

Geodetic Methods for Modeling and Documenting Cultural Heritage Objects

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Forum topics	<input type="checkbox"/> Energy in 21st Century	<input checked="" type="checkbox"/> Cultural Heritage in Digital World
	<input type="checkbox"/> Engineering Capacity Building	<input type="checkbox"/> Disaster Risk Management & Governance for Resilient Communities
	<input type="checkbox"/> Construction 4.0	<input type="checkbox"/> BIM Lifecycle, Facility & Asset Management

Abstract: (250 to 500 words: for each heading use the bullet points or narrative - the submission including graphics should not exceed one page)

Problems - Issues / Challenges-Needs	<p>Creating digital models of important cultural heritage objects for documentation or reconstruction:</p> <ul style="list-style-type: none"> • Complex buildings, in different conditions • Sometimes difficult to access, on remote places • Need for adequate geometrical accuracy and completeness
Solutions - Methods / Results - Findings	<p>Technologies and methods that can be used:</p> <ul style="list-style-type: none"> • Establishment of basic geodetic network • Terrestrial laser scanning • Terrestrial photogrammetric capturing • Use of Unmanned aerial vehicles • Point clouds and object modelling • Estimation of quality of 3D models for inspection, documentation, maintenance and restoration • Attractive presentations: 3D prints, AR views • Results in three cases: Chapel on Krvavec, Castle Smlednik and Castle Brestanica
Novelty - Value / Relevance to ...	<ul style="list-style-type: none"> • Combination of different technologies and methods • Accuracy estimation of each methodology and quality estimation of final product (model) • Correct models for authorities, maintainers and investors; attractive presentations for public
Forum statement	Geometrically correct and detailed models of cultural heritage object are the only guarantee for long time preservation and documentation.

Keywords: (up to 5 keywords)

Cultural heritage objects; photogrammetry; laser scanning; UAV

Graphics: (please use the gray area below for *representative graphics* or *graphical summary*: select the gray area below and paste your graphics)

