

Special Issue

Advances in Dynamic Analysis of Multibody Mechanical Systems

Message from the Guest Editors

This Special Issue aims to explore the latest advancements in the modeling, simulation, and dynamic analysis of multibody mechanical systems. These systems, composed of multiple interconnected bodies interacting through joints and external forces, find applications in a wide range of fields, from automotive to aerospace and robotics to biomechanics. In particular, it will focus on theoretical and practical developments that enhance the understanding of complex dynamic behaviors, with particular attention to innovative numerical approaches, optimization methods, and advanced control techniques. Studies addressing topics such as nonlinear dynamics, system stability, and real-time simulation will be of special interest. Contributions that demonstrate the application of these advancements in real-world scenarios, highlighting improvements in efficiency, accuracy, and computational performance, are highly encouraged.

Guest Editors

Dr. Pietro Davide Maddio

Department of Civil Engineering and Architecture (DICAR), University of Catania, 95125 Catania, Italy

Prof. Rosario Sinatra

Department of Civil Engineering and Architecture, University of Catania, Via Santa Sofia 64, 95125 Catania, Italy

Deadline for manuscript submissions

31 July 2025



Machines

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 4.7



mdpi.com/si/208162

Machines
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
machines@mdpi.com

[mdpi.com/journal/
machines](https://mdpi.com/journal/machines)





Machines

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 4.7



[mdpi.com/journal/
machines](https://mdpi.com/journal/machines)



About the Journal

Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications. Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided. There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

Editor-in-Chief

Prof. Dr. Antonio J. Marques Cardoso
CISE - Electromechatronic Systems Research Centre, University of
Beira Interior, Calçada Fonte do Lameiro, P-6201-001 Covilhã, Portugal

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Mechanical) / CiteScore - Q1
(Control and Optimization)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.9 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).