ISSN: 2327-0438 Volume 14, Number 1, February 2025

Scientific Research Publishing

# Advances in Historical Studies

**Special issue on "Findings in the History of Machines and Mechanisms" from 8th IFToMM Symposium on International Symposium on History of Machines and Mechanisms In Ankara, Turkey, April 18-20, 2024**



ISSN: 2327-0438

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ISSN: 2327-0438 (Print), 2327-0446 (Online)
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# Special Issue on "Findings in the History of Machines and Mechanisms" from 8th IFToMM International Symposium on History of Machines and Mechanisms in Ankara, Turkey, April 18-20, 2024

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Preface

This special issue aims to promote and circulate recent advances and developments in the field of History on Mechanism and Machine Science (MMS) with international contributions about theoretical achievements, and experimental and practical applications of historically significant contents and interpretations. This special issue contains a selection of papers that were accepted for presentation at the from 8th IFToMM International Symposium on History of Machines and Mechanisms in Ankara, Turkey, April 18-20, 2024, as an event that was organized by Permanent Commission (PC) for the History of Mechanism and Machine Science of the International Federation for the Promotion of Mechanism and Machine Science (IFToMM) and sponsored by the Turkish Association of Mechanical Engineering (IFToMM Turkey) and University of Ankara.

This Symposium was the 8th event of a Symposium series that was started in 2000 in Cassino (Italy), as the main activity of the PC for the History of Mechanism and Machine Science of IFToMM. The first two symposia, HMM2000 and HMM2004 were held at the University of Cassino in Cassino, Italy in the years 2000 and 2004. The third symposium, HMM2008, was held at the National Cheng Kung University in Tainan in 2008. The fourth symposium was held at Vrije University in Amsterdam, Netherlands in 2012. The fifth symposium was held at Queretaro University in Queretaro, Mexico, in 2016. The sixth symposium was held at the Chinese Academy of Sciences' Institute for the History of Natural Sciences (HINS) in Beijing, P.R. China, in 2018. The 7th event was held at the University of Jaen and Granada University, from 28 to 30 April 2022, after a postposition of the original plan in 2021 due to the COVID-19 pandemic. See **Figure 1** that reproduces a poster that was exhibited during the 2024 HMM symposium.

The aim of these Symposia is to establish an international forum to bring together researchers, professionals, and students to present and discuss historical developments and achievements in the broad field of Machine and Mechanism Science (MMS). The mission of IFToMM is to promote research and development in the field of machines and mechanisms by theoretical and experimental methods, along with their practical applications. The aim of the international symposia on HMM is to create an international forum for the exploration of the history of machines and mechanisms through the study and presentation of historical achievements in MMS. The scope of the symposia is wide because they emphasize the history of technical systems and their applications with historical backgrounds but with peculiar attention to technical contents for understanding and re-evaluating the past MMS in modern means. Relevant topics deal with the history of theories and design methods, biographies, the history of the institutions involved, the relations with other disciplines, the history of engineering education, and the social and cultural aspects of machines.

The contributions in this special issue are extended and revised versions of those selected papers from 28 papers by

authors representing 14 different countries from all around the world accepted after peer review for HMM2024. The paper selection was also based on the best evaluations and recognitions of the awards in the regular and student categories at the HMM2024 symposium.

These papers were evaluated again with a blind peer review process to confirm their high quality for publication in this journal. We wish to express our sincere gratitude to the authors and reviewers for their valuable scientific efforts and useful feedback to ensure a high scientific quality of the selected papers. The content of the papers includes a wide range of topics that are related to the history of machine and mechanism science, such as teaching mechanism models, windmill designs, escalators, Chinese mechanical manufacturing, Turkish author of technical books, Mexican mining technology, car accident analysis, and interaction of Italian and Spanish communities.

We would like to express our sincere gratitude to the members of the scientific committee:

Marco Ceccarelli, University of Rome Tor Vergata (Italy) Chair, Irem Aslan Seyhan, Bartin University (Turkey), Thomas Chondros, University of Patras (Greece), Olga Egorova, Bauman Moscow State Tech. University (Russia), Alessandro Gasparetto, University of Udine (Italy), Teun Koetsier, Vrije University (Netherlands), Juan Carlos Jáuregui, Querétaro University (Mexico), Rafael López-García, University of Jaén (Spain), Raffaele Pisano, Lille University (France), Baichun Zhang, Chinese Academy of Science (China-Beijing), and Hong Sen Yan, Cheng Kung University (Taiwan, China-Taipei)

We thank the support of Marco Cocconcelli, the newly elected Chair of the PC for the History of Mechanism and Machine Science, for the term 2024-27.

We also thank the HMM2024 organizing committee members Melek Dosay-Gokdogan, Gohakan Kiper, and Vural Basaran for their valuable contributions, as well as the sponsors of the symposium MAKTED Turkish Machine Theory Association, Ankara University, Atatürk Culture Center and IFToMM through the IFToMM Permanent Commission for History of MMS.

This special issue shows the long-term development of machines and mechanisms in various contexts and reflects the uniformity and diversity of knowledge evolution in MMS domains. We believe that it will be interesting and useful for researchers, graduate students, engineers and all others with an interest in the history of machines and mechanisms. We also believe that it can inspire and motivate them to pay better and better attention to the history of MMS in all its aspects.

Rome and Ankara, October 2024

**Guest Editors**

Professor Marco Ceccarelli, University of Rome Tor Vergata, ITALY

Professor İrem ASLAN SEYHAN, Department of Philosophy, Bartin University, TURKEY




**Figure 1.** Poster on history of HMM symposium exhibited during the 2024 event.

Scientific Research Publishing

Advances in Historical Studies, 2025, 14(1), 1-149
https://www.scirp.org/journal/ahs
ISSN Online: 2327-0446
ISSN Print: 2327-0438

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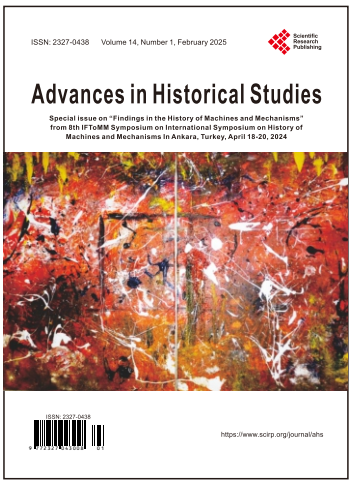
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ISSN: 2327-0438 (Print), 2327-0446 (Online)
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