla tv collectives, and pirate radio stations to anarchist hackerspaces and fugitive libraries. We'll ask how these communities have prefigured values and practices central to the digital humanities, and how they might inspire us to reinvent and fortify stronger assemblages of solidarity in which technology is put in service of principle and politics.



Jenny Holzer with Lee Quinoñes, Inflammatory Wall, 2024, at the Guggenheim Museum; photo by Shannon Mattern



Ulises Carrión: Bookworks and Beyond, Ellen and Leonard Milberg Gallery, Firestone Library, Princeton University, 2024; photo by Shannon Mattern



Ray Johnson, Birds, c. 1955, collage, at Craig Starr Gallery; photo by Shannon Mattern

## Reinventing approaches to accessibility within the Digital Paradigm: some Italian case studies

#### XML

The goal of this paper is to present three case studies aimed at the valorization of the Italian and Germanic Cultural Heritage in Venice and in Italy by making the data available not only to the academic compartment, but also to the wider community, in order to reinvent approaches to the accessibility of Cultural Heritage. We are focusing on making Cultural Heritage easily appreciated and understood by a wider audience, in the spirit by Bellanca et al. (2022) and the Faro Convention (2005). In fact, the three case studies illustrated have as their common denominator the retrieval, reuse of metadata and the digitization of Germanic and Italian Cultural Heritage, according to the FAIR principles and current metadata standards, by creating an aggregator, ontologies and databases hosting digital projects and 3D models.

The first case study is embedded within the PNRR (2021-2026) Hub CHANGES-Crest, Spoke 9 led by Università Ca' Foscari Venezia and it is titled "Il Leone del Pireo presso l'Arsenale di Venezia: un progetto digitale partecipativo": it concerns a 3D digitisation of a famous Greek zoomorphic statue (4th cent. BC) at the Venetian Arsenal which bears three runic inscriptions very likely engraved by Varangians (10-11th cent. AD). The ultimate goal is to make available and easily accessible to a wider audience the visualization of the 3D mapping of the statue and its texts, which have become increasingly difficult to read and many people (residents and tourists) did not have any hint about. The 3D digitization applies photogrammetry methods and has been produced with Agisoft Metashape Professional. The open-source framework 3DHOP by Isti-CNR allows to visualize the 3D object and link to textual and visual information to the object by means of the hotspot feature (cf. Figure 1). The selected information from the literature regarding the inscriptions is displayed in a way that is both scientifically correct and appealing. The readings and interpretations provided by the scholars through centuries, including our own proposal, are encoded and available in TEI/XML format. The metadata have been encoded in compliance with METS guidelines. We plan to make the project available to the wider audience in local institutions related to the history of the city, and, for its long-term preservation, in democratic infrastructures, as CLARIN-IT might be. Moreover, a 3D printing of the statue and a booklet for vision-impaired audience have been printed.

The other two case studies are funded by *PON Ricerca e Innovazione 2014-2020* Asse *IV "Istruzione e ricerca per il recupero – REACT-EU* and have as their domain the Italian Cultural Heritage and the Germanic Cultural Heritage in Venice and the neighboring territories respectively. With the second case study, CHIt, an aggregator is being developed for the retrieval of online digital objects belonging to the Italian Cultural Heritage from different providers. The keyword of this work is reuse, both of data and of tools. In particular, the data and metadata are retrieved from Europeana, Zenodo and GitHub through APIs and from OntoVE (see below) via a SPARQL query. On the other hand, all the tools chosen are open-access. These comprise Muruca for the front-end, Pundit for the annotation of texts and EVT as visualization software. The incoming metadata retrieved are mapped to offer a uniform consultation and formatted according to the DCMI to enhance interoperability thanks to the adoption of an international standard. In this way, the selected resources gathered from different platforms can be aggregated in a single searchable and interoperable environment. Moreover, the integration of the visualization and annotation tools allow to engage the user and offer a personalized exploration and use of the resources (cf. Figure 2).

