

2021 IEEE International Conference on Industrial Informatics

Special Session on

SS 6 - Modelling and Simulation for Smart Manufacturing

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Call for Papers

Modelling and simulation is the use of models (e.g., physical, mathematical, or logical representation of a system, entity, phenomenon, or process) and simulations for managerial or technical decision making. The great value of M&S in manufacturing has long been recognized. Over the last decade, the advent of information and communication technology such as smart sensors, Internet of Things, cloud computing, big data, artificial intelligence, cyber-physical systems have been shaping many fields, including manufacturing. In line with this trend, smart manufacturing emerged. As a comprehensive information technology that integrate computer, model theory, and scientific computing, modelling and simulation have been widely applied in all stages of product life cycle covering design, production, testing, maintenance, procurement, and sales. In the context of smart manufacturing, modelling and simulation has been revived and found many new applications, such as modelling and simulation-based system of system engineering and digital twin, which enable the digitalization, normalization, traceability, high efficiency, low cost, and intelligence of the lifecycle of manufacturing.

Topics of interest include, but are not limited to:

- Theories, techniques, and applications of modelling and simulation for smart manufacturing systems, including cloud manufacturing, Industry 4.0, Industrial Internet, etc.

- Theories, techniques, and applications of emerging technologies such as AI, blockchain, and big data integrated with modelling and simulation for smart manufacturing (including cloud manufacturing, Industry 4.0, and Industrial Internet)
- Theories, techniques, and applications of modelling and simulation in product design, manufacturing, testing, operation and maintenance
- Digital twin in smart manufacturing systems
- Modelling and simulation-based system of system engineering
- Model engineering for smart manufacturing
- Modelling and simulation languages
- Agent-based modelling and simulation in manufacturing
- Semantic modelling of smart manufacturing equipment, systems, and processes
- Simulation optimization methods in and its applications to smart manufacturing
- Modelling and simulation for smart robotics and 3D printing
- Modelling and simulation for smart factory

Submissions Procedure: All the instructions for paper submission are included in the conference website <https://2021.ieee-indin.org/>