

GEOMATICS AND RESTORATION: CONSERVATION OF CULTURAL HERITAGE IN THE DIGITAL ERA

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WG V/1, WG V/2 WG II/8, WG VI/2

PREFACE

The content of this publication aimed to bring the gap, still existent, between Geomatics and Restoration by a comparative discussion on the impact that new digital technologies have had on the practice of recording Cultural Heritage in view of its preservation and valorisation. These two disciplines have never been completely independent because they are consecutive steps in the process of safeguarding and enhancement of Cultural Heritage.

All the papers here included have been presented at the GeoRes2017, the 1st International Conference on “Geomatics and Restoration: Conservation of Cultural Heritage in the Digital Era” (22-24 May, Florence, Italy) and have been accepted based on their peer reviewed extended abstracts by the conference scientific committee.

The conference has been organized by AUTECA – the Academic Association of Topography and Cartography, SIRA – the Academic Association of Architectural Restoration, and IGMI – the Italian Geographic Military Institute - which work in different realms of the Cultural Heritage sector and has been supported by ISPRS (WG V/1, WG V/2 WG II/8, WG VI/2) and CIPA Heritage Documentation.

It was also under the patronage of UNESCO Italian Committee, Ministry of Cultural Heritage and Activities and Tourism, ICOMOS – Italy, Tuscany Region, Municipality of Firenze, University of Florence and Italian Society of Photogrammetry and Topography (SIFET).

Starting from the main output coming from all technologies - 3D point clouds - a myriad of new representations is offered for planning and analysis of conservation projects, and for disseminating information about heritage sites as well as many new problems. But geomatics and restorers approach cultural heritage from different perspectives. For example, data producers often overestimate the importance of accuracy, while data users do not appreciate the importance of a correct methodology in creating a reliable survey of an architectural complex. Sharing, exchanging, and exploring new approaches, good practices, and research results in this cross-disciplinary arena between these two worlds should be helpful in order to develop a common language and to share common goals.

GeoRes2017 Conference intended to emphasize the importance of interdisciplinary in projects involving the use of new technologies for the preservation and valorisation of Cultural Heritage.

Equally important is the entire concept of a data producer versus a data consumer. Today anyone with a small drone, digital camera, smartphone, or inexpensive scanner is producing data with few standards and little evaluation. The result is a collection of case studies with little quality control, no means of scientific evaluation or comparison. What is needed is cooperation and interaction between surveyors, restorers, and researchers to investigate the mutual impacts of these issues in regards to emerging technologies.

All the papers are related to the topics of the conference and are organized in the following sub-sections:

1. Risk and resilience
2. The use of digital images in visible and not-visible ranges
3. Thematic data documenting pathologies, materials, decay, data georeferencing
4. HBIM for management and maintenance / Relationship between recording and design processing
5. Documentation of monumental complexes
6. Digital and physical replicas - augmented reality, virtual restoration
7. Education and communication

The conference was combined with a preliminary workshop especially addressed to PhD students, postdoctoral fellows and young researchers.

As editors of this ISPRS volume, we hope that, academics, architects, restorers, engineers, decision makers and students interested in Cultural Heritage, will greatly benefit.

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* Chair of the conference