The third case study, OntoVE, consists in the creation of ontological modules for the description of Germanic Cultural Heritage and bibliographic items linked to the Veneto region. The items to be included date back to the first attestations of the Gothic and Lombard periods (from the 5th century AD onwards, Villa 2006) and we aim to include moreover items up to the Early Modern period, e.g. related to the Fondaco dei Tedeschi (cf. Braunstein 1987, Häberlein 2010). The project reuses established ontologies, such as CIDOC-CRM, v. 7.1.2 (Bekiari et al. 2022), ArCo (Carriero et al. 2019), LRMoo, v 0.9.6 (Bekiari et al. 2023) and Bibframe (for the mappings between LRMoo's former version FRBRoo and Bibframe, cf. Zapounidou et al. 2013, and for partial alignment between CIDOC-CRM and ArCo cf. Carriero et al. 2019, Sartini et al. 2023). This way, the ontological modules devised are interoperable with both national and international standards (cf. the Github documentation available at <a href="https://chideba.github.io/ontove/ontove.html">https://chideba.github.io/ontove/ontove.html</a>). The Knowledge Base will not only be made available through a SPARQL Endpoint (built with Apache-Jena-Fuseki-4.7.0), but will be made available to a wider audience through a dedicated User Interface, built upon the Sampo UI model (Ikkala et al. 2022). This User Interface presents the data according to different search perspectives, making them available via an intuitive search facet (cf. Figures 3 and 4).

Furthermore, ongoing collaboration between the latter two case studies (cf. De Bastiani-Fabbris 2023) has resulted in a further visualization output for the dataset produced within the OntoVE project, which consists in a further intuitive search interface to discover, locate and annotate information about Cultural Heritage items of interest to the wider public (cf. Figure 5). In this way, users can interact with the data of OntoVE together with the other resources aggregated in CHIt and they can annotate them, enhancing the invention and reinvention of new meanings and experiencing further approaches to the accessibility of Cultural Heritage. The outcomes of both projects will be available through a dedicated web domain, under implementation.

Concluding, the three case studies tackle the valorization of Cultural Heritage through different perspectives guided by the Digital Paradigm and by the Faro Convention. The models presented aim to involve the active engagement of users, also taking into account the different interests and specificities of the various target audiences. We argue that it is becoming increasingly topical to make such projects and their metadata accessible to an increasingly wide and heterogeneous audience.



Figure 1 Visualization of the hotspots using 3DHOP. This is a screenshot from Buzzoni and Peratello's presentation "Il Leone del Pireo Arsenale di Venezia: metodi e strumenti digitali per una fruizione partecipativa di testi e immagini" at *Convegno DTC Lazio - CHANGES* "Tecnologie e Patrimonio Culturale. Nuove Competenze e Professioni", Sapienza Università di Roma, November 30, 2023 (Rome).

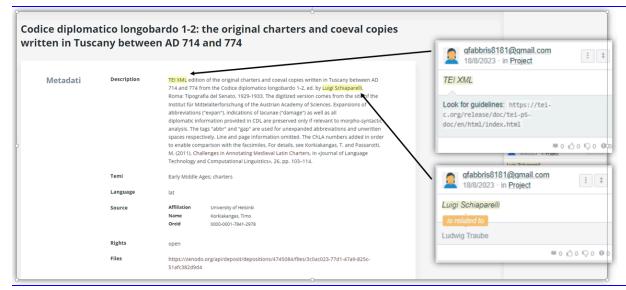


Figure 2 Visualization and Annotation of a Zenodo resource through CHIt aggregator



Figure 3 OntoVE User Interface (built upon Ikkala et al. 2022)

