

SAFETY_SpecialSession_02

VULNERABILITY OF ARCHEOLOGICAL HERITAGE: ANALYSIS, MODELING AND PRESERVATION STRATEGIES

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The preservation of art collections is in some cases a priority and a challenge, especially when they are exposed to environmental actions and natural hazards. In this framework, ruins in archaeological sites (open-air museums) plays a critical role. Every day there is the risk of archaeological artifacts being lost or of undergoing a slow and progressive deterioration. The presence of visitors is often cause of damage. Their prolonged exposure to weathering, frost-thaw alternate cycles, humidity variation, etc, continuously reduces mechanical properties of materials such as stones and mortars. But, above all, their peculiar condition of being individual ornamental elements or architectural elements detached from the context to which they originally belonged (individual columns, arches, porticoes, colonnades, statues still placed on pedestals or on the lintels of ancient constructions, discontinuous sets of walls, etc.) makes them particularly vulnerable. In these cases, it is necessary to carefully assess the vulnerability level of this category of artistic heritage to earthquakes, soil and foundation settlements and damage provoked by visitors.

This special session is aimed at collecting contributions dedicated to the evaluation of the risks to which the archaeological cultural heritage is exposed: methods of multi-scale analysis, interdisciplinary approaches, applications of structural analysis, both in analytical and numerical form, and case studies carried out on significant archaeological sites. Contributions to the design of preventive, non-invasive systems aimed at their preservation are welcome as well.