Embedded ubiquitous computing systems (EUCS) such as cyber-physical systems and sensor networks are immersed in our life and promise to grow remarkably in the near future. EUCS are expected to cope with an increasing demand of functional, temporal and communication constraints, with the corresponding growth in processing capabilities, claiming for high performance computing. Multi-cores, many-cores and heterogeneous processors are becoming the typical design choices to satisfy these requirements. Nowadays, multi- many-cores and heterogeneous computers are dominating the processor market of embedded ubiquitous computing systems. Some processors integrate more than tens of cores and, as the node shrinks in future technology generations, it is expected that the number of cores will continue increasing in future manufactured systems. This challenge requires the use of automated techniques for the specification, design, analysis, simulation, testing, and evaluation of such complex computing platforms. Moreover, the current integrated circuit technologies of EUCS are approaching their physical limits in terms of scaling and power consumption. In this context, the design automation industry is pushed towards solving ever more challenging problems in terms of performance, scalability, adaptability and low power consumption. Meeting these constraints needs innovation at different levels of the design of future generation embedded ubiquitous computing systems.

This special issue aims at collecting a number of outstanding papers describing the latest developments and trends on design automation of future generation embedded ubiquitous systems. The following is a non-exhaustive list of topics in focus of this special issue:

- Models, methods, tools, and architectures for EUCS.
- System-level modeling and simulation of multi-core, many-core and heterogeneous processors for EUCS.
- Component-based development methodologies, hardware-software co-design and design space exploration.
- Compilation, runtime environments, profiling and measurement of EUCS.
- Hardware/software co-simulation, validation and formal verification.
- Operating system services for resource management, reliability and security of EUCS.
- Low power design, power management, thermal aware computation, power analysis and optimization of EUCS.
• Applications for increased system heterogeneity and scale: cyber-physical systems, sensor networks, ambient intelligence, wearable computing, avionics, automotive.

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Notes for Prospective Authors
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Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. They should be submitted via The Journal of Systems Architecture online submission system at http://ees.elsevier.com/jsa/. Authors should select “SI: DAEUCS”, from the “Choose Article Type” pull-down menu during the submission process.

All submitted papers will be peer reviewed according to the usual standards of this journal, and will be evaluated on the basis of originality, quality and relevance to this Special Issue and the journal, and on the basis of clarity and correct use of English. The submitted papers should be formatted according to the journal style. For more detailed information concerning the requirements for submission, please refer to the journal homepage at: http://www.journals.elsevier.com/journal-of-systems-architecture/

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Important Dates
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Submission due date: April 1, 2015
Notification of acceptance: August 15, 2015
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Publication: First quarter 2016 (tentative)

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