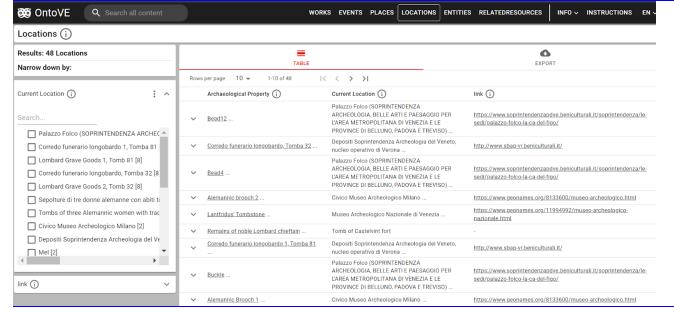


Figure 4 OntoVE Search facet

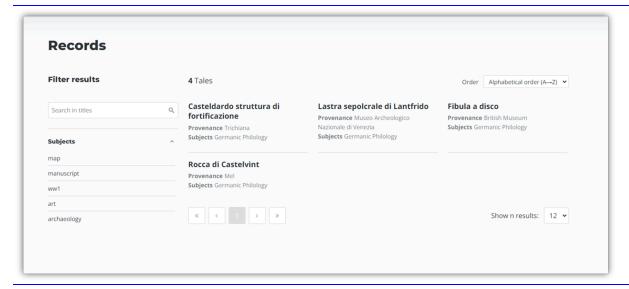


Figure 5 Visualization of the OntoVE dataset through CHIt

#### References

Bekiari, Chrysoula / Bruseker, George / Canning, Erin / Doerr, Martin / Michon, Philippe / Ore, Christian-Emil / Stead, Stephen / Velios, Athanasios (2022): Definition of the CIDOC Conceptual Reference Model, Version 7.1.2.

Bekiari, Chrysoula / Doerr, Martin/Le Bœuf, Patrick / Riva, Pat (2023): LRMOO object-oriented definition and mapping from IFLA LRM, Version 0.9.6

Bellanca, Calogero / Mora Alonso Munoyerro, Susana/ Antonini Lanari, Cecilia (2022): "Accessibility of cultural heritage" In: OCHRONA DZIEDZICTWA KULTUROWEGO. - ISSN 2543-6422. - 13, pp. 51-68. [10.35784/odk.2941]

**Buzzoni, Marina / Peratello, Paola** (2023): "Il Leone del Pireo Arsenale di Venezia: metodi e strumenti digitali per una fruizione partecipativa di testi e immagini" In: Convegno DTC Lazio - CHANGES "Tecnologie e Patrimonio Culturale. Nuove Competenze e Professioni", Sapienza Università di Roma, November 30, 2023 (Rome).

Carrero-Pazos, Miguel, / Espinosa-Espinosa, David (2018): "Tailoring 3D modelling techniques for epigraphic texts restitution. Case studies in deteriorated roman inscriptions." In: Digital Applications in Archaeology and Cultural Heritage, 10, https://doi.org/10.1016/j.daach.2018.e00079

Carriero, Valentina Anita / Gangemi, Aldo / Mancinelli, Maria Letizia / Marinucci, Ludovica / Nuzzolese, Andrea Giovanni / Presutti, Valentina / Veninata, Chiara (2019): "ArCo: The Italian Cultural Heritage Knowledge Graph" In: The Semantic Web – ISWC 2019. ISWC 2019. Lecture Notes in Computer Science, vol 11779. Springer, Cham. https://doi.org/10.1007/978-3-030-30796-7\_311779:36–52

**De Bastiani, Chiara / Fabbris, Giulia** (2023): "Collaboration within a shared digital paradigm: opportunities and outcomes", Zenodo https://zenodo.org/records/8198555, Alliance of Digital Humanities Association, ADHO23.

**Häberlein, Mark** (2010): "Der 'Fondaco dei Tedeschi' in Venedig und der Italienhandel oberdeutscher Kaufleute (ca. 1450-1650)" in Körner, H. M. and Schuller, F. (ed), Bayern und Italien. Kontinuität und Wandel ihrer traditionellen Bindungen. Lindenberg im Allgäu, pp. 124–139.

Ikkala, Eskol Hyvonen, Eero / Rantala, Heikki / Koho, Mikko (2022): "Sampo-UI: A Full Stack JavaScript Framework for Developing Semantic Portal User Interfaces" In: Semantic Web 0 (0) 1 1, IOS Press

Sartini, Bruno / Baroncini, Sofia / van Erp, Marieke / Tomasi, Francesca / Gangemi, Aldo (2023): ICON: An Ontology for Comprehensive Artistic Interpretations. ACM J. Comput. Cult. Herit. 16, 3, Article 59 (August 2023), 38 pages. https://doi.org/10.1145/3594724

**Villa, Luca** (2006): "Le tracce della presenza gota nell'Italia nord-orientale e il caso dell'insediamento di S. Giorgio di Attimis (UD)" in Buora, M. and Villa, L. (ed) Goti nell'arco alpino orientale. Trieste: Editreg srl, pp. 147–176.

