DSD 2012
15th Euromicro Conference

Call For Paper:
Special Session on Flexible Digital Radio

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Special Session on Flexible Digital Radio (FDR)

Over the past decade, flexible radio has been a very thought after topic, especially after the boom of wireless technologies. Modern radios have to handle more and more different air interfaces which often exhibit complex schemes to improve spectrum efficiency and to push the performance closer to the channel capacity limit. Hence, modern transceivers have to cope computational demanding processing, while being flexible enough to run multiple standards. It is also required that the underlying hardware and software offers means for incremental design. Harsh design constraints are thus to be considered: flexibility, efficiency, size, power consumption, cost, and real time processing.

Special Session Scope

This special session addresses all aspects regarding both the digital architecture and the design methodology for multi-standard, multi-mode flexible radios. Tradeoffs considering flexibility vs. computational power, and power consumption parameters are cornerstones of architecture selection. Both methodological and architectural viewpoints are tackled by the Flexible Radio Design special session. FDR as part of future cognitive radio systems is also considered in this special session, especially whenever cognitive radio usage involves fast reconfiguration (partial or global) or joint sensing/communication schemes.
Papers on any of the following and related topics will be considered for the special session:

- FDR for multi-standard and cognitive radio
- HW / SW partitioning for flexible radios
- HW accelerators for flexible radios
- Algorithm / Architecture optimization
- HW factorization and parameterization techniques
- Digital front end architectures and design
- Parallel processing for real-time digital communication systems
- MPSoC and NoC based flexible radios
- Power consumption aware radios
- High level design approach for flexible radio
- FDR design modeling
- Abstraction layers and virtualization techniques for multi-standard radio
- Techniques and platforms for cloud radio access networks (Cloud RAN)
- Open platforms for multi-standard support

Submission Guidelines

Prospective