

Special Issue

Sensing and Imaging in Biomedical Robotics and Image-Guided Surgical Systems

Message from the Guest Editors

Sensing and imaging technology are fueling the rapid advancement of biomedical robotics and image-guided interventional procedures. Medical imaging and robotics are combined in modern surgery to enhance the effectiveness of surgical interventions. These interventional procedures, referred to as image-guided robotic surgeries, involve sensing and imaging technology, forming the basis for the acquisition and interpretation of information about the patient and operating environment, aiming to provide intuitive visual representation and intelligent machine perception during operations. Navigation is an important aspect for surgical robots, localization and mapping. Surgical navigation is guided by a combination of instrument sensing, preoperatively image-constructed models and intraoperative imaging. With computational intelligence, sensing and imaging technology empower modern biomedical robots with visual and haptic perception to perform tasks alongside humans with varying degrees of autonomy or in a collaborative fashion. This Special Issue seeks to showcase state-of-the-art research papers related to sensing and imaging in the domain of image-guided robotic surgery system.

Guest Editors

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Message from the Editor-in-Chief

Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

Editor-in-Chief

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