



## DCISM 2019

### Distributed Collective Intelligence for Smart Manufacturing

at the 11<sup>th</sup> International Conference on Computational Collective Intelligence (ICCI 2019)

Hendaye, France, September 4-6, 2019

Conference website: <http://icci.sigappfr.org/>

#### Special Session Organizers

**Marcin Fojcik (chair)**

Faculty of Engineering and Science  
Western Norway University of Applied Sciences, Norway  
[marcin.fojcik@hvl.no](mailto:marcin.fojcik@hvl.no)

**Rafał Cupek**

Faculty of Automatic Control, Electronics and Computer Science  
Silesian University of Technology, Poland  
[rafal.cupek@polsl.pl](mailto:rafal.cupek@polsl.pl)

**Adam Ziębiński**

Faculty of Automatic Control, Electronics and Computer Science  
Silesian University of Technology, Poland  
[adam.ziebinski@polsl.pl](mailto:adam.ziebinski@polsl.pl)

**Knut Øvsthus**

Faculty of Engineering and Science  
Western Norway University of Applied Sciences, Norway  
[knut.ovsthus@hvl.no](mailto:knut.ovsthus@hvl.no)

#### Objectives and topics

The DCISM 2019 special session focuses on research into the new generation of industrial Information and Communication Technologies (ICT) that will be able to increase the flexibility and efficiency of production while at the same time supporting the optimal matching of products to the individual needs of the customer. Enterprises are increasingly using new ICT such as communication and wireless identification RFID, IoT (Internet of Things), Cloud Computing, machine learning and data mining. Information that describes both the product itself and the production process has become more and more precise, while on the other hand, the huge volume of data makes it difficult to interpret that information correctly. One of the most effective solutions for coping with the big data problem is to move from centralised decision-support systems to distributed artificial intelligence, which will process the information locally in cooperation with its neighbourhood. The new generation of ICT support for manufacturing led to the vision of a smart factory, which is characterised by agility, a high level of mutability and ergonomic working conditions. Along with a high level of automation, the development of intelligent monitoring and autonomous decision-making processes is important in order to control and optimise both industrial companies and entire value-adding networks efficiently. In today's factories, operating, monitoring, diagnosing and troubleshooting automated production systems is already being supported by ICT solutions such as Enterprise Resource Planning (ERP) Systems, Manufacturing Execution Systems (MES) and remote maintenance concepts. However, the functions of centralised industrial systems are increasingly being shifted to decentralised systems that are linked *via* wireless communication under the IoTS (Internet of Things and Services). The successive dissolution of the hierarchical industrial computer systems that are based on the automation pyramid into new models is one of main issues covered under DCSIM 2019 research area.

- Flexible manufacturing systems according to the Reference Architectural Model Industrie 4.0 (RAMI4.0)
- Sensor and Actuator Networks in the Internet of Things
- Ontology Based Machine to Machine Communication
- Industrial Data Lakes
- Artificial Intelligence / Data Mining for Predictive Maintenance
- Quality of Service of Communication in Distributed Systems

## Important dates

Submission of papers: **April 15, 2019 (Extended-Strict)**  
Notification of acceptance: **May 20, 2019**  
Camera-ready papers: **June 1, 2019**  
Registration & payment: **June 1, 2019**  
Conference date: **September 4-6, 2019**

## Program Committee (to be invited)

Markus Bregulla, Ingolstadt University of Applied Sciences, Germany  
Rafał Cupek, Silesian University of Technology, Poland  
Marcin Fojcik, Western Norway University of Applied Sciences, Poland  
Jörg Franke, Friedrich-Alexander-University of Erlangen-Nürnberg, Germany  
Dariusz Frejlichowski, West Pomeranian University of Technology, Poland  
Damian Grzechca, Silesian University of Technology, Poland  
Maciej Huk, Wrocław University of Science and Technology, Poland  
Dariusz Mrozek, Silesian University of Technology, Poland  
Agnieszka Nowak-Brzezińska, University of Silesia, Poland  
Krzysztof Tokarz, Silesian University of Technology, Poland  
Olav Sande, Western Norway University of Applied Sciences, Norway  
Knut Øvsthus, Western Norway University of Applied Sciences, Norway  
Alexey Vinel, Western Norway University of Applied Sciences, Norway  
Adam Ziębiński, Silesian University of Technology, Poland

## Submission

All contributions should be original and not published elsewhere or intended to be published during the review period. Authors are invited to submit their papers electronically in pdf format, through EasyChair. All the special sessions are centralized as tracks in the same conference management system as the regular papers. Therefore, to submit a paper please activate the following link and select the track: **DCISM 2018: Distributed Collective Intelligence for Smart Manufacturing.**

<https://easychair.org/conferences/?conf=iccci2019>

Authors are invited to submit original previously unpublished research papers written in English, of up to 12 pages, strictly following the LNCS/LNAI format guidelines. Authors can download the Latex (recommended) or Word templates available at [Springer's web site](#). Submissions not following the format guidelines will be rejected without review. To ensure high quality, all papers will be thoroughly reviewed by the **DCISM 2019 Program Committee**. All accepted papers must be presented by one of the authors who must register for the conference and pay the fee. The conference proceedings will be published by Springer in the prestigious series LNCS/LNAI (indexed by ISI CPCI-S, included in ISI Web of Science, EI, ACM Digital Library, dblp, Google Scholar, Scopus, etc.).