

NEW METROPOLITAN PERSPECTIVES 2020

THEMATIC SESSIONS - TS

TS-14

INTEGRATED TECHNIQUES AND INNOVATIVE METHODOLOGIES OF GEOMATICS FOR LOCAL DEVELOPMENT'S INNOVATION DYNAMICS

Keywords: UAV; GIS; GPS; 3D Model; Monitoring; Cultural Heritage.

Geomatic techniques for 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 image-based methods, needs a discussion about the most appropriate solutions and best practices for spatial temporal 3D modeling, real time monitoring, representation and information management, taking care to satisfy metric and data quality requirements.

The main topics are:

- Integration of Geomatic techniques for 3D recording in Archaeology;
- Development of sensors and special devices for surveying and monitoring;
- GPS network and GNSS real time surveying;
- 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;
- GIS;
- Quality evaluation and standards in recording and documentation;
- Multi-resolution geospatial data management;
- Historical BIM technology and point clouds based 3D modeling.

CHAIRS

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PROFESSOR of Geomatics at Mediterranea University of Reggio Calabria. The main research interests are related to surveying and monitoring with integrated Geomatic techniques, 3D modeling, Photogrammetry, GNSS, Remote Sensing, cartography, GIS. He is the Scientific Responsible of the Geomatics Lab. He is author of more than 300 scientific papers.

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PhD Student. 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; innovative geomatic techniques for monitoring and precision farming; digital terrain models and mapping urban landscapes.