**Zapounidou, Sofia / Sfakakis, Michalis / Papatheodorou, Christos** (2013): "Preserving Bibliographic Relationships in Mappings from FRBR to BIBFRAME 2.0". In: Kamps, J., Tsakonas, G., Manolopoulos, Y., Iliadis, L., Karydis, I. (eds) Research and Advanced Technology for Digital Libraries. TPDL 2017. Lecture Notes in Computer Science(), vol 10450. Springer, Cham. https://doi.org/10.1007/978-3-319-67008-9 2

Sitography

CHANGES-Crest Spoke 9, Università Ca' Foscari Venezia, https://pric.unive.it/progetti/spoke-9-changes/changes

EVT (Edition Visualization Technology), http://evt.labcd.unipi.it/

Faro Convention, 2005 (Convention of the Value of Cultural Heritage for Society),

https://www.coe.int/en/web/culture-and-heritage/faro-convention

Italia Domani, il Piano Nazionale di Ripresa e Resilienza (2021-2026), https://www.italiadomani.gov.it/content/sogeing/it/it/home.html

Library of congress: Bibliographic Framework Initiative, Bibframe Vocabulary 2.0, https://www.loc.gov/bibframe/implementation/

METS (Metadata Encoding and Transmission Standard), https://www.loc.gov/standards/mets/

Ministero dell'Università e della Ricerca (2014-2020): Piano Operativo Nazionale PON, Asse IV Innovazione, http://www.ponricerca.gov.it/opportunita/react-eu-contratti-di-ricerca-innovazione-e-green/

Muruca, http://murucaracconta.muruca.cloud/

Pundit, https://thepund.it/

**3DHOP** (3D Heritage Online Presenter), https://3dhop.net/

Ministero dell'Università e della Ricerca (2014-2020): Piano Operativo Nazionale PON, Asse IV Innovazione, http://www.ponricerca.gov.it/opportunita/react-eu-contratti-di-ricerca-innovazione-e-green/

Muruca, http://murucaracconta.muruca.cloud/

Pundit, https://thepund.it/

**3DHOP** (3D Heritage Online Presenter), https://3dhop.net/

Chiara De Bastiani (chiara.debastiani@unive.it), Università Ca' Foscari Venezia, Italy and Giulia Fabbris (giulia.fabbris@unive.it), Università Ca' Foscari Venezia, Italy and Paola Peratello (paola.peratello@unive.it), Università Ca' Foscari Venezia, Italy

#### Author Index

Agata Kwaśnicka-Janowicz	Amy Larner Giroux	Antonina Martynenko
Agnes Hilger	Ana Jofre	António C. Gouveia
Akihiro Kawase	Anatoly Vladimirovich	Antonio Esposito
Alba Comino	Iashchenko	Ariane Pinche
Aleksandr Lange	Andreas Witt	Arjun Ghosh
Aleksandra Kaye	Andreina Soto	Artem Suslov
Aleksandra Rykowska	Andrew Janco	Artjoms Šeļa
Alexander Gil	Andy Petersen	Arun Jacob
Alexander Joseph Sherman	Ania R. Hernández Quintana	Asanobu Kitamoto
Alexander Piperski	Anita Lucchesi	Ash Charlton
Alfred Freeborn	Anna Ananieva	Ashley Grace
Alicia Hughes	Anna Bilotta	Dennis-Henderson
Alix Chagué	Anna Cappellotto	Ashley Sanders Garcia
Alix Keener	Anna Clemencia Guerrero	Augustus Wendell
Amanda Licastro	Anna Foka	Austin Mason
Amanda Terrero Trinquete	Anna Jouravel	Ava Gudzunas
Amardeep Singh	Anna Preus	Avery Blankenship
Amber Johnson	Anne Wichmann	Barbara A. Gannon
	Anrunze Li	Barbara Bordalejo
Amelia H. Lyons	Anthony Colin Herrera	Barbara McGillivray
Amir Zeldes	Antoine Fauchié	Barbara Romero Ferron
Amy Bocko		

