

## Call for Papers

### SS14 - Knowledge Graphs for Smart Manufacturing: Modeling and Applications

#### Organized and Co-Chaired by

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**FOCUS.** Knowledge Graphs depict an effective way for structuring heterogeneous data, which is characterized by a high semantic expressiveness. They are used to continuously gather data describing dynamic real-world entities and their relations in a unified model for gaining new insights. Knowledge Graphs emerged in the past decade with research focused on knowledge representation, learning and application.

Enabling concepts of Industry 4.0, such as the Internet of Things, Cyber-Physical Systems as well as Digital Twin require mechanisms for handling highly heterogeneous, dynamic and complex data from the physical asset and its environment to realize various applications. Knowledge Graphs, although a promising approach to address some of the data modeling, exchange and management challenges remain scarce within the industrial domain.

The objective of this special session is to highlight on the potential and applicability of Knowledge Graphs for smart manufacturing.

#### ❖ TOPICS

- ❖ Knowledge Organization and Representation
- ❖ Ontology-based Knowledge Graphs
- ❖ Knowledge Graph evolution with streaming data
- ❖ Knowledge Graph and its relevance to the Digital Twin
- ❖ Knowledge Graphs and AI, e.g., graph embeddings
- ❖ Applications of Knowledge Graphs

- ❖ **AIM.** The aim of the Special Session is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and applications of Knowledge Graphs within the industrial domain. Knowledge representation addresses an ongoing challenge for industry practitioners due to the lack of domain-specific standardization and the lack of expertise in their realization. Knowledge-driven methods have the potential, however, of establishing a continuous learning base and deductions of previously unrecognized relations, especially when combined with AI-methods.

- ❖ **CONFERENCE FORMAT.** The conference will comprise multi-track sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations, as well as work-in-progress (WiP) and industry practice sessions.

#### ❖ AUTHOR'S SCHEDULE (2022)

##### ❖ Regular and special sessions papers

Submission deadline ..... April 1  
Acceptance notification ..... May 6  
Deadline for final manuscripts ..... June 17

##### ❖ Work-in-progress/Industry practice papers

Submission deadline ..... May 13  
Acceptance notification ..... June 10  
Deadline for final manuscripts ..... June 17