



MECHATRONICS

Call for Papers Focused Section on Mechatronics and Automation for Constructions

Rapid advances in modern technologies have completely revolutionized many industries in recent years. It is anticipated that mechatronic and automation technologies would play an important role in transforming the construction industry to embrace for the fourth industrial revolution. However, construction automation problems bring up new research challenges that diverge from traditional methods. Unlike the factory environment, which is typically structured and predictable, construction sites are dynamic places where the working environment is unstructured and always changing. Due to lack of skilled labour, time and cost overruns, quality deficiencies and the recent pandemics, mechatronic and automated technologies offer solutions for future safe, rapid, performative, prize worthy and digitally protocolled construction projects. The coexistence of human workers, heavy vehicles, varying environmental conditions and automated mechatronic systems also make safe human-machine interaction an important issue. Beyond expertise in a specific discipline, construction automation also requires multidisciplinary expertise to integrate with various fields, such as Internet of Things (IOT), robotics and its construction oriented subsystems, adaptive/robust control, machine vision, sensing technologies, artificial intelligence, and Building/Construction/Process Information Modelling (BIM/CIM/PIM) for automated construction process management and design. The main aims of this focused section in IEEE/ASME Transactions on Mechatronics (TMECH) are to document the current state of art in mechatronics and automation for constructions, 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 not limited to:

- Mechatronic systems for construction automation
- Artificial Intelligence for automated/mechatronic construction engineering
- Real time Localization and Navigation in automated/mechatronic construction environment
- Human-machine interaction and control
- Information based (BIM, CIM, PIM) techniques for construction automation/mechatronics
- Automated/mechatronic methods and systems in unstructured environment
- Mechatronics in additive construction

Manuscript preparation

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

Manuscript submission

Manuscripts should be submitted online at: <https://mc.manuscriptcentral.com/tmech-ieee>. Please indicate in the cover letter that your paper is for possible publication in the *Focused Section on* Mechatronics and Automation for Constructions. All manuscripts will be subjected to the regular TMECH peer review process. Any questions relating to this focused section can be sent to any of the Guest Editors via emails.

Important dates:

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| Paper Submission | January 1, 2021 January 22, 2021 |
| Completion of First Review | April 1, 2021 April 21, 2021 |
| Submission of Revised Papers | May 15, 2021 June 1 2021 |
| Completion of Final Review | July 15, 2021 |
| Submission of Final Manuscripts and Copyright Forms | August 31, 2021 |
| Publication | October, 2021 |

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