

2008 International Conference on Industrial Informatics and Systems Engineering (IISE 2008)

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Submission Deadline

11 April 2008

Conference website

<http://siwn.org.uk/2008/IISE08.htm>

Systems in industries tend to be large-scale and computer- and network-based. The behaviors of industrial systems become increasingly complex. Systems Engineering viewpoints and methodologies are desperately needed to tackle issues, for example, intricate relationships between systems and their environments, emergent interactions among system components, couplings between systems software and hardware infrastructures, and so forth. In order to address these challenges, possessing huge amount of static knowledge is not enough in real-world environments, but more important is how to embody knowledge within the environments which are dynamic. Accordingly, systems evaluations have to include new criteria, for example, robustness, evolvability, dependability, engineerability, etc. Topics of particular interest include (but not limited to) the followings.

(1) Systems Methodology

- discrete-event and hybrid systems modeling and control

- distributed product management

- factory automation

- hierarchical control systems

- human-in-the-loop control systems

- industrial applications of intelligent systems

- intelligent automation

- intelligent control

- intelligent optimization

- man-machine cooperative systems, multi-media support

- mechatronics, robotics, robotic control

- real-time decision and control algorithms

- robust control

- software intensive automation systems

- workflow management

(2) Real-time and Embedded Systems

- distributed embedded systems

- embedded systems applications, e.g., intelligent vehicle / train / ship / aircraft on-board control systems; intelligent transport / traffic systems

- embedded systems middleware

- embedded systems operating systems

- networked embedded systems

- real-time embedded systems

- system on a chip, MEMS

(3) Industrial Process / Manufacturing Systems Engineering

- concurrent engineering

- distributed manufacturing systems

- holonic / multi-agent / agile/ intelligent manufacturing systems

- industrial applications of multi-agent systems, multi-agent frameworks of process industries (e.g., chemical, bio-chemical, petro-chemical, refinery, etc.)

- intelligent production systems

- inventory management and optimization

- manufacturing control and automation

- manufacturing execution systems

- manufacturing systems integration

- manufacturing systems modeling and simulations

- process control and automation

- process faults detection, diagnosis, and tolerant control

- process modeling and simulations

- process monitoring, supervisory control

- process optimization

- process systems modeling and simulation

- production planning and control

- recycling and industrial eco-environments

- safety control systems

- shop floor scheduling, jobs scheduling, routing

- virtual manufacturing

(4) Automation Technology

- computer aided design / production

- computer integrated manufacturing systems

- computer supported cooperative work

- decentralized control systems

(5) Industrial Communications and Networks

- automation networks, virtual automation networks

- fieldbus, factory field communications

- industrial communications architectures and protocols

- industrial Ethernet

- industrial internet technologies

- industrial local area networks

- industrial network security

- industrial wireless communications and networks

- mobile communications security

- privacy and security in industrial information systems

(6) Intelligent Distributed Automation

- computer-supported collaborative work in distributed automation

- grid computing for distributed automation

- distributed intelligence in industrial and manufacturing automation

- fundamentals and architectures of distributed automation

- industrial applications of multi-agent systems

- holonic manufacturing systems

- multi-agent collaboration and coordination for distributed automation

- semantic webs, ontology in distributed automation

- service-oriented architectures of distributed automation

- system-of-systems architectures and engineering for distributed automation