



**JOURNAL OF
SYSTEMS
ARCHITECTURE**

The EUROMICRO Journal

CALL FOR PAPERS

Special Issue on
**Modern Methods and Tools
in Digital System Design**

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Prospective authors are encouraged to submit the PostScript version of their full papers to the Guest Editor by e-mail: (LECH@ics.ele.tue.nl)

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Microelectronic technology, human factors, and methods and tools for design of microelectronic circuits and hardware/software systems decide to a high degree what is technologically feasible and economically justified in the whole area of microelectronics-based systems. Modern microelectronic technology enables implementation of complete complex systems on a single chip, including analog and digital hardware, embedded software, sensors and actuators. Progress in microelectronic technology is extremely fast. It is outstripping the designers' abilities to make use of the created opportunities. The complexity and quality of systems as well as their design and production cost and time tend to be more limited by the design methods and tools than by the microelectronic technology. Substantial improvement can only be achieved through development and application of a new generation of design paradigms, methods and tools.

To highlight the importance of the adequate design methods and tools and to provide a focus on the high quality work in this area, the Journal of Systems Architecture invites contributions for the Special Issue on Modern Methods and Tools in Digital System Design. Papers describing novel methods and tools for design of digital hardware and hardware/software systems are requested for this Special Issue. Originality, applicability to modern technologies and complex designs, and relevance of the technical content will be the primary evaluation criteria of the papers.

TOPICS OF INTEREST include novel methods and tools for:

- specification, modeling, analysis and validation of (hardware/software) systems and their components
- system-on-a-chip design and hardware/software co-design (generic system architectures and system platforms, "intellectual property" issues, design reuse, etc.)
- system and circuit decomposition and partitioning
- system, hardware/software, high-level, RT-level and logic synthesis (synthesis for low-power, high speed, low communication complexity, manufacturability, testability, etc.)
- emerging technologies and system paradigms (re-configurable systems, systems-on-a-chip, custom computing machines, etc.).