Bart Holterman Cecil Krarup Andersen Daniel Riaño Rufilanchas

Beatrice Vaienti Chang Liu Daniele Metilli

Bella White Changsong Wang Daria Vasyutinsky Shapira

Ben Miller Chao Lang David Neville

Benjamin Charles Nagy Chao-Lin Liu David Smith

Benjamin Gittel Charles Pletcher David Valentine

Benjamin Krautter Chiara De Bastiani Davide Pafumi

Berat Kurar-Barakat Chiara Palladino Devin Von Arx

binxuan wang Chris Hall Di Luo

Blair Tinker Chris Ruotolo Diana Milena Duarte

Brecht Flora Marie Nijman Christina Boyles Diane Katherine Jakacki

Brett Clark Christine Roughan Dian-Han Yang

Brian Croxall Christof Schöch Dinara Gagarina

Brittany Myburgh Christopher Kermorvant Dominika Weronska

Bruno Ministro Claudia Berger Dora Luise Muenster

Byung-Chull Bae Clelia R. LaMonica Edison Weinstein

Caitlin Rose Burge Corinne Guimont Eliane Schmid

Camilla Vang Østergaard Craig Messner Eliko Akashi

Cara Marta Messina Cristian Santini Elisa Eileen Beshero-Bondar

Carolina Villarroel Daniel Alves Elisa Ludwig

Cathy Moran Hajo Daniel Howlett Elisabeth Guerard

Daniel John Evans Elise Heffernan

Daniel Raffini Elizabeth Losh

Ellen Charlesworth Geoffrey Martin Rockwell Hao Zhu

Ellen Forget Geoffroy Noël Hassan El Hajj

Emiliano Andrés Calomarde Georgia Panagiotidou Heidi Nobles

Emmanuel Château-Dutier Georgii Korotkov Hélène Huet

Emmanuelle Morlock Gerald Kozicz HeLing Sun

Enes Türkoglu Gethin Rees Henny Sluyter-Gäthje

Enrico Agostini Marchese Gina Brandolino Hisao Usui

Erik Fredner Giulia Fabbris Holly Chan

Eunji Lee Giulia Ferretti Hsin-Po Shen

Evelyn Lorraine Inman Giuseppe Abrami Hugh Cayless

Farnoosh Shamsian Glen Layne-Worthey Hugo Scheithauer

Fatma Öncel Goki Miyakita Huiling FENG

Fernanda Alvares Freire Grace Cope Ian W. Scott

Florian Cafiero Graciana Ava Rudolfi Isabel Galina Russell

Florian Kessler Grant Wythoff Isabella Di Lenardo

Florian Kräutli Grażyna Urban-Godziek Ismail Prada Ziegler

Florian Windhager Gregory Crane Iulianna van der Lek

Frank Fischer Grzegorz Myrda Iuliia Iashchenko

Frédéric Clavert Guangwei Zhang Iwona Grabska-Gradzińska

Gabor Mihaly Toth Guanwei Liu J. Bern Jordan

Gabriela Baeza Ventura Hale Sirin J. Stephen Downie

Gaby Barrios Han Yan Jacob Möhrke

Ganit Richter Hanning Shao Jakob Kusnick

James Adrian Balfour	Joanna Katarzyna Hałaczkiewicz	June Wang
James Cummings		Justin Johnson
Jami Ake	Joaquin Rodriguez Cordeu	Justy Joseph
Jan Rybicki	Joe Wicentowski	Kanji Kato
Jana Smith Elford	John Bradley	Katharina Hering
Janis Dähne	John McEwan	Katharine Emily Teykl
Jason Dzubak	John O'Brien	Katherine D. Harris
Jay Varner	Jonatan Jalle Steller	Katherine Ireland
Jeannette Schollaert	Jonathan Adam Clemons	Katherine Thurlow
Jenna Stidwill	Jonathan Girón Palau	Kathryn Ann Blizzard
Jennifer Isasi	Jörg Hörnschemeyer	Katie Lai
	José Calvo Tello José Torres Álvarez	Katie R Muth
Jens Dörpinghaus		
Jerald Lim	Joseph Anderson	Ke Zhao
Jeremi K. Ochab	Joseph Hiliary Nockels	Keith Cheng
Jeremy Browne	Juan Cobo Betancourt	Keli Du
Jesse P. Karlsberg	Judith Brottrager	Keyanah Nurse
Jessica Monaco	Julia Flanders	Kim Nayyer
Jianxuan Hong	Julia G. Polyck-O'Neill	Kiyonori Nagasaki
Jiaqing LONG	•	Konstantine Vlasis
Jimmy Medeiros	Julia Jennifer Beine	Koraljka Kuzman Šlogar
Jiying Kang	Julian Häußler	Kristen Mapes
Joana Vieira Paulino	Juliana Marques	Kunal Vohra
		L. Alberto Polo Romero

