

Advanced Technologies in Architectural Heritage Protection

Guest Editor:

Dr. Roxana Radvan

Centre of Excellence for
Restoration by Optoelectronic
Techniques, National Institute for
Research and Development in
Optoelectronics INOE 2000, 409
Atomistilor St. Magurele, Ilfov
county, Romania

Deadline for manuscript
submissions:

closed (5 December 2022)

Message from the Guest Editor

Dear Colleagues,

The role of scientific research in the conservation and restoration of the built heritage is unquestionable. Identifying vulnerabilities of cultural assets and highlighting risk factors and dynamics of material behavior lie at the foundation of strategy development for good conservation, as well as for the prediction of behaviors or for the simulation and analysis of interventions. The intelligent choice of analysis and diagnosis methods, the remote operation, the elimination of original material sampling, and the non-contact and non-invasive characterization of materials and multilayer structures, of fragile surfaces, and of accelerated degradations are also topics of interest. Moreover, the characterization of the impact of environmental and microclimate factors in relation to the architectural features and even urban planning are topical issues in applicative research. Mural paintings, decorative art in all its forms, polychromy, the particularities related to the organic or inorganic nature of materials, and the microclimate conditions are topics of interest.

Dr. Roxana Radvan

Guest Editormdpi.com/si/84545

Special Issue

Editor-in-Chief

Prof. Dr. David Arditi

Construction Engineering and
Management Program,
Department of Civil,
Architectural, and Environmental
Engineering, Illinois Institute of
Technology, 3201 South
Dearborn Street, Chicago, IL
60616, USA

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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Buildings Editorial Office
MDPI, St. Alban-Anlage 66
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