Special Issue

Robotics, Imaging, and Navigation Sensors for Medical Applications

Message from the Guest Editors

With the recent advancements in artificial intelligence and measurement technologies, the use of optical and motion sensors has become prolific in the field of medicine. Sensors such as inertial measurement units are now available in extremely miniaturized form, thus finding their use in numerous applications such as wellness equipment, human respiration rate measurement, and accident detection. Potential topics include, but are not limited to:

- Development of medical instruments using optical and motion sensors
- Processing of ultrasound, X-ray, PET, MRI, and CT images
- Gait analysis, rehabilitation assessment, and human motion capture
- Data fusion for biomechanics, orthopedics, and medical diagnoses
- Computer assisted surgery
- Fall detection and home care
- Exoskeletons
- Wearables for activity tracking (e.g. IMU, GNSS, Wi-Fi, UWB, etc.)
- Sports performance enhancement and injury prevention
- Error modelling and calibration of sensors (e.g. laser systems, 3D cameras, IMU, etc.)
- Computer vision and machine learning for medical image analysis
- Advanced numerical estimation/optimization methods

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Deadline for manuscript submissions

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About the Journal

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.

Editor-in-Chief

Prof. Dr. Marco Ceccarelli
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