



## Tracing Intangible Heritage from Eurasia to Local Territories: Digital Projects of the I Deug-Su Centre

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# Tracing Intangible Heritage from Eurasia to Local Territories: Digital Projects of the I Deug-Su Centre

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## Abstract

The *Centro Studi Comparati I Deug-Su* at the University of Siena promotes the application of Digital Humanities to Medieval Latin Philology. Its platforms—ALIM, CORIMU, ELA, and RAMMSES—offer digital editions of Latin texts, lexical resources, and multimedia archives. The Centre also coordinates programs in text encoding, digital editing, and archiving, enhancing interdisciplinary studies and access to Latin cultural heritage.

## CCS Concepts

• Information systems → Digital libraries and archives; • Computing methodologies → Natural language processing

## 1. Introduction

Western medieval philology, a field which interest thousands of scholars and students all over the world, is characterized by vast and often unmanageable textual corpora, inadequate critical editions, limited accessibility to texts, and a scarcity of linguistic studies — despite Latin's profound influence on the lexicon of all modern Western languages. The creation and development of digital libraries, equipped with specialized linguistic analysis tools, can significantly help overcome these challenges. Furthermore, the large number of textual versions and variants calls for digital editions and approaches, that are far better suited than traditional print formats. Additionally, many of these texts possess a multimedia nature, often intertwined with musical elements, requiring the application of innovative, interdisciplinary methodologies.

The [Centro Studi Comparati I Deug-Su](#), based in the Department of Philology and Criticism of Ancient and Modern Literatures at the University of Siena, is among the most active Italian centers applying digital humanities to medieval philology. Founded in 1994 by the Korean medievalist and comparatist I Deug-Su, the Centre promotes interdisciplinary and intercultural research and publications in comparative literature, medieval studies, and digital philology. Under the direction of Prof. Francesco Stella, the Centre has secured more than 24 national and international research grants including the Korea Foundation, the National University of Seoul, the European Commission, the Italo-French University, the Italian Ministry of University and Research, the National Research Council and the Tuscany Region in partnership with public institutions and private companies. Digital projects now account for 60% of its funded activities.

## 2. Contribution to the research

The Centre's wide range of digital initiatives — including digital platforms, software tools, virtual exhibitions, archival projects, and educational programs — demonstrates its strong and ongoing dedication to advancing medieval studies (and related fields) through innovative, collaborative, and interdisciplinary approaches within the field of digital humanities. These activities

are designed not only to improve access to medieval texts and sources but also to enhance general scholarly analysis and interpretation by leveraging cutting-edge digital methodologies.

## 3. Innovation

Over the years, the Centre has invested in creating and maintaining pioneering digital and multimedia editions of Medieval Latin texts, including previously unpublished musical poems (see CORIMU and RAMMSES *infra*), thereby providing broad access to primary sources and materials that were formerly unavailable. CORIMU exemplifies both a tool and a method for combining traditional 'reconstructive' philology (author- and original-oriented) with 'new' philology, which is more oriented toward primary sources. It has also developed extensive digital libraries (see ALIM and ELA *infra*) that enable comparative studies and feature integrated automatic linguistic analyzers (see *Alim-Plus* and *ELA tools infra*). ALIM provides free access to the most extensive collection of medieval texts and documents from Italy, offering a unique gateway to historical sources of general interest as well as to linguistic documents. ELA presents an unparalleled collection of Latin and Sino-Latin texts (i.e., texts written in Latin that include Chinese words), granting free access to sources relevant to the history of East Asia, the Catholic Church, and early modern botany, medicine, and astronomy. Additionally, the Centre has created specialized lexical tools (see *Lexicon infra*) tailored to the identification of linguistic features in Latin texts, supporting stylistic and authorship attribution analyses suited to whatever language in Latin characters and extensible to other alphabets. Another central aim has been the valorization of specific geographic areas — such as the local regions of Siena and Arezzo (see *STUDIUM* and the forthcoming *UMAS infra*) — as well as broader East Asia, alongside the exploration of historically underexamined periods, notably 16th–17th century Asia.

## 4. Results

### 4.1 Digital Platforms

- [ALIM – Archivio della latinità italiana del medioevo](#) (found. G. Alessio, G.C. Polara)

Promoted by the Union Académique Internationale, ALIM is the largest digital library of Latin texts from the Italian area. It collects texts digitized from critical editions or early prints that are encoded in XML-TEI and can be analyzed using lexical analysis software (see *Lexicon* below). In 2025, the platform was enhanced with the tool *Alim-Plus*, which enables users to query subcollections organized independently from the main archive. The collection has been included in the *Corpus Corporum*, the world's largest library of Latin texts. [DM19] [Fer17] [MR20]

- [CORIMU – Corpus Rhythmorum Musicum](#) (lead. F. Stella, S. Barrett; dev. G. Desideri, L. Tessarolo; coord. I. Volpi)

Funded by the European Commission and the Italian Ministry of University and Research, CORIMU offers the first digital scholarly edition of Latin rhythmic poems (4th–9th c.) accompanied by music, representing the earliest documented “songs” of European civilization. It includes critical texts, transcriptions and images of witnesses, recordings of the reconstructed melodies, and searchable cross-databases, concordances and frequency-lists of paleographic, musical, and linguistic features [Ste03] [Ste06].

