



Editorial for selected papers from the 2023 IMEKO TC17 International Symposium on Measurement and Control in Robotics

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Section: EDITORIAL

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Dear Readers,

In the present and forthcoming age of 'Smarts,' 'IoT,' 'drones' and 'AI,' robotics will play a leading role. The IMEKO Technical Committee on Robotics Measurement and Control, TC17, highlights upcoming application roles via its annual International Symposium on Measurement and Control (ISMCR) events. The four papers in this section reflect the presentations made at the ISMCR2023 event in Romania.

'Robotic palpation system - reproduction method of dermatologists' skin palpation judgment using a deep neural network' is the first paper by Fumihiro Kato, et al, [1] that evaluates the dermatologists' skin palpation measurement. Applications of robotics in the medical field, including avoiding direct contact between the medical practitioners and patients, have become important, especially in cases where transmission of the virus is likely an issue. The paper presents several configurations for the meaningful evaluations of the technique.

'Path planning for multiagent system in a sensing field with obstacles and multiple base stations' by Sara Szenasi and Iztvan Harmati [2] deals with an analysis of a robot's role in data collection and sensor network node clusters in a periodic manner. The paper expects the analytic algorithm to be utilized in either monitoring weather phenomena in an agricultural area or reconstructing the path of an intruder in a guarded area. The reduction in energy consumption defines the consideration in the path planning for the technique.

Currently, we are observing the utilization of Unmanned Aerial Vehicles (UAV) in commerce, in defence and in a variety of applications in the autonomous and/or controlled operations for delivering a variety of resources. Along with the vehicle communication design, the control aspect of landing operation requires a precise methodology to achieve the UAV/Drones mission objectives. The third paper by Tien-Thanh Nguyen, et al. 'Visual-based localization methods for unmanned aerial

vehicles in landing operation on maritime vessel' [3] analyses a set of two methods for a precise landing operation of UAV/Drones using a visual-based localization method.

The fourth paper 'Automated material handling for inventory management system' by Arun Kumar Pinagapani, et al, [4] describes the application of robots in Automated Material Handling System. The smart industry of the IoT era will have specially constructed robot structures for the specific material being handled—that will have mobility in the work domain, monitor the material to be handled, collect the data, and perform both the mechanical and electrical tasks assigned. The paper describes the design, construction and monitoring of the material handling robots.

I hope you will enjoy your reading.

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Section Editor

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