Lala Zuo Luca Federico Cerra Maria Fronczak

Laura Brannan Fretwell Luca Giovannini María Goicoechea

Laura Rotunno Lucas Avelar Maria Levchenko

Lauren Coetzee Lucian Li María Ortiz Tello

Lauren Klein Lukas Rosenthaler Marie Anna Puren

Laurie Allen M Luisa Díez Platas Marie Flüh

Lauryn Wilde Maayan Zhitomirsky-Geffet Marija Blašković

Lavanya Dahiya Maciej Eder Marine Clemence Avequin

Leanne Fan Maciej Kurzynski Marisol Fila

Lee Bessette Magdalena Turska Marjan Moosavi

Leticia Tobalina-Pulido Mai Takahashi Mark Andrew Algee-Hewitt

Lin Du Malte Vogl Mark Edwin Peterson

Linda Freyberg Marc Alexander Markus Reisenleitner

LingYi Huang Marc Lemke Martha Attridge Bufton

Lisa Jean Baer-Tsarfati Marcela Isuster Martin Grandjean

Lisa Maren Poggel Marcello Vitali-Rosati Martin Holmes

Lisa Marie Rhody Marco Humbel Martina Scholger

Lisa Spiro Marcus Bingenheimer Mary Borgo Ton

Lisa Tagliaferri Marcus Pöckelmann Mary Naydan

Lisandra Costiner Margot Lise Mellet Maryna Maslova

Lise Foket Marguerite Jane Adams Masako Kubo

Lorena Gauthereau Mari Kurokawa Masao Oi

Lorna M Hughes Maria Beliaeva Solomon Mason Jones

Mathias Zinnen Mila Aponte-González Natsuko Nakagawa

Matteo Romanello Mila Oiva Newman Chen

Matthew Gold MinHeng Lee Nicholas Andrew Budak

Matthew Lavin Mirerza González Vélez Nicholas Lua

Megan Martinsen Miriam Peña-Pimentel Nickoal Eichmann-Kalwara

Meghan Ferriter Miriam Posner Nicolas Quiroga

Mehdy Sedaghat Payam Mmasibidi Setaka Nils Kellner

Meilong Chen Molly Taylor-Poleskey Nirmala Menon

Melanie Conroy Mona Elayyan Noelle Baker

Melanie Walsh Morgan Pearce Nuria Rodríguez-Ortega

Melissa Jerome Myeong Lee Or Rappel Kroyzer

Mengyuan Zhou Nanette Rißler-Pipka Orla Brid Delaney

Meredith Graham Narayanamoorthy Nanditha Øyvind Eide

Meredith Martin Natalia Ermolaev Pablo Ruiz Fabo

Merten Kröncke Natalie Claire Seitz Paloma Vargas Montes

Merve Tekgürler Natalie Eloise Finlayson Pamella R. Lach

Mia Ridge Natalie Houston Panagiotis Papageorgiou

Michael Sinatra Natalie Lorraine Liliensiek Paola Peratello

Michael Tiemann Natalie McGartland Paolo Verdini

Michaela Mahlberg Natalie Nudell Parham Aledavood

Michał Mrugalski Natalie Phillips Pascal Belouin

Michelle Meagher Nathan Kelber Patrícia Esteves Reina

Michikazu Kobayashi Nathan Woods Patricia Ferreira-Lopes

Patricia García	Rebekah Walker	Santiago Munoz Arbelaez

Richard Khulusi Sarah Bénière Patrick Helling

