EDMA-2019

The 3rd International Workshop on

Engineering Data- & Model-driven Applications

in conjunction with **UKCI 2019 – the 19th Annual Workshop on Computational Intelligence**

We are witnessing a dramatic increase of large engineering data resource availability and accessibility. Data-driven technologies, sensors connected through the Internet of Things (IoT) and big data capabilities nowadays show sustained development throughout the life cycle, from R&D testing to manufacturing, use and retirement. This evolution in modern industrial environments exposes richer domain-specific data and requires validated model-driven processes that interact dynamically, underpinned by data science and computational modelling approaches, to generate actionable insight for optimal system lifecycle management. New research in aggregation, integration, analysis and governance of data and derived models is now ubiquitously required throughout the life cycle of industrial products – from design to exploitation, reuse and recycle. Delivering on these new opportunities challenges the development, validation and adoption of effective data science solutions that can provide information and insight from data and models to applications of cyber-physical systems (CPS) and Industry 4.0, from autonomous cars to industrial and manufacturing processes.

Workshop topics

This 3rd EDMA International Workshop (in a series started in 2017) aims to provide a forum for presentations and discussions sharing insights of current challenges, knowledge, expertise and solutions regarding trends and technologies for the use of data and models for dealing with the evolving complexity in systems, within an extended Industry 4.0 context. The workshop committee members invite contributions from across engineering and data science researchers on data (Knowledge Discovery, Machine Learning, Big Data Analytics) and engineering model-based methods to deliver effective and efficient solutions to current challenges of handling complexity in real-world engineering and industrial applications.

We welcome original contributions (reviews and surveys, technical and research papers, progress reports) on methodologies, formalisms, algorithms and solutions for the following topics and related areas:

- Data and Model Governance for Engineered Cyber-Physical Systems;
- Engineering and Industrial Data Quality Assessment and Assurance;
- Machine Learning for Engineering and Industrial Data Processing, and Industry 4.0;
- Measurement, monitoring and forecasting for Cyber-Physical Systems (CPS);
- Data Analytics and Visualisation, Patterns and Data Modelling for CPS;
- Computational Modelling Techniques, Software Tools for Model Verification and Validation for CPS;
- AI embedded in the development and modelling of evolving open architectures of CPS;
- Modelling and optimisation for diagnostics, prognostics and health management of CPS.

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Papers Submissions

All submissions will be peer-reviewed; all accepted papers will be included in the ***Advances in Computational Intelligence Systems*** *series UKCI 2019 Conference Proceedings* published by Springer. At least one of the authors of any accepted paper is requested to register the paper at the conference.

Selected papers in substantially extended form will be considered for publication in a special issue of [Expert Systems: The Journal of Knowledge Engineering](#) (IF: 1.43).

Paper Submission Guidelines

All papers will be submitted electronically in PDF format through the EasyChair EDMA-2019 international workshop submission website: *https://easychair.org/conferences/?conf=edma2019*

The material submitted should not be published or under review elsewhere. Papers should use the Springer template available from the UKCI 2019 site (*https://www.ukci2019.port.ac.uk/*) – paper submission section.

Important Dates

Paper Submission Deadline:	15 June 2019
Authors Notification:	22 June 2019
Early Registration Due:	30 June 2019
Camera-Ready Paper Due:	14 July 2019
Conference Date:	4-6 September 2019

Organising Committee

Professor Felician Campean, University of Bradford, UK
Professor Marian Gheorghe, University of Bradford, UK
Professor Daniel Neagu, University of Bradford, UK

Technical Committee:

Professor Gongde Guo, Fujian Normal University, China
Dr Jon Hall, Open University
Dr Ci Lei, University of Bradford, UK
Professor Francesco Masulli, University of Genoa, Italy
Dr Paul Trundle, University of Bradford, UK
Dr Longhzi Yang, Northumbria University, UK

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We can't predict your **future** but we can **help shape it**