

EDITORIAL SCIRES-IT. DIGITAL FRAMEWORKS, IMMERSIVE TECHNOLOGIES, AND ETHICAL HORIZONS IN CULTURAL HERITAGE RESEARCH

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Abstract

The publication of issue No. 1 of Volume 16 (2026) of *SCIRES-IT - SCientific REsearch and Information Technology* marks another significant step forward in the journal's long-standing mission to foster an international, multidisciplinary dialogue on the digital transformation of cultural and environmental heritage. This issue gathers original works that explore cutting-edge digitalization, immersive and multimedia methodologies, and Information and Communication Technology (ICT) ecosystems specifically designed to support the documentation, conservation, and enhancement of our shared heritage. This context also offers an opportunity for a broader reflection on the ethical and methodological dynamics permeating today's global research system.

Keywords

Diamond Open Access, Cultural and Environmental Heritage, Immersive Technologies; Multimedia Methodologies; ICT Ecosystems, Global Research Ethics & Dynamics

The publication of issue No. 1 of Volume 16 (2026) of *SCIRES-IT - SCientific REsearch and Information Technology* marks another significant step forward in the journal's long-standing mission to foster an international, multidisciplinary dialogue on the digital transformation of cultural and environmental heritage.

As consolidated by its indexation in major international databases—including Scopus and the Web of Science (WoS) Core Collection (ESCI), its positioning within the SJR SCImago Journal Rankings, and its prestigious "Class A" rating by ANVUR for the sectors of Architecture (Area 08) and Archaeology (Area 10/A1), alongside its recognition as a "Scientific Journal" across multiple humanities and social sciences sectors—*SCIRES-IT* continues to serve as a leading venue for high-quality, peer-reviewed research.

Since its inception, the journal has been characteristically defined as a Diamond Open Access and eco-sustainable publication, ensuring completely barrier-free access to knowledge with no fees charged to either authors or readers. (Boero & Lucarella, 2018; Gallo & Accogli, 2022; Maggiore, 2025; DDH, 2025; Valzano, Boero,

Lucarella, 2025).

This virtuous and ethical model is sustained entirely by the remarkable generosity and passion of the Editorial Team, who work on a strictly voluntary basis and personally cover operational management costs, as well as by the essential, uncompensated contributions of our reviewers. In line with this commitment to ecological responsibility, the publication of each volume is consistently paired with a concrete environmental restoration and enhancement action in protected natural areas. (*SCIRES-IT Manifesto*, 2011; Valzano, 2014; Maggiore, 2022).

In strict alignment with our core call for papers, this issue gathers original works that explore cutting-edge digitalization, multimedia methodologies, and Information and Communication Technology (ICT) ecosystems specifically designed to support the documentation, conservation, and fruition of our shared heritage.

The contributions in this issue form a continuous, synergistic narrative that illustrates the growing maturity of digital workflows applied to historical assets. The issue opens with research characterized by a robust methodological and

experiential impact, demonstrating how semantic data structuring and user interaction are becoming increasingly intertwined.

Initial studies delve into the integration of interoperable parametric information models (HBIM) to optimize the preventive conservation and structural understanding of historical architecture. This rigorous geometric and semantic baseline is immediately connected to the realm of Extended Reality (XR). Scholars investigate how narrative-driven virtual and augmented environments can be leveraged not only to communicate the spatial complexity of heritage sites but also to evaluate the emotional and cognitive perception of the users interacting with them.

As the narrative progresses, the focus shifts toward emerging technological frontiers and computational innovation. The issue explores advanced pipelines that pair terrestrial laser scanning and photogrammetry with innovative archaeological matrix methodologies to reconstruct complex decorative palimpsests.

Furthermore, the boundaries of virtual visualization are expanded through the deployment of next-generation three-dimensional rendering algorithms, alongside the integration of generative Artificial Intelligence within mixed reality setups.

These tools open unprecedented paths for historical storytelling and interactive exhibition design at sensitive archaeological sites, subsequently prompting a vital academic reflection on the urgent need to define and update professional skill sets for creators operating within evolving digital ecosystems and the Metaverse.

This scenario also offers an opportunity for a broader reflection on the ethical and methodological dynamics permeating today's global research system.

The growing pressure of "publish or perish", fueled by scientific evaluation models increasingly oriented toward purely quantitative and numerical parameters, is profoundly transforming the timelines and modalities of academic production. In this highly accelerated context, the uncritical adoption of Generative Artificial Intelligence tools sometimes risks translating into lower scientific accuracy, manifesting also through the phenomenon of distorted or unverified bibliographic references (hallucinations).

It is therefore essential to reaffirm that source

accuracy and philological rigor remain a central and non-delegable responsibility of researchers, safeguarding the integrity of scientific literature as a whole.

Similarly, the necessity of ensuring rapid publication timelines must be reconciled with the sustainability of academic work.

The scientific community is currently called upon to meet increasingly burdensome institutional and research commitments—such as major national and international projects that absorb evaluators' time.

In this framework, peer-review and editorial revision processes require adequate time to maintain the quality standards expected by readers.

Scientific cooperation, especially within Diamond Open Access contexts based on free sharing and the voluntary work of the scientific community, cannot dispense with a covenant of mutual respect for timelines, guidelines, and editorial efforts—indispensable elements for preserving research excellence.

Complementing the emphasis on immersive visualization, this issue addresses the invisible yet critical digital infrastructures that ensure the longevity of our research.

Dedicated contributions emphasize the necessity of aligning digital archiving with international reference frameworks—such as the OAIS model—to guarantee the long-term preservation, metadata integrity, and accessibility of digitized heritage data.

This digital safeguard is matched by innovations in physical preservation; this issue highlights how low-cost internet-of-things (IoT) sensor networks can democratize environmental monitoring, providing small-scale museums and regional repositories with sustainable, high-precision tools for preventive conservation.

The scientific trajectory of this issue extends to anchor technological innovation back to its historical and philological roots through the digital analysis of sources and stratigraphies.

Specific studies within this issue demonstrate how custom computational parsers and algorithmic workflows can be successfully applied to decode historical theoretical treatises and bilingual epigraphic inscriptions.

The issue concludes by showing how ICT-based stratigraphical workflows and rigorous historical graphic reconstructions can successfully work in tandem, restoring legibility, memory, and

profound architectural comprehension to ruined structures and historical designs that were left incomplete.

Collectively, the works gathered in this issue confirm that the digital transition does not merely represent a means of visual documentation, but now constitutes an indispensable methodological pillar for preserving cultural memory and consciously transmitting it to the future.

We extend our deepest gratitude to all the

authors for choosing this journal to disseminate their research, and we are profoundly thankful to the members of our Scientific Committee and our anonymous national and international reviewers.

Their rigorous dedication to the double-blind peer-review process, combined with the altruistic commitment of our editorial staff, ensures the uncompromised academic excellence and total accessibility that define our community.

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