



# MECHATRONICS

## Call for Papers

Focused Section on

### Mechatronics and Automation for Construction

Rapid advances in modern technologies have completely revolutionized many industries in recent years. It is anticipated that mechatronic and automation technologies will play an important role in transforming the construction industry to embrace the fourth industrial revolution. However, construction automation problems bring 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 labor, 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 protocoled 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 Modeling (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 the art in mechatronics and automation for construction, 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:

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

#### Manuscript preparation

Papers must contain original contributions and be prepared in accordance with 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 Construction*. All manuscripts will be subject to the regular TMECH peer review process. Any questions relating to this focused section can be sent to any of the Guest Editors via email.

#### Important dates:

Open for submissions in ScholarOne Manuscripts	November 15, 2020
Paper Submission	January 1, 2021
Completion of First Review	April 1, 2021
Submission of Revised Papers	May 15, 2021
Completion of Final Review	July 15, 2021
Submission of Final Manuscripts and Copyright Forms	August 31, 2021
Publication	October, 2021

#### Guest Editorial Board:

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