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For a Special Issue on Industrial Developments and Applications of Intelligent Mechatronic Systems

**Manuscript deadline
26 October 2021**

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“Industrial Developments and Applications of Intelligent Mechatronic Systems”

Mechatronic Systems consist of mechanical, electrical, electronic and software components, also called “multi-technology systems”. Based on behavioral characteristics, there are three types of mechatronic systems, i.e., automated mechatronic systems, intelligent mechatronic systems and intelligent mechatronic networks. With “the third coming” of artificial intelligence (AI), intelligent mechatronic systems are getting to be the research hotspot because many practical problems in mechatronic systems can be solved innovatively by replacing automation with intelligence.

The replaced automation is generated from automated systems, which are pre-programmed to deliver given behavior and are therefore predictable. However, under conditions of uncertainty, intelligent systems are able to achieve specified goals in an unpredictable manner. In other words, these flexible” systems can respond to frequent changes without being re-programmed in their surrounding environments. In order to complete this replacement, distributed AI and traditional AI methods are always adopted, such as expert systems, fuzzy logic or neural networks intelligence. As a result, intelligent machine tools, intelligent robots, intelligent geometry compressors, autonomous road vehicles, self-parking cars, pilotless aircraft and goal-seeking missiles have been manufactured in the industrial domain.

The purpose of this special issue is to gain experience in the field of intelligent mechatronics from both academic and industrial perspectives, focusing on theory and methods that target real world problems and cases of real applications directly, where in particular studies with state-of-the-art progresses and applications are encouraged.

Potential topics include but are not limited to the following:

- Industrial development trends of intelligent mechatronic technologies
- New industrial applications of intelligent mechatronic systems
- Modelling, simulation and validation of intelligent mechatronic systems
- Architectures and algorithms for control intelligent mechatronic systems
- Performance monitoring of intelligent mechatronic systems
- Experimental design methodologies of intelligent mechatronic systems
- Fault detection and isolation of intelligent mechatronic systems
- Control, diagnosis and Supervision of intelligent mechatronic systems
- Reliability modelling, design and evaluation of intelligent mechatronic systems
- Resilient control and applications of intelligent mechatronic systems

- Emerging control theories and related technologies of intelligent mechatronic systems

LIST OF IMPORTANT DATES:

<i>Manuscript Submission Deadline Date:</i>	26 th October, 2021
<i>Authors Notification Date:</i>	26 th December, 2021
<i>Revised Papers Due Date:</i>	26 th March, 2022
<i>Final notification Date:</i>	26 th June, 2022

INSTRUCTIONS TO AUTHORS

- All manuscripts should follow the author instructions of *IETE Journal of Research* at www.tandfonline.com/tijr and be submitted online at ScholarOneManuscripts™ submission site: <https://mc.manuscriptcentral.com/tijr>.
- During the submission, please indicate that your manuscript is for the special Open Access issue entitled, Industrial Developments and Applications of Intelligent Mechatronic Systems. You will be asked for this information in step one of the submission form.
- Selected conference papers must undergo substantial extensions of at least 40% new content with respect to the original versions before submission. Please make sure to disclose and reference your earlier version.
- As this special issue is to be published Open Access, there will be an Article Publishing Charge (APC) for each accepted special issue article. The APC will be **\$1,500 US dollars**.

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