Special Issue

Design and Control of Surgical Robots

Message from the Guest Editor

With the mature application of surgical robots, as represented by the da Vinci robotic surgical systems, surgical robots have begun to disrupt traditional healthcare. More and more scholars and doctors are exploring how to implement various surgical procedures using robots. In this process, the combination and application of different surgical procedures with the structural design and control methods of robots remain the core issues that need to be solved in robotic surgery. This Special Issue aims to collect and organize the literature on novel approaches, cases, and investigations concerning the “Design and Control of Surgical Robots”, especially on the robot's structure, morphology, sensing methods, interaction modes, and motion control under the condition of relying on corresponding diagnosis and treatment methods:

- Continuum robots;
- Concentric tube robots;
- Micro-nano surgical robots;
- Novel instrument design;
- Surgical robot modeling and control;
- Image-guided robot control;
- Data-driven control method;
- Haptic/Shape sensing method;
- Perception methods for biological tissue.

Guest Editor

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Deadline for manuscript submissions

31 August 2025

Machines

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 4.7

mdpi.com/si/228270

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About the Journal

Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.
Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.
There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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