Session ID: NSE-4

Title
ART COLLECTIONS: VULNERABILITY ASSESSMENT AND DESIGN PROPOSALS

Convenors
S. Viti [1], M. Tanganelli [1]

Description
Art works play a fundamental role in our cultural and economic assets, enforcing the identity of communities and helping social integration. Despite their importance, they are not always adequately protected against degradation. Earthquakes is certainly one of the main risks for art goods, even if other atmospheric and human-induced events can represent considerable dangers. Furthermore, due to their age, fragility of materials, and slenderness, they result to be very vulnerable to shocks and dynamic actions.

In these last decades, the protection of art works from dynamic actions has been gaining an increasing attention, involving multidisciplinary approaches which collect new technologies, such as the digital control and the 3D reconstructions, together with the most advanced structural analyses.

This session aims to collect advanced contributions - both analytical and experimental - from academics, researchers, students, post-graduate students and professional engineers dealing with the safety assessment of art collections against earthquakes and further dynamic actions, such as explosions and environmental vibrations. All the steps involved in the process aimed at assessing the vulnerability of art works subjected to dynamic excitations are included in the session, such as the proposals for increasing their safety and conservation.

The main topics to be debated within the technical session include:
- General approaches for assessing the seismic safety of artifacts and art collections.
- Experimental analyses of artifacts.
- Computational analyses of the response of art works to earthquakes, wind, explosions and further possible dynamic actions.
- Analyses of real case-studies.
- Design of innovative devices for increasing the seismic safety of art collections.

Invited Speakers
F. Bontempi [2], M. Betti [3], M. Domaneschi [4], A. Morales-Esteban [5]

Affiliations
[1] Department of Architecture, Florence, Italy, [2] Department of Structural and Geotechnical Engineering, Rome, Italy, [3] Department of Civil and Environmental Engineering, Florence, Italy, [4] Department of Structural, Geotechnical and Building Engineering, Turin, Italy, [5] Department of Building Structures and Geotechnical Engineering, Sevilla, Spain