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Athens



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of Chemical  
Methodologies



Association  
Investing  
in Culture

## 6<sup>th</sup> International Congress on

*“Science and Technology for the Safeguard of  
Cultural Heritage in the Mediterranean Basin”*

# ***ABSTRACTS***



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# SCIENTIFIC PROGRAMME

## **SESSION A Resources of the Territory**

- A.1– Identity and Globalization
- A.2 – Reuse of Historical Centres
- A.3 – a) Archaeological Sites
  - b) Robotic Systems in Underwater Archaeology
  - c) Remote Characterization of Surfaces: robotic platforms
  - d) Signal Processing Advances
- A.4 - Natural Environment
- A.5 - Naval Heritage
- A.4 – Unmanned Aerial Vehicles on Site Surveillance
- A.5– Artefacts Dating

## **SESSION B Diagnostics, Restoration and Conservation**

- B.1 – a) Historical Buildings and Monuments
  - b) Non Destructive Techniques: In situ advanced diagnostics
  - c) Crack Mapping by Autonomous Flying Robots
  - d) Robotic Systems in Harsh Environmental Sites
  - e) Quad-rotor Helicopters in Monuments Diagnostics
  - f) Climbing Robots for Structure monitoring
- B.2 – a) Seismic Emergencies and Early Protection
  - b) Seismic Retrofitting of Historical Masonries
  - c) Climatic Change
  - d) Natural and Human Driven Hazards Endangering Cultural Heritage
- B.3 – Marbles, Stones and Lithic Materials
- B.4 – Mosaics, Frescos, Stuccos
- B.5 – Mural and Oil Paintings
- B.6 – Gems, Ceramic and Vitreous Materials
- B.7 – Paper Documents
- B.8 – Textiles
- B.9– Coins and Metallic Artefacts
- B.10 – Microbial Colonies Attack on Artefacts
- B.11 – Nanotechnologies in Cultural Heritage
- B.12 – Lab on Chip

## **SESSION C Biological Diversity**

- C.1 – Analysis and Preservation of Biological Diversity



- C.2 – Ethno Anthropological Heritage
- C.3 – Plants and Historical Gardens
- C.4 – Virtual Environment for Art
- C.5 – a) Robots and Tele Participation
  - b) Verbal Human – Robot Interaction

## **SESSION D Museums Projects and Benefits**

- D.1 – Museums Cultural Projects
- D.2 – Museums Monitoring and Microclimate Data Bases
- D.3 – Mobile Tele Presence for Museums
- D.4 – Multiple Embodiments for Robots in Heritage Applications
- D.5– Tourism and Economic Outcome

## **SESSION E Cultural Heritage Identity**

- E.1 - Documentation – Metadata description
  - a) Geometrical
  - b) Architectural
  - c) Structural
  - d) Materials
  - e) Integrated protocols
- E.2 - Interdisciplinary Knowledge Based Decision Making
- E.3. a) 3D reconstruction in Cultural Heritage
  - b) Image Processing Techniques in Cultural Heritage
- E.4 - a) ICT in Cultural Heritage Protection
  - b) Media production and Reuse
- E.5. - Collective Intelligence in Cultural Heritage
- E.6. - Education for Cultural Heritage Protection
- E.7. - Research policies for Cultural Heritage Protection

## **SESSION F Cultural Assets as Resources and Sustainable Development**

- F.1 - Sustainable Tourism in Cultural Heritage
- F.2 - Integrated Environmental Management for the Protection of Cultural Heritage
  - a) in Historic Cities/Centers/Sites
  - b) in Rural and Isolated Areas (Mountains, Islands)
- F.4 - Monitoring Technologies
- F.5 - Strategical Planning of Sustainable Development



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# AN INTANGIBLE SMART CITY INSIDE THE TANGIBLE HISTORICAL CITY: THE SMART HERITAGE AS REGENERATION OF EURO-MEDITERRANEAN REALITIES

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## **Abstract**

The current European context is suggesting a new model for the construction of the contemporary city, a new vision for the regeneration of public space, not only a material infrastructure, but also a virtual one, which provides citizens with a relevant role in the rethinking of the city through new methods of participation. This is the smart city model, resulted by the EU interventions, beginning with Europe 2020 and Digital Agenda at the European and national level. It compares with issues relating to various fields of application: technological field, on the design and application of innovative solutions in the field of information and computer systems and new technologies for smart cities, taking into account the trade, socio-organizational and regulations issues; organizational field, related to Living Labs, which is a set of initiatives and innovative projects on the issues of the city and environment, involving citizens in living laboratories within the urban



**Fig. 1** Smart meter in the historic centre of Malaga for the smart management of traffic.

public spaces; management field for complex organizations that use modern technologies, such as in the services and economic sector. The smart city model thus aims to environmental security, energy management in urban environments, management of logistics and info-mobility and monitoring of environmental changes. In this context, the citizen, through the practice of smart citizenship, characterized by knowledge and creativity, participates in the construction of new urban spaces where people exchange information via the physical and digital infrastructures, space for civic mobilization and political participation. Also talking about the smart

model it refers to a complexity of sectors involved (housing, mobility, public services, culture, governance, energy, security, economy, environment) for which it is now necessary to understand an integration supported by the virtual network consisting in the smart grids. The Euro-Mediterranean realities, who have accepted this proposal of urban regeneration, have followed different approaches for the construction of their intelligent model.

The proposed research examines how this EU policy is facilitating the construction of smart cities that are confronted with a cultural heritage to be protected, as is already happening in some urban realities of the Euro-Mediterranean band. We will proceed by making comparisons between the strategies adopted, through the identification of the most common civic practices and of the virtual infrastructure used. Then this article will bring to light how the virtual city descends into the historic one, how these two realities complement



each other and when the virtual city makes use of that historical and material one. The geographic area under consideration will include some euro-Mediterranean urban contexts, historically consolidated, which today are putting into practice the smart city model. Identify the point of contact between the two kinds of cities, material and immaterial ones, in the urban reality historically consolidated, it becomes a critical step to achieving a more conscious urban quality, as you attempt to establish a process of cultural identification through the knowledge of their own historical heritage.

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