

Special Issue

Symmetry in the Advanced Mechanics of Systems

Message from the Guest Editors

“Symmetry in the Advanced Mechanics of Systems” refers, on the one hand, to advanced kinematics and elastokinematics and, on the other hand, to the advanced dynamics and elastodynamics of multibody systems. Among these, an essential role is having the rigid and elastic structure of serial, parallel and mobile robots, taking compulsorily into consideration the holonomic, nonholonomic and critical mechanical features. The main purpose of this Special Issue is to encourage researchers to share the latest developments in the field of symmetry in advanced kinematics and dynamics of systems, analytical dynamics of multibody systems and robotics. Keywords:

- advanced kinematics
- matrix exponentials
- quaternions
- polynomial interpolation functions
- Newtonian dynamics
- fundamental theorems of dynamics
- advanced dynamics
- differential principles
- acceleration energies
- analytical dynamics
- dynamic accuracy
- applied mechanics
- robotics

Guest Editors

Dr. Adina Crişan

Department of Mechanical Systems Engineering, Technical University of Cluj-Napoca, Cluj-Napoca, Romania

Prof. Dr. Iuliu Negrean

Department of Mechanical Systems Engineering, Faculty of Machine Building, Technical University of Cluj-Napoca, 400641 Cluj-Napoca, Romania

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

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About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

Prof. Dr. Sergei Odintsov
ICREA, 08010 Barcelona and Institute of Space Sciences (IEEC-CSIC),
C. Can Magrans s/n, 08193 Barcelona, Spain

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