

Special Issue Guest Editors

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Important Deadlines

- Manuscript submission:
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- First notification:
01.Jul.2022
- Submission of revision:
01.Sep.2022
- Final notification:
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- Publication date: to be
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Cyber-Manufacturing (CM) is a concept with inspirations from Cyber-Physical Systems (CPS). CM refers to a modern manufacturing system that offers an information-transparent environment to facilitate asset management, provide reconfigurability, and maintain productivity. In recent times, many businesses and enterprises involved in manufacturing are aware that digitalization is inevitable for remaining agile and competitive in the future market. CPS solutions are widely used in CM to solve problems, limit risks, increase efficiency and obtain factual data to make better decisions. By now, everyone is familiar with this technique, and with 6G driving the future of CPS and CM, it has become vital to prepare for next-generation applications. The idea of cyber manufacturing stems from the fact that Internet-enabled services have added business value in economic sectors such as retail, music, consumer products, transportation, and healthcare. Current manufacturing enterprises make decisions following a top-down approach: from overall equipment effectiveness to the assignment of production requirements, without considering the condition of machines. This will usually lead to inconsistency in operation management due to lack of linkage between factories, possible overstock in spare part inventory, as well as unexpected machine downtime. Such situations call for connectivity between machines as a foundation, and analytics on top of that as a necessity to translate raw data into information that facilitates user decision making. Expected functionalities of cyber manufacturing systems include machine connectivity and data acquisition, machine health prognostics, fleet-based asset management, and manufacturing reconfigurability. To explore more in this discipline, we welcome researchers and practitioners from academia and industry to present the novel and innovative 6G-driven massive IoT architectures, challenges and future research directions.

Topics of interest include but are not limited to the following:

- Innovative network architectures for Cyber-Manufacturing systems
- Advances in software-defined networking for Cyber-Manufacturing systems
- Edge enabled architectures for Cyber-Manufacturing systems
- Security and privacy-preserving architectures for the future of Cyber-Manufacturing
- Key challenges and requirements for future Cyber-Manufacturing systems networks
- Efficient resource allocation and energy efficiency in Cyber-Manufacturing
- Advances in artificial intelligence and machine learning for Cyber-Manufacturing systems
- Disruptive technologies and concepts for Cyber-Manufacturing systems
- Cyber-Manufacturing service orchestration and scheduling
- Agile frameworks for interoperability in Cyber-Manufacturing systems
- Cloud computing solutions for dealing with massive amounts of data

Submission Instructions: Please refer to <http://dl.acm.org/journal/toit/author-guidelines>. Please select “Special Issue on Advances in Cyber-Manufacturing: Architectures, Challenges, & Future Research Directions” on the TOIT Manuscript Central website. All papers must be registered on EasyChair prior to submission to TOIT Manuscript Central:
<https://easychair.org/my/conference?conf=toitacyberman2022>

ACM CCS: Embedded and cyber-physical systems, Cyber-physical networks, Security, Artificial Intelligence, Operations research