

**EDITORIAL OF THE SPECIAL ISSUE  
NEW TRENDS IN ADVANCED ROBOTICS**

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This special issue of ROMANIAN JOURNAL OF TECHNICAL SCIENCES – APPLIED MECHANICS, was put together as an initiative of the Technical Committee *Computational Kinematics* which is part of IFToMM, a worldwide organization for the promotion of mechanism and machine science.

Computational Kinematics is that branch of kinematics which involves intensive computations not only of numerical type but also of symbolic nature (Angeles, 1996). Within Computational Kinematics one tries to answer fundamental questions arising in the analysis and synthesis of kinematic chains. Kinematic chains are constituent elements of serial or parallel robots, wired robots, humanoid robots, walking and jumping machines or rolling and autonomous robots.

This special issue features the whole spectrum of Advanced Robotics from deep theoretical discussions of kinematic fundamentals to the application of robotics in different fields such as surgery and advanced manufacturing. It ranges from the introduction of new representations of Euclidean displacements, the discussion of theoretical aspects of parallel robots, questions of human gait analysis to control issues of telemanipulators and compliant mechanisms.

We would like to express grateful thanks to the authors who have contributed excellent papers on different subjects, covering many fields of Advanced Robotics.

We are also grateful to the reviewers for the time and effort they spent evaluating the papers.

We believe that this issue will be a valuable contribution to the field of Advanced Robotics and a source for further development and scientific discussion within this still growing branch of mechanical engineering.

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