

**Special session****Deadline: 15 May 2020****Title:**

*Production planning and control for industry 4.0*

**Organised by:**

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**Abstract:**

*The current economic and technological contexts present many challenges for manufacturing companies of all sizes. Indeed, the emergence of the "Industry 4.0" concept brings new challenges to industrials who must integrate Information Technology (IT) strategies in their short and long-term orientations. Even if digitalization and IT integration is not a new preoccupation for companies, they now need to speed up the pace and increase the level of adoption and integration of these tools into their various processes.*

*Manufacturing companies rely heavily on numerous software solutions to plan and control their activities and achieve a high level of operational excellence e.g. Manufacturing Execution Systems (MES). These traditional tools must be completed by new ones promoted by Digital Manufacturing and Industry 4.0. The systems to build must be able to address the increasing complexity and flexibility of modern production systems by providing an integrated network for data collection, data analysis, and performance improvement.*

*This special session focuses on how management systems can integrate tools from Industry 4.0 such as structural equation modelling, digital twin and simulation, artificial intelligence and optimization techniques. The topics of interest include, but are not limited to Digital manufacturing networks for Industry 4.0, Digital cyber-physical supply chain, integrated production planning and control, data analytics, machine learning, digital twin for smart manufacturing, production optimisation, Lean and Digital Manufacturing.*

**List of topics:**

Production systems, Industry 4.0

**Keywords:**

Manufacturing execution system, planning and control, Internet of Things (IoT), simulation, digital twin, data analytics, machine learning, optimization,