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Applied Mathematics in Robotics: Theory, Methods and Applications

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Deadline for manuscript submissions:
closed (31 December 2024)

Message from the Guest Editors

Robotics is the study and application of intelligent systems that can sense, think, and act. It has broad and promising applications in various fields, such as industry, the military, education, and entertainment. It also depends on the theories and methods of applied mathematics, such as optimization, statistics, probability, logic, graph theory, complex networks, and machine learning. Applied mathematics gives robotics a solid mathematical foundation and also provides tools and ideas for innovation and improvement. This Special Issue collects and showcases the latest advances of applied mathematics in robotics, in terms of theory, methods, and applications. We invite research on different types of robots, such as manipulators, walking robots, soft robots, haptic robots, microrobots, and swarm robots, and on different tasks, such as grasping, manipulation, motion, navigation, collaboration, and interaction. The goal of this Special Issue is to enhance the communication and collaboration between applied mathematics and robotics and to foster the development and application of robotic technology.

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Message from the Editor-in-Chief

Mathematics permeates all kinds of academic worlds and is a fountain flowing with innovative development. The journal *AppliedMath*, publishing high-quality refereed papers discussing various aspects of applied mathematics, is dedicated to promoting the integration of mathematics with applied disciplines to cultivate a profitable frontier of mathematics. The journal highlights articles devoted to the mathematical treatment of questions and phenomena arising in physics, chemistry, biology, medicine, pharmacy, engineering, information science, social sciences, and humanities. One of the missions of this journal is to serve scientists by quickly announcing the seeds of significant mathematical breakthroughs in science and technology.

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