

# I-ESA '18 Workshop Call for Papers

## Predictive Maintenance in Industry 4.0: Methodologies, Tools and Interoperable Applications



**I-ESA '18 INTEROPERABILITY FOR ENTERPRISE  
SYSTEMS AND APPLICATIONS**  
**March 22<sup>nd</sup> to March 23<sup>rd</sup> 2018**  
**Pre-conference: March 19<sup>th</sup> to March 21<sup>st</sup>**  
**Venue: Fraunhofer IPK, Berlin, Germany**  
<http://www.i-esa.org/>

### Organisers

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### Description

Maintenance is a key operation function within manufacturing enterprises related to all of their processes and focuses not only on avoiding the equipment breakdown but also on improving business performance. In the last years, due to the evolution of technology, products and machines have become more and more complex. Consequently, the costs of time-based (planned) maintenance have increased and predictive maintenance has evolved as a novel lever for maintenance management. To this end, the emergence of the Internet of Things (IoT) can enhance the condition monitoring capabilities by paving the way for extensive use of physical and virtual sensors generating a multitude of data. In this way, predictive maintenance can significantly evolve in the frame of Industry 4.0. Industry 4.0 indicates the flexibility that exists in value-creating networks which enables machines and plants to adapt their behaviour to changing orders and operating conditions through self-optimization and reconfiguration with the aim to implement distributed and interconnected production facilities in future smart factories.

The Workshop aims to promote and encourage research and industrial efforts with the aim to cover a number of topics related to methodologies, concepts, architectures, tools and interoperable applications for predictive maintenance in the frame of Industry 4.0. The main goal of this workshop is to provide a forum for researchers and practitioners with diverse backgrounds to meet, exchange research and implementation ideas, and share experience and results regarding predictive maintenance within the Industry 4.0 paradigm.

## Topics

Relevant topics include, but are not limited to:

- Predictive analytics
- Predictive maintenance decision making
- Interoperability in predictive maintenance applications
- Cyber Physical Systems
- Internet of Things for predictive maintenance
- Predictive maintenance in smart and sensing enterprises
- Industry 4.0 technologies for predictive maintenance
- Implementation methodologies
- Architectures
- Predictive maintenance case studies
- Predictive maintenance applications
- E-maintenance
- Big data for predictive maintenance
- Process modelling & reasoning for predictive maintenance of complex assets
- Business modeling for Predictive maintenance

## Important Dates

Deadline for abstract submission (max. 600 words):	15 December 2017
Abstract acceptance notification:	10 January 2018
Publication of abstract publication on the web site:	19 January 2018
Submission of final papers:	6 March 2018
Workshops:	20-21 March 2018
Camera-ready version submission (can contain updates from the discussion at the workshops and will be used for publication):	30 April 2018
Publication of Proceedings:	20 June 2018

Please note that Workshop papers must be **no longer than 6 pages**. Please send your contributions by e-mail to the organisers.

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