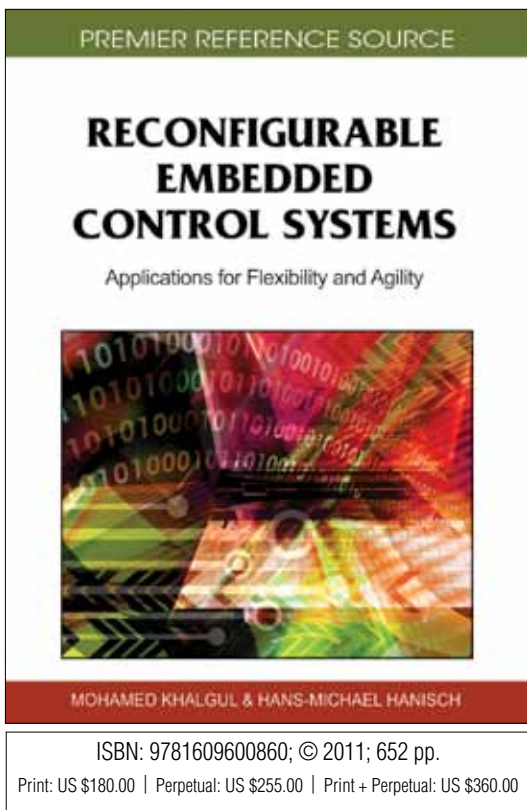


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Reconfigurable Embedded Control Systems: Applications for Flexibility and Agility



Mohamed Khalgui (Xidian University, China) and
Hans-Michael Hanisch (Martin Luther University, Germany)

New generations of embedded control systems address criteria such as flexibility and agility. To reduce their cost, these systems have to be changed and adapted to their environment without any disturbances.

Reconfigurable Embedded Control Systems: Applications for Flexibility and Agility addresses the development of reconfigurable embedded control systems and describes various problems in this important research area, which include static and dynamic (manual or automatic) reconfigurations, multi-agent architectures, modeling and verification, component-based approaches, architecture description languages, distributed reconfigurable architectures, real-time and low power scheduling, execution models, and the implementation of such systems. The chapters contained within this reference work propose interesting and useful solutions that can be applied in future industry.

Topics Covered:

- Architecture description languages
- Control of fault-tolerant discrete event reconfigurable systems
- Discrete event reconfigurable systems
- Formal methods for timed and probabilistic reconfigurable systems
- Industrial communication control systems
- Interdisciplinary approaches for dependability improvement
- Monitoring and diagnosis of discrete event reconfigurable systems
- Networked embedded control systems
- Recent advances in fault-forecasting methods
- Software engineering in industry

Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Mohamed Khalgui is a researcher at Xidian University in China. He was a full-time researcher in computer science at Martin Luther University in Germany, a part-time researcher at ITIA-CNR Institute in Italy, a collaborator with SEG Research Group in Greece, and a temporary lecturer at Henri Poincaré University in France. Dr. Khalgui obtained the Bachelor degree in Computer Science at Tunis University in 2001. The master degree was obtained in telecommunication and services at Henri Poincaré University in 2003. He made research activities in computer science at INRIA Institute to obtain the PhD at the French Polytechnical Institute of Lorraine in 2007. Dr. Khalgui activates in several European Projects and also in other interesting international collaborations. He's currently the Head of ICTICA.

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