



sensors



an Open Access Journal by MDPI

Sensor Based Perception for Field Robotics

Guest Editors:

Prof. Dr. Peter Ross McAree

School of Mechanical and Mining Engineering, Faculty of Engineering, Architecture and Information Technology, The University of Queensland, St Lucia, QLD 4072, Australia

Dr. Tyson Phillips

School of Mechanical and Mining Engineering, Faculty of Engineering, Architecture and Information Technology, The University of Queensland, Brisbane St Lucia, QLD 4072, Australia

Deadline for manuscript submissions:

closed (30 November 2023)

Message from the Guest Editors

Dear Colleagues,

Field robots must be able to perceive the three-dimensional world around them in ways that enable safe and efficient autonomous decision making. This requires algorithms that interpret and integrate measurements from different sensors. Several distinct sub-problems exist that are usually nuanced by the application and the environment in which the field robot operates. Problems include (1) localization and mapping, (2) object identification, verification and classification, (3) field-based sensor calibration, (4) object tracking and pose estimation, and (5) multi-agent sensor fusion. The development of algorithms that robustly meet the timeliness and accuracy requirements for these problems is a key challenge for the development of any field robot.

This Special Issue invites papers that address solutions for field robotics perception problems, including identification problems, and that address the limitations of existing approaches.

For detailed information, please visit [here](#).

Prof. Dr. Peter Ross McAree

Dr. Tyson Phillips

Guest Editors



mdpi.com/si/111323

Special Issue



sensors



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro

Dipartimento di Ingegneria
Elettrica e dell'Informazione
(Department of Electrical and
Information Engineering),
Politecnico di Bari, Via Edoardo
Orabona n. 4, 70125 Bari, Italy

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.

Author Benefits

Open Access : free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

High Visibility: indexed within [Scopus](#), [SCIE \(Web of Science\)](#), [PubMed](#), [MEDLINE](#), [PMC](#), [Ei Compendex](#), [Inspec](#), [Astrophysics Data System](#), and [other databases](#).

Journal Rank: JCR - Q2 (Instruments and Instrumentation) / CiteScore - Q1 (Instrumentation)

Contact Us

Sensors Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/sensors
sensors@mdpi.com
[X@Sensors_MDPI](#)