

THEORETICAL AND EXPERIMENTAL RESEARCH ON STRUCTURES AND HISTORICAL BUILDING USING ADVANCES SURVEY ENGINEERING METHODS

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Abstract

Present thesis summarises the research activity of the candidate after defending the PhD Thesis at The Politehnica University of Timisoara and confirmed by The Ministry of Education and Research, on the basis of Order no. 5764, dated 28.11.2006.

The research activity and achievements presented in the habilitation thesis, is developed in a few of main thematic directions that are coverage by the author.

The first one is - Contribution to applying topographic methods for studying and monitoring terrain and constructions, which continues and diversifies with new subjects, the topic of the PhD Thesis or others subjects related to this.

It should be noted that the activity of the candidate in the field of special surveying engineering and applying topographic methods for studying and monitoring terrain and constructions (20 years of research in this field), from the beginning, from September 1996, until the defending of PhD Thesis, and for the post-thesis period, is in line with the fields of research of the department of Overland Communication Ways, Foundation and Cadastre and especially with the team from Terrestrial Measurements and Cadastre from Faculty of Civil Engineering, Politehnica University of Timisoara, but also with private companies and departments from EU universities.

The new subjects of research in the post-thesis period can be synthetized in four distinguish them, developed in the present thesis, each of them related to the following aspects:

- Developing methods and models to evaluate and determine the real deformations of terrain and structures.
- Reverse Engineering and Laser Scan Technology applied to Cultural Heritage domain, Development of 3D Models for Cultural Heritage sites;
- Using Open Source and Low-Cost solutions and GIS Platforms for different users to architectural and cultural applications;
- Educational platforms for e-learning processes.

The results of my scientific research are materialized mainly in speciality scientific articles and books. Therefore, I have always focused on this aspect, considering that not only the quantitative



aspect of the work is important, but also the quality and the value of the material published. It can be seen in the list of the scientific papers attached that I collaborated with colleagues from other Romanian and EU universities to contribute at enriching the literature in domain of applied Geodesy related to Civil engineering domain.

The full abstract at:

http://www.upt.ro/img/files/2016-2017/doctorat/abilitare/herban/Rezumat_habilitation_thesis_en.pdf

Habilitation Commission

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