

Sponsored by: *University of Basque Country (UPV/EHU), Spain and IEEE Industrial Electronics Society*

Aim:

The aim of the conference is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and developments in the newly emerging areas of technology, as well as actual and potential applications to industrial and factory automation.

Solicited Papers:

- *Work In Progress* papers describe research that has not yet produced the results required for a regular paper, but that due its novelty and potential impact deserves to be shared with the community at an early stage.
- *Industry practice* papers are focused on presenting the results of industry research projects. They will be published in the proceedings in an Industry practice section. Industry practice presentations are encouraged as a challenging experience in this Conference. The main objective of industry practice presentations is to increase interactions between conference attendees and industry.

Topics within the scope of the conference include:

- **Information Technology in Automation**
IT Modeling techniques (UML, Object-Orientation, Agents, Service Oriented Architectures,...) for automation systems ; Data Modeling (CAEX, AutomationML, OPC UA,...); Virtualization at the factory level, digital factory; Programming languages (IEC 61131, IEC 61499,...); Integration with MES and ERP systems (Databases, Semantic Web Services) ; Vertical Integration: Web-based Setup, Maintenance and Configuration; Tool chains, platforms, and frameworks for Software Design and Development; Security in factory, home and building Automation; Network Integration in Automation Systems (heterogeneous networks, wired/wireless,...).
- **Industrial Communication Systems**
Implementation issues; Message scheduling; Performance analysis; Dependability and fault tolerance aspects; System design and architecture; Self-configurable systems; Integration support; Fieldbus networks; Real-Time Ethernet Networks; Intranet and Internet; Wireless networks; Hybrid (wired/wireless) networks; Safety buses; Sensor networks; Automotive networks; Building automation networks; Process control networks; Networked control systems.
- **Real-Time and (Networked) Embedded Systems**
Real-Time Computing; Real-Time Operating Systems; Real-Time Communications; Networked Embedded Systems Technology; Wireless Sensor Networks; Cyber Physical Systems; Design and Implementation; Design Methodologies and Tools; Components and Platforms; Models of Computation and Formal Methods; Hardware/Software Co-Design; Energy Management; Data Integration and Fusion; Communication Modes; Quality of Service Control; Case Studies.
- **Automated Manufacturing Systems**
Formal Modeling and Analysis of Manufacturing Systems; Scheduling, Simulation, Queuing Systems and Petri Nets in Manufacturing Systems; Synthesis and Analysis Techniques, Performance Evaluation and Reliability; Discrete and Continuous Industrial Automation Systems; Automated Manufacturing Systems and Enterprise Integration; Application of Service-Oriented Technologies; Test Cases, Benchmarks and Tools; Applications and Experiences in Practice; Recent Developments in Standardization.
- **Industrial Control**
Process Control; Equipment Control; Intelligent Control; Supervisory Control; Industrial Control Implementation; Discrete and Continuous Automation System; Equipment and Process Monitoring; Fault Detection and Management; Process Modelling and Optimization; Performance Assessment of Control Systems; Control Applications; Large-Scale Systems.
- **Computational Intelligence and Modern Heuristics in Automation**
Intelligent Systems and Control, Modern Heuristics, and Data Mining in automation and industrial applications; Neural/Fuzzy/Evolutionary approaches in automation; Modern heuristics methods in factory automation based on predictive, adaptive control, recognition, navigation, motion control, competitive, self-organizing learning, and clustering; Computational Intelligence in security, reliability, and fault-tolerance in automation; Ant colonies optimization and swarm intelligence in automation; Machine learning, Support Vector Machines, Expert Systems.
- **Intelligent Robots & Systems**
Cognitive robotics; Cooperative and collaborative robotics; Distributed robotic architectures; Human-robot interaction; Integrated intelligence; Intelligent robot assistants; Intelligent embedded systems; Natural language grounding; Network robotics; Perception, control and manipulation for intelligent robots and systems; Planning and failure recovery; Reasoning under uncertainty; Robot learning; Robot vision; Usability studies.

Submission of Papers:

The working language of the conference is English. Work-in-Progress and Industry practice – limited to 4 double column pages in a font no smaller than 10-points. Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the Conference web site

Further Information:

ETFA'10 Conference Secretariat: Tel: +34 94 601 4048; Fax: +34 94 601 4187; Email: contact@etfa2010.org

Paper Acceptance:

Each accepted paper must be presented at the conference by one of the authors. The final manuscript must be accompanied by a registration form and a registration fee payment proof. All conference attendees, including authors and session chairpersons, must pay the conference registration fee, and their travel expenses.

Author's Schedule:

Deadline for submission of work-in-progress papers and Industry practice: June 7, 2010
Notification of acceptance of work-in-progress papers and Industry practice: July 7, 2010
Deadline for submission of final manuscripts – work-in-progress papers and Industry practice: July 14, 2010

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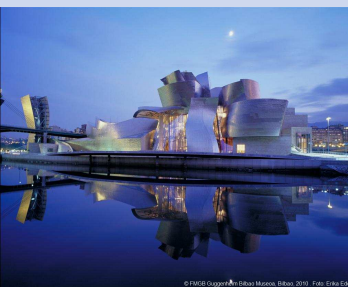
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