

# Special Issue

## New Formulations in the Applied Mechanics to Robotics

### Message from the Guest Editor

Applied mechanics in robotics refers to the modeling and simulation of the geometry, kinematics, elastokinematics, dynamics, and elastodynamics of the rigid or elastic structures of robots. This analysis is performed on robots characterized by serial and parallel structures, as well as on mobile..... The main purpose of this Special Issue is to encourage researchers to share the latest developments in the field of advanced dynamics of robotic systems; higher-order dynamic equations; analytical dynamics of complex systems; and mathematical modelling of serial, parallel, and mobile robot structures (e.g., the use of matrix exponential or of polynomial interpolation functions and the establishment of dynamic equations of motion based on the acceleration energies). Keywords

- Robotics
- Kinematics control
- Advanced kinematics
- Matrix exponentials in robotics
- Motion trajectories
- Robot dynamics
- Acceleration energies
- Analytical dynamics
- Advanced dynamics

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### Guest Editor

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### Deadline for manuscript submissions

closed (31 May 2020)



## Mathematics

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## About the Journal

### Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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### Editor-in-Chief

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#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 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).