



An Open Access Journal by MDPI

## Kinematics and Robot Design

Guest Editor:

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### Message from the Guest Editor

Dear Colleagues,

Kinematics enters many aspects of robot design. Type synthesis, dimensional synthesis, kinematic analysis, singularity analysis, workspace determination, performance measures, accuracy analysis, path planning and obstacle avoidance are only some of these. In addition, it is central when building dynamic models for simulation purposes.

Additionally, robotics is pervading many fields of social interest. For instance, healthcare with its robotized medical devices and rehabilitation devices needs studies both on human biomechanics and on mechanism synthesis, which involve kinematics.

Nowadays, a numerous scientific community is involved in such studies and, even though many conferences (ARK, CK, ASME MR, etc.) on robot and/or mechanism kinematics take place regularly, there is room for further initiatives. This open-source Special Issue with cheap publication costs wishes to provide a good opportunity for presenting research results that are immediately readable and usable by other researchers.

The Special Issue aims at collecting recent research on all the below-listed topics. Review papers are also welcome.

Topics of interest include (but are not limited to):

- synthesis of mechanisms
- theoretical and computational kinematics
- robot modeling and simulation
- kinematics in robot control
- position analysis
- mobility and singularity analysis
- performance measures
- accuracy analysis
- path planning and obstacle avoidance
- novel manipulator architectures
- metamorphic mechanisms
- compliant mechanism analysis and synthesis
- micro/hanomanipulator design
- origami-based robotics
- medical and rehabilitation robotics
- kinematics in biological systems, humanoid robots and humanoid subsystems

Prof. Dr. Raffaele Di Gregorio  
*Guest Editor*



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# Special Issue



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## Editor-in-Chief

### Prof. Dr. Huosheng Hu

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## Message from the Editor-in-Chief

It is my great pleasure to welcome you to our open access journal, *Robotics*, which is dedicated to both the foundations of artificial intelligence, bio-mechanics and mechatronics, and the real-world applications of robotic perception, cognition and actions. The 21st century is the robotics century and intelligent robots will change our lifestyle forever. Let us work together toward the realization of intelligent robots step by step.

It is great fun to create intelligent robots and imagine their practical applications. *Robotics* is now ready to serve you in the long journey towards such a goal.

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