

IEEE JOURNAL ON EMERGING AND SELECTED TOPICS IN CIRCUITS AND SYSTEMS

Call for Papers

Special Issue on Circuits and Systems for Industry X.0 Applications

The emerging trends of Industry 4.0 (together with its future generations, i.e., industry X.0) and Industrial Internet of Thing (IIoT) bring disruptive changes, not only to practitioners in the manufacturing sector but also to the research communities in industrial circuits and systems. The growing adoption rates of smart sensing systems, intelligent robots, and elastic manufacturing systems have imposed significant impacts on the development of systems and controllers to make the systems more robust and agile to sudden changes in demand, minimize human interventions, and reduce all kinds of waste along the supply chain. To achieve that, intelligent networked industrial circuits and systems and their controlling and coordinating algorithms are required to dynamically reschedule production, inventory, and logistic plans dynamically and autonomously. Nevertheless, smart meters and other smart cities enabling circuits and systems, which comprise utility usage monitoring capabilities, can provide valuable feedback to plant operators to control their equipment and infrastructure to yield higher energy productivity. The timely information can provide manufacturers means to monitor their usage patterns and enable them to establish sustainable utilization production plans.

The main objective of this Special Issue is to collect the latest developments in circuits and systems for Industry X.0 applications. Prospective authors are invited to submit original contributions for review and publication in this Special Issue. Topics of interest include, but are not limited to:

- Integration of the sensors, programmable hardware, and communication protocol stacks in manufacturing systems.
- System architecture and protocol design of circuits and systems for Industry X.0 applications.
- Reliability and interoperability study of intelligent manufacturing systems.
- Intelligent optimization and control for Industry X.0 applications.
- Control and coordination mechanisms for networked manufacturing machines and systems.
- Circuits and systems for improving energy productivity and waste minimization.
- Circuits and systems for preventive and predictive maintenance.
- Experiences from physical testbeds and field trials for intelligent industrial circuits and systems.
- Circuits and systems for minimizing cybersecurity and privacy risks in Industry X.0 applications.
- Emerging Industry X.0 enabling technologies, including wearable devices, VR/AR, and artificial intelligence (AI) algorithms.

Guest Editors:

- Dr Chi-Tsun (Ben) Cheng, RMIT University, Australia
- Prof. Jörg Wollert, FH Aachen University of Applied Sciences, Germany
- Dr Xi Chen, GEIRI North America, USA
- Prof. Abraham O. Fapojuwo, University of Calgary, Canada

Important Dates:

- October 31, 2022 – Manuscripts Submission Deadline
- November 30, 2022 – Notification to Authors (1st Revision)
- December 31, 2022 – Revised Manuscripts Submission Deadline
- January 31, 2023 – Notification to Authors (2nd Revision)
- February 28, 2023 – Final Manuscript Due

Submission Instructions: Go to <https://mc.manuscriptcentral.com/jetcas>