Call for Papers

Focused Section on
Mechatronics for The Era of Digital Agriculture

The United Nations expects Africa's population to be more than double and the global population to increase by an additional two billion people by 2050. This expectation means there will be an increased demand for food and agricultural products in the future. In order to meet increased demand despite challenges such as climate change, a limited supply of new arable land and difficulties in sourcing skilled farm labour, global agricultural systems today require a transformation in which mechatronic technologies will play an important role. These emerging technologies driven by the Fourth Industrial Revolution are disrupting many industries, bringing rapid and large-scale change, including digital building blocks such as big data, the internet of things (IoT), artificial intelligence and machine learning and blockchain, new physical systems, and advances in science. Therefore, Mechatronics for The Era of Digital Agriculture is attracting more and more attention in the community of mechatronics research, as the scientific interest and the technological boost.

The main aims of this focused section in IEEE/ ASME Transactions on Mechatronics (TMECH) are to document the current state of the art in Mechatronics for The Era of Digital Agriculture and to present new results in several emerging research areas. Submissions can address theoretical aspects in these areas, but approaches or technologies that consider aspects such as market needs, innovation management, and the requirements for industry-level diffusion or deployment are encouraged. The topics of interest within the scope of this focused section include but are not limited to:

- Low-cost robots using low-cost sensors for day/night operations in intensive agriculture
- Advanced autonomy for unmanned mechatronics systems
- Deep-learning-based approaches for high-throughput phenotyping and remote sensing
- Development of cooperative mechatronics systems for digital agriculture
- Cybersecurity for agricultural mechatronic systems
- Soft-grasping/soft-robotics for agri-food manipulators
- Sensing technologies for situation awareness in agricultural applications

Manuscript Preparation
Papers must contain original contributions and be prepared in accordance with TMECH standards. Instructions for authors are available online at: http://www.ieee-asme-mechatronics.org

Manuscript Submission
Manuscripts should be submitted through the online submission service available at: http://mc.manuscriptcentral.com/tmech-ieee. All manuscripts must be prepared according to the IEEE/ASME TMECH publication guidelines and will be reviewed following the standard IEEE/ASME TMECH review process.

Important Dates
Paper Submission	September 1, 2021
Completion of First Review	December 1, 2021
Submission of Revised Papers	January 15, 2022
Completion of Final Review	March 15, 2022
Submission of Final Manuscripts and Copyright Forms	April 30, 2022
Publication	June, 2022

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