

## Session

Entry ID: 201

Title: **3D Documentations in Archaeology**

Description (250-300 words required)

In this session, experiences and developments related to the use of platforms such as UAVs (Unmanned Aerial Vehicles) and UUVs (Unmanned Underwater Vehicles) for collecting image and other sensor data can be presented.

Particularly in the field of underwater archaeology, viable solutions for reliable georeferencing are still being sought. A crucial aspect of the topic is the software tools for processing, storing, retrieving, and analyzing 3D data. The primary challenge is to ensure data quality, transparency, and reproducibility of research processes and results. While proprietary software packages have facilitated the process of 3D model creation, they often act as black boxes. Additionally, high license fees create a barrier to entry, reducing the reproducibility of research results. Therefore, we are particularly interested in developments and advances in open-source software and workflows for the creation, analysis, and publication of 3D data.

Another topic under discussion is the development of suitable tools and data structures for working with and storing 3D models and related information. Nowadays, most 3D models of archaeological sites and cultural heritage assets have a certain presentation character: They provide a good visual impression of the object of interest, but for further analysis, most studies rely on derived products such as plan drawings and orthophotos, which are easier to annotate and analyze. We are interested in innovative ways to harness the potential of 3D data for the documentation, analysis, and monitoring of archaeological and cultural heritage sites in the 3D environment. Case studies could, for example, focus on the classification and annotation of 3D models and their linkage with data structures for documenting qualitative and quantitative information.

### **Motivation:**

3D documentation to improve workflows, research, and presentation of archaeological sites, cultural heritage sites, and objects has become established in archaeology.

### **Target Audience:**

This session invites submissions on topics such as:

- Complete workflows and case studies,
- Decision/planning support processes for excavation and heritage documentation campaigns,
- Georeferencing and quality assurance,
- Processing pipelines and workflows for 3D reconstruction, especially FOSS solutions,
- Monitoring: continuous excavation and site recording for documentation, conservation, and long-term studies,
- Data management solutions for recorded data, annotation, and integration of 3D data with qualitative data and long-term accessibility of 3D data,
- Innovative applications for the analysis of 3D data for archaeological research questions.

Contributions and perspectives are welcome and may address the aforementioned topics or further enhance established practices and processes.

### **Keywords (3-5 keywords required):**

3d documentation, 3d reconstruction, 3d data