IEEE/ASME TRANSACTIONS ON MECHATRONICS

Call for papers

Focused Section on
Mechatronics Applications in Agriculture

Mechatronics applications in agriculture can be traced back to mid-1980s, when research on automated systems for fruits harvesting showed up in Japan, Europe and USA. Since then, impressive advances have been reached in advanced sensing and perception, navigation and planning, actuation and manipulation, cognition and learning, communication and cooperation among Mechatronics systems. These advancements allowed Mechatronics systems to tackle quite complex tasks even in dynamic and challenging environments, disclosing the possibility of their introduction into a wide extent of agricultural operations such as harvesting, pruning, thinning, mowing, spraying, weed removal and phyto-pharmaceutical treatments application using variable rate technologies. Mechatronics advances can give a contribution in tackling some of the issues ahead of agricultural production including:

- Optimizing the use of inputs by selective delivering at very high precision;
- Long-term autonomy and navigation in the farm (extending working time and production timeliness);
- Orchard and broad-acre crop production;
- Nurseries and greenhouses;
- New concepts in perception dealing with changes in appearance and geometry of the environment;
- New learning and adaptive approaches to novel environments (due to seasonal and weather changes or to adaptation for operation in a completely different crop);
- Aerial and ground Mechatronics systems for soil/crop monitoring, prediction, and decision making;
- Sensing in intensive agriculture;
- New techniques for resource management, with special emphasis in new energy storage technologies in service units;
- Among other related topics to face intensive and precision agricultural problems.

The Focused Section will also welcome contributions addressing the state-of-the-art in associated developments and methodologies, and the perspectives on future developments and applications.

Papers should contain both theoretical and practical/experimental results and will be subject to the normal TMECH review procedures.

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. The cover letter should report the following statement: "This paper is submitted for possible publication in the Focused Section on Mechatronics Applications in Agriculture". All manuscripts will be subject to the peer review process. If you have any question relating to this Focused Section, please email one of the Guest Editors.

Important dates:

Paper Submission	July 15, 2016
Completion of First Review	October 1, 2016
Submission of Revised Papers	November 15, 2016
Completion of Final Review	January 1, 2017
Submission of Final Manuscripts and Copyright Forms	February 15, 2017
Publication	June 2017

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