- [ELA – Eurasian Latin Archive](#) (lead. F. Stella; dev. E. Carbé, N. Giannelli)

Launched in 2018 with co-funding from the Tuscany Region (DAS-MeMo project, Giovanisì initiative), ELA gathers Latin texts and documents (including Chinese words) related to East Asia, searchable via advanced and specific semantic and statistical tools (*ELA tools*) [CG19] [CG20] [Ste20a], supported by an innovative cross-language search engine that can be used for other multilingual libraries. It contributed to [SERICA](#) (FISR 2022–2023), a multilingual digital collaborative environment featuring texts and images about the Central Asian routes between China and Europe [PS26].

- [POEXÉGÈSE](#) (lead. F. Stella; dev. I. Burri, C. Valerano)

Developed as part of the University of Strasbourg's [PoBLAM](#) project, POEXÉGÈSE aligns medieval Latin versification of biblical books with their scriptural sources and their earlier and contemporary commentaries using XML-TEI encoding and hypertext links.

- [RAMMSES – Realtà Aumentata del Medioevo Musicale di Siena e del Senese](#) (lead. F. Stella; dev. I. Volpi, M. Passarelli)

Funded by the Tuscany Region, RAMMSES features digital transcriptions and recordings of medieval Latin liturgical songs from Siena (12<sup>th</sup>-13<sup>th</sup> c.). The website offers augmented reality experiences and already serves as a model for similar projects.

- UMAS. Università medievali di Arezzo e Siena (lead. E. Bartoli, collab. C. Estebán Martínez, F. Costanti)

UMAS 2025-2027 will focus on georeferenced mapping and transcription of medieval University records in Arezzo and Siena.

#### 4.2 Virtual Exhibitions

- [STUDIUM – Lo Studio Aretino del '200](#) (lead. F. Stella; dev. C. Cartocci)

STUDIUM is a multimedia virtual exhibition on the origins and structure of the medieval Studium of Arezzo, featuring reproduction, digitization, and transcription of original documents.

#### 4c. Digital Archives

- [SEMICERCHIO – Rivista di Poesia Comparata](#) (lead. F. Stella; dev. C. Cartocci)

Awarded by the Italian Ministry of Culture, *Semicerchio* has served since 1998 as an asynchronous editorial platform. It offers a searchable archive of over 70 volumes, and more than 6000 scholarly contributions, including audios and videos. The companion site [Semicerchio scuola](#) (dev. E. Carbé) hosts school resources and programs.

#### 4d. Software

- [Lexicon](#) (orig. F. Stella; dev. L. Tessarolo, S. Arrigoni)

Launched in 2014, *Lexicon* is the first Italian tool for lexical frequency analysis and differential comparison across texts and corpora. It also includes the first open-access lemmatizer for Medieval Latin [Ste20b]. Designed for broad use, it is suitable for both scholars and students

#### 4e. Teaching and Training

- [INFOTEXT - Master di II livello in Informatica del testo-edizione elettronica 2008-2025](#) (dir. E. Bartoli)

INFOTEXT (2008–2025) has been the first Italian postgraduate program in digital text editing, training students in XML-TEI encoding, data mining, digital preservation, and online publishing.

- [DEMM - Digital Editing Medieval Manuscripts](#) (lead: L. Doležalová, F. Stella; dev. E. Poleg)

DEMM (2015–2017) was an Erasmus+ Key Actions program, training students on advanced methods for editing medieval manuscripts. It combined theoretical instruction with hands-on practice, making a wide range of high-level teaching materials freely available.

- [Carolingian Literary Lab](#) (coord. F. Stella)

Carolingian Literary Lab (2023) was a Erasmus+ Blended Intensive program, training students on editing of Carolingian texts. It combined onsite and online lessons, offering a new teaching model for mixed classes of international students.

#### 5. Conclusion

With a long-standing and internationally networked presence in the field of digital philology and humanities computing, the Centro Studi Comparati I Deug-Su has enhanced the study of research on unexplored aspects of Latin and Medieval Culture both in local and global perspective by overcoming key structural limitations of the discipline — namely, the difficulty of accessing and analyzing complex textual traditions and multimedia materials using tools and methods suited for general reuse. Through its integrated platforms, innovative tools, and large collaborative international projects, the Centre has made significant contributions not only to the preservation and dissemination of medieval texts, but also to their linguistic analysis and critical understanding. Its initiatives offer a replicable model for how Digital Humanities can transform philological research by combining traditional scholarly rigor with technological innovation.

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