Patrick J. Burns Sarah Ellwein Richard Tzong-Han Tsai

Sarah Gilbert Paul Pickering Ricia Chansky

Paweł Kamocki Sarah Griebel Riva Quiroga

Peizhen Wu Robert L. J. Shaw Sarah Hoover

Sarah Tew Peter Zhang Roberto Vargas

Petr Plechac Robin Jegan Satoru Nakamura

Pierre Willaime Robin Miller Sayan Bhattacharyya

Pilar Ramirez Restrepo Roch Delannay Sean Fraga

Sean Takats Pouyan Shahidi Marnani Rongqian Ma

Qilin Liu Rosalind J. Beiler Sebastian Barzaghi

Seiko Ochi Quinn Dombrowski Ross Deans

Kristensen-McLachlan

Rachel Milio

Quynh Tong Servanne Monjour Ru Mo

Rachel M Jacobson Setsuko Yokoyama

Runze Song

Shani Evenstein Sigalov Ryan Christopher Dubnicek

Radomir Stanković Shanmugapriya T

S.E. Hackney

Raffaele Cioffi Sharanya Ghosh Sam Blickhan

Raffaele Viglianti Shiyao Li

Samuel Ehrlich Backer

Raphael Schlattmann Shuang Xiao Sander Muenster

Rebecca Nesvet Shumpei Katakura

Sandra Toffolo Rebecca Sutton Koeser Silke Schwandt

Sandy Aoun

Simona Stoyanova	Tariq Yousef	Ursula Lehmkuhl
Simona Stovanova	Tariu Yousei	Ofsula Lennikum

Smiljana Antonijevic Teresa Santa Maria Valeriia Korotkova

Song Chen Terhi Nurmikko-Fuller Vasundhra Dahiya

Sonia Marie Del Hierro Thibault Clérice Vered Silber-Varod

Sophia Booij Thora Marisa Hagen Victoria Gerasimova

Sophia Martinez-Abbud Tobias Ebbrecht-Hartmann Victoria Van Hyning

Spencer William Roberts Tobias Gradl Viktor J. Illmer

Stav Klein Todd Russell Hanneken Vishal Hiteshbhai Patoliya

Stefan Jänicke Tom Scheinfeldt Vyshantha Simha

Stefan Udelhofen Toma Tasovac Walter Scholger

Stefanie Schneider Tomasz Umerle Wei Zhao

Stephanie Evert Tong Li Wenqian Guo

Stephen Hart Tong Wei Wenyi Shang

Stephen Zweibel Tonisha Guin Whitney Sperrazza

Supreet Kaur Tonya-Marie Locke Howe William Reed Quinn

Susan Brown Torsten Hiltmann Winnie E. Pérez Martínez

Suzanne Alayne Moody Torsten Roeder Wouter Haverals

Suzanne Chase Toshinobu Ogiso Wouter Paul Kreuze

Sven Najem-Meyer Trent Wintermeier Xiaochen Fang

Sydney Logsdon Tsz-Kin Chau Xiaotong Xu

Sylvia Arlene Fernandez Tugce Karatas Xingchen Zhang

Talia Méndez Tyng-Ruey Chuang XinXuan Wang

Tanvi Sharma Uhl Matthias Xinyi Ding

Xuezhao Li
Ya-Chi Chan
Yael Levy
Yael Netzer
Yao Tong
Yohanna Joseph Waliya
Yoo Kyung Jeong
Yu Wang
Yuchen Yang
Yuerong Hu
Yufeng Han
Yumeng Hou
Yuqi Chen
Yuri Ishida
Yuta Hashimoto
Yuxiao Li
Zachary Lloyd
Zeynep Ecem Pulas
Zhenru Zhou
Zhuo Chen
Zoe LeBlanc
玉英 金