

2019 IMEKO TC-4 INTERNATIONAL CONFERENCE ON

METROLOGY FOR ARCHAEOLOGY AND CULTURAL HERITAGE

FLORENCE, ITALY | DECEMBER 4-6, 2019

CALL for
PAPERS for the special session on:



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DATA ACQUISITION AND PROCESSING BY INTEGRATED GEOMATIC TECHNIQUES, EXPERIENCES AND OPEN ISSUES

→ ABSTRACT

Geomatic techniques for Cultural Heritage surveying and mapping are increasingly changing the methods of data acquisition and management, specifically in Archaeology. The phases of digital data acquisition and processing are closely related and must be implemented in the most efficient and effective way for the various contexts.

The Geomatic approach, which promotes today the integration of different range-based and imagebased methods, needs a discussion about the most appropriate solutions and best practices for 3D recording, monitoring, representation and information management, taking care to satisfy metric and data quality requirements.

→ TOPICS

This special session wants to promote the dialogue in scientific community by the presentation of experiences and research contributions on the following topics:

- Integration of Geomatic techniques for 3D recording in Archaeology
- Development of sensors and special devices for surveying and monitoring
- Instrumental calibration for 3D data acquisition
- Data fusion for advanced remote sensed techniques
- Geomatic techniques for safety assessment of structures
- Long-term monitoring of structures
- Quality evaluation and standards in recording and documentation
- Multi-resolution geospatial data management in Archaeology
- Historical BIM technology and point clouds based 3D modeling

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→ ORGANIZED BY



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→ ABOUT THE ORGANIZERS

Gabriele Bitelli: Full Professor of Geomatics at Bologna University, Department of Civil, Chemical, Environmental and Materials Engineering (DICAM).

The main research interests are related to surveying and monitoring with integrated Geomatic techniques, applications of geo-spatial methods for 3D Cultural Heritage surveying and modeling, deformation control for structures and territory, Remote Sensing for environmental change detection and risk management, digital approaches for historical cartography, Geographic Information Systems. He has been Principal Investigator and Scientific Responsible for EU and national research projects, and Coordinator of the Italian academic Association of Professors in Surveying and Mapping. Reviewer for many scientific Journals and Component of the Scientific Committee for several National and International Workshops.

He is author or co-author of more than 300 national and international scientific papers.

Maria Grazia D'Urso: Aggregate Professor of Geomatics at Bergamo University, Department of Engineering and Applied Sciences (DISA). Fellow of international and national Scientific Committees; currently Chair of Commission V/ISPRS, WG 2. Scientific responsible for operative units of several national research projects, national and international workshops and reviewer for different peer-reviewed international scientific journals. The main research interests are related to surveying and monitoring with integrated Geomatic techniques; applications of Photogrammetry, Laser-Scanning and Geographical Information Systems to the Cultural Heritage; 3D modeling of archaeological sites; new approaches for studying the gravity and gravitational terrestrial field; innovative geomatic techniques for monitoring and precision farming; digital terrain models and mapping urban landscapes; fuzzy logic and its applications. She is author and co-author of several papers published in international and national journals as well as proceedings of international Conferences in many Geomatics fields.