



Session

Smart Archaeology: new perspectives and challenges for archaeology in the digital-driven era

Chairpersons:

Michele Russo (Department of History, Representation and Restoration (SDRA), Sapienza University of Rome) - Italy

Valeria Cera (Department of Architecture (DiARC), University of Naples Federico II) - Italy

Description and Motivation:

Integration between innovative technologies and traditional research techniques is increasingly evident, mutating the specifics of each into a single knowledge chain. In recent decades, the incremental introduction of digital technology has changed how field studies, data collection, processing, analysis, and communication of results are carried out. It has led to digital understanding in its broadest sense as an approach that is now indispensable in every step of the process. However, technological evolution is constantly evolving, seeking new boundaries to explore. The increasingly massive application of advanced data acquisition, processing and visualization tools is leading to new research scenarios. Archaeology is an area of great experimentation at the intersection of technology and transdisciplinary knowledge. Smart Archaeology merges innovative technologies with traditional archaeology. It represents a new frontier for specialists working in the archaeological realm.

With their constant development, IoT, XR and AI are redefining the operational boundaries and application potential in several aspects of archaeological research. Their combination consolidates and expands potential uses, especially in data management, communication, and reconstruction activities. At the same time, the spread of AI is also impacting archaeological research with a growing interest in ML/DL and generative AI applications in archaeological investigations, excavations, material collection, data analysis and even document writing. The integration between these research domains can define new operating paradigms. The session, therefore, aims to explore and critically evaluate the growing impact of Artificial Intelligence, extended reality and the Internet of Things in the archaeological domain. It will discuss the opportunities and challenges of the intersection of disciplines, from theoretical approaches and models to optimized practical processes.

Target Audience:

The session explores the potential of new IoT, XR and AI tools for data analysis, management, interpretation and communication. Authors are encouraged to submit papers presenting original and innovative studies that address the new challenges and implications of smart archaeology. The target audience consists of researchers, scholars, practitioners and those working in PAs dealing with archaeological heritage.

Keywords:

AI, XR, IoT, Smart Archaeology, Transdisciplinary

[Click here to make a submission!](#)