

# **Information and Communication Technologies for Cultural Heritage Applications (InCuTe4CH)**

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The revolutionary expansion and developments of ICT in all areas of our life and the introduction of the Internet technology during the last 20 years is characterized by the transition from text, audio, and video to a high speed multimedia and 3D visualization services such as digital libraries, virtual museums, which are interlinked to other on-line and open-access services. Furthermore, on-line digital libraries expanded their content to include 3D museums objects, archaeological sites and monuments. In such a context, digitization, preservation and on-line availability of digitized cultural content have become a top-level research priority.

InCuTe4CH aims at the promotion of holistic approaches that exploit advances in photogrammetry, computer vision, machine learning, semantics and ontologies towards analytic schemes that support and facilitate the digitization, preservation and dissemination of cultural heritage artifacts.

**Topics and motivation:** The number of digital images that are available on-line today has reached unprecedented levels. Recent statistics showed that by the end of 2013 there were over 250 billion photographs stored in just one of the major social media sites, with a daily average upload of 300 million photos. These photos, apart from documenting personal lives, often relate to experiences in well-known places of cultural interest, throughout several periods of time. Thus from the viewpoint of Cultural Heritage professionals, they constitute valuable and freely available digital cultural content.

InCuTe4CH is to serve as an international forum for experts from both academia and industry to present their latest research findings, ideas, development and applications in the wide area of cultural heritage preservation, including vision based systems, search engines for efficient image retrieval photogrammetry, 3D reconstruction and publishing, semantics, learning based systems and archiving.

Topics of interest include, but are not limited to the following areas:

1. Low level processing of RGB, thermal and hyperspectral imaging for cultural heritage applications,
2. Spatio-temporal analysis of cultural heritage sites,
3. Content based image retrieval schemes for unstructured image data-drive,
4. Image indexing techniques for big image data,
5. Sampling techniques for selecting for image selection towards computationally efficient and accurate 3D reconstruction,
6. Recommendation systems for personalized cultural heritage dissemination,
7. Photogrammetry techniques for efficient cultural heritage digitization,
8. Multi-sensory and multi-modal (laser scanners, LiDAR) approaches towards digitization of tangible cultural heritage content,
9. Documentation and archiving methods for cultural heritage content communication,
10. Semantic annotation methods for cultural heritage data.

**Goal and expected results:** InCuTe4CH promotes and targets to state-of-the-art research papers from diverse disciplines so that enhancing existing work in cultural heritage digitization, documentation and preservation technologies and emphasize on new emerging research fields.

InCuTe4CH aims to bridge the gap between private and academic sector by highlighting holistic approaches, tools and models for civil engineers, computer scientists and environmental researchers, archaeologists, historians and cultural heritage professionals.

**Participants:** ~ 20 attendees

The specific workshop will be part of the EU 4D-CH-World, the H2020 COOP-8 ViMM and the ITN-DCH projects.