Applied Sciences to the Study of Technical Historical Heritage and/or Industrial Heritage

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Abstract: Technical historical heritage and/or industrial heritage are manifestations of heritage that acquire greater relevance every day, since their study and analysis provide a global vision of their impact on the development of the societies and, also, because they favor the understanding of the technological evolution of these societies. The fields of action are very broad, both from the point of view of engineering and its different disciplines as well as from architecture. This Special Issue shows the reader some of the tools currently available to value this heritage and promote its dissemination, such as geometric modeling, computer-aided design, computer-aided engineering, and the study of industrial heritage from a global perspective.

Keywords: technical historical heritage; industrial heritage; computer-aided design; computer-aided engineering; engineering graphics; 3D printing; ancient artifacts; historical inventions

1. Introduction

The study of cultural heritage, in particular of technical historical heritage and/or industrial heritage, is becoming increasingly important. In general, cultural heritage follows a value chain consisting of seven clearly differentiated milestones: identification, registration and research; protection; training; conservation and restoration; value and dissemination; heritage management; and the application of new technologies. However, this Special Issue focuses only on the valorization and diffusion, as well as the use of, new technologies, concentrating on research in three main aspects: location, documentation and dissemination.

The scope for case studies is very broad and can cover different disciplines of engineering, such as mechanical engineering, civil engineering, chemical engineering, electrical and electronic engineering, automation and robotic engineering and telecommunications engineering, among others, as well as industrial architecture. In particular, we especially welcome research on historical inventions related to these fields of engineering and architecture, as well as studies of the work (historical inventions) of world-renowned engineers and architects.

This Special Issue invites researchers to submit original research papers and review articles related to any discipline in which the theoretical or practical issues of technical historical heritage and/or industrial heritage are considered. The topics of interest include, but are not limited to:

- Historical technical heritage
- Industrial heritage
- Industrial archaeology
- Industrial architecture
- Ancient artifacts (historical inventions)
- Computer-aided design
- Computer-aided engineering

- Geometric modeling
- Computer animation
- Virtual reality
- Augmented reality
- Engineering graphics
- Multimedia
- 3D printing

2. Statistics of the Special Issue

The statistics of the call for papers for this Special Issue, related to published or rejected items, are as follows: total submissions, 15; published, 11 (73%); rejected, 4 (17%).

The authors' geographical distribution by country for published papers is shown in Table 1, where it is possible to observe 30 authors from three different countries. Note that it is usual for an article to be signed by more than one author and for authors to collaborate with others at different affiliations.

Table 1. Geographic distribution by the country of author.

Country	Number of Authors
Spain	18
Taiwan	8
Thailand	3
Portugal	1
Total	30

3. Authors of this Special Issue

The authors of this Special Issue and their main affiliations are summarized in Table 2, where there are three authors on average per manuscript.

Table 2. Affiliations and bibliometric indicators for the authors.

Author	Main Affiliation	Reference
Yu-Hsun Chen	National Taiwan University of Science and Technology	[1]
Guan-Chen Chen	Tamkang University	[1]
Ching-Tai Wu	National Taiwan Science and Technology Museum	[1]
Chi-Lin Lee4	Tamkang University	[1]
You-Rou Chen	National Taiwan Science and Technology Museum	[1]
Jun-Fu Huang	National Taiwan Science and Technology Museum	[1]
Kuo-Hung Hsiao	National Taiwan Science and Technology Museum	[1]
Jong-I Lin	National Taiwan Science and Technology Museum	[1]
José Ignacio Rojas-Sola	University of Jaén	[2–5]
Eduardo De la Morena-De la Fuente	University de Jaén	[2,4,5]
Gloria del Río-Cidoncha	University of Sevilla	[3]
Francisco Javier González-Cabanes	University of Sevilla	[3]
Francisco García-Ahumada	Universidad Nacional de Educación a Distancia	[6]
Cristina González-Gaya	Universidad Nacional de Educación a Distancia	[6,7]

Table 2. *Cont*.

Author	Main Affiliation	Reference
Carlos J. Pardo-Abad	Universidad Nacional de Educación a Distancia	[8]
Alberto Sánchez	Universidad de Valladolid	[7]
Patricia Zulueta	Universidad de Valladolid	[7]
Zita Sampaio	Universidade de Lisboa	[7]
Beatriz Torre	Universidad de Valladolid	[7]
Supaporn Manajitprasert	Asian Institute of Technology	[9]
Nitin K. Tripathi	Asian Institute of Technology	[9]
Sanit Arunplod	Asian Institute of Technology	[9]
José Luis Saorín	University of La Laguna	[10]
Vicente López-Chao	University of La Laguna	[10]
Jorge de la Torre-Cantero	University of La Laguna	[10]
Manuel Drago Díaz-Alemán	University of La Laguna	[10]
Juan Claver	Universidad Nacional de Educación a Distancia	[11]
Amabel García-Domínguez	Universidad Nacional de Educación a Distancia	[11]
Lorenzo Sevilla	Universidad de Málaga	[11]
Miguel A. Sebastián	Universidad Nacional de Educación a Distancia	[11]

4. Brief Overview of the Contributions to This Special Issue

The analysis of the topics (Table 3) identifies or summarizes the research undertaken. This section classifies the manuscripts according to the topics proposed in the Special Issue. It was observed that five topics dominated the others: industrial heritage; geometric modeling; computer-aided design; industrial heritage; computer-aided engineering; and historical technical heritage.

Table 3. Topic analysis.

Topic	Number of Manuscripts
Industrial Heritage	4
Geometric Modeling	2
Computer-Aided Design	2
Computer-Aided Engineering	2
Historical Technical Heritage	1
Total	11

Conflicts of Interest: The author declare no conflict of interest.

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3. Del Río-Cidoncha, G.; Rojas-Sola, J.I.; González-Cabanes, F.J. Computer-aided design and kinematic simulation of Huygens's pendulum clock. *Appl. Sci.* **2020**, *10*, 538. [CrossRef]

4.   Rojas-Sola, J.I.; De la Morena-De la Fuente, E. The Hay Inclined Plane in Coalbrookdale (Shropshire, England): Analysis through computer-aided engineering. *Appl. Sci.* **2019**, *9*, 3385. [CrossRef]

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