

INTERNATIONAL SUMMER SCHOOL ON INDUSTRIAL AGENTS: ENGINEERING OF CYBER-PHYSICAL PRODUCTION SYSTEMS

29 June - 3 July 2020

International Manufacturing Centre,
WMG, The University of Warwick, UK



WELCOME

It is our pleasure to invite you to participate in the 6th International Summer School on Industrial Agents, which will be held at WMG, the University of Warwick from 29th June to 3rd July 2020. The Summer School is technically co-sponsored by the IEEE Technical Committee on Industrial Agents and Automation Systems Group WMG.

This event is designed to provide advanced training for PhD students and practitioners on engineering methods and automation technologies that will be the basis for Industry 4.0. This week long intensive course aims to promote discussion on how to use distributed multi-agent systems to design, develop and implement the next generation of intelligent production system based on the principles of cyber-physical systems.

OBJECTIVES

The summer course aims to enhance the participants' knowledge in the field of distributed and multi-agent systems (MAS) applied to industrial environments, particularly providing hands-on knowledge to develop industrial cyber-physical systems (e.g. production systems, smart grids, etc.). The main objectives of the course are:

- Introduce MAS principles as a suitable paradigm to develop industrial distributed collaborative systems.
- Provide practical competences in developing MAS applications for industrial automation applications.
- Deployment of agent-based solutions for industrial environments.

Participants will attend lecture and tutorials delivered by well-known experts in the field from industry and academia to share their experience of developing and applying agent-based solutions in applied industrial context. The summer course will provide a good opportunity to meet prominent researchers, share best practices and to network with participants that may lead to research collaborations in the future. Participants will be able to gain a range of theoretical and practical skills necessary to develop agent-based applications to develop industrial cyber-physical systems.

Methodology and Structure

Well known international researchers will deliver lectures on cutting edge research and will share their experience from both theory and application perspective. In addition to lectures, practical exercises will be delivered to provide hands on experience to participants. The summer school lasts for 5 days, mainly comprising of 1-2 hour lectures. Most of the afternoon sessions will be comprised of practical exercises. The summer school promotes a project- and problem-based learning practice to complement and consolidate the acquired knowledge and hands-on competences.



Keynote Speakers

- **Paulo Leitão** - Fundamentals in industrial agents
- **Luis Ribeiro** - Design and Assessment of Cyber-Physical Production Systems
- **Thomas Strasser** - Designing Field Level Agents with IEC 61499
- **Birgit Vogel-Heuser** - Field Level Control Agents to Enable Cyber Manufacturing- Selected Patterns
- **Alois Zötl** - Implementing Field Level Agents with IEC 61499 and Eclipse 4diac
- **Armando W. Colombo** - Positioning Physical Agents within the Reference Architecture Model for Industry 4.0 (DIN SPEC 91345 (RAMI4.0))
- **Alexander Fay** - Industry 4.0 application scenarios for agents
- **Stamatis Karnouskos** - Security for CPS and Critical Infrastructures
- **Andrea Bonci & Massimiliano Pirani** - Transdisciplinary approach between industrial agents and control theory for the planning and distributed control of autonomic CPPS
- **Jose Barata** - Software Engineering in Industrial Automation

Registration

Please register your interest by dropping an email to the contact provided below. We will send you a notification when more details are available. Your registration is at the moment without any commitment.

COVID-19 Update: The Steering Committees have approved that the Summer School will be held remotely with online presentations and webinar delivery during the planned dates as our priority is the safety and well being of all participants,

Regular registration fee: £50

Contact:

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For more information please visit our website [here](#).

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