

## Special issue of Universal Journal of Computer Science on Evolutionary Methodologies and Adaptive Designs for Embedded Systems

---

### Description and Motivations

Network-on-Chip (NoC) is an emerging paradigm for communications within large VLSI systems implemented on a single silicon chip. IT is used as a new approach to designing complex System-on-a-chip (SoCs) design. NoC-based systems can accommodate multiple complex SoC designs. In a NoC-based system, modules such as processor cores, memories and specialized IP blocks exchange data using a on-chip network. A NoC is constructed from multiple point-to-point data links interconnected by switches also called routers, such that messages can be relayed from any source module to any destination module over several links, by making routing decisions at the switches. VLSI designers of embedded systems face several problems, among which we can cite, for instance, planning the architecture that is most suitable to a given application in order to improve performance and mapping the sub-systems that form the application into the available platform infra-structure. Evolutionary computation can be used as a very robust tool to bring some answers to this kind of design problems.

This special issue of *Universal Journal of Computer Science*, covers hardware, middleware and application designs and synthesis tools that exploit the evolutionary computation principles and other innovative computing paradigms to provide CAD tools for embedded systems in general and NoC-based systems in particular. Submitted papers can be a describe applications, computing models, modeling frameworks, or hardware platforms and architecture. All submitted papers will be subjected to the review process.

### Important dates:

- Paper submission: December 30th, 2011
- Decision notification of first round review: December 20th, 2011
- Submission of revised version: February 28th, 2012
- Final decision: March 30th, 2012
- Final version: May 30th., 2012

If you intend to contribute to this special issue, please send a *title* and *abstract* of your contribution to the guest editors. The submissions must be in a format consistent with the author guidelines of *J.UCS*, available at [http://www.jucs.org/jucs\\_info/submissions](http://www.jucs.org/jucs_info/submissions) to [nadia@eng.uerj.br](mailto:nadia@eng.uerj.br). When submitting, please indicate that your manuscript is a Special Issue Paper on JUCS-ECAD. For questions regarding submissions to the special issue, please contact one of the guest editors.

### Guest Editors:

- Nadia Nedjah, [nadia@eng.uerj.br](mailto:nadia@eng.uerj.br)  
Dept. of Electronics Engineering & Telecommunications  
Faculty of Engineering, State University of Rio de Janeiro, Brazil  
<http://www.eng.uerj.br/~nadia/english.html>
- Luiza de Macedo Mourelle, [ldmm@eng.uerj.br](mailto:ldmm@eng.uerj.br)  
Dept. of Systems Engineering & Computation, Faculty of Engineering  
State University of Rio de Janeiro, Brazil  
<http://www.eng.uerj.br/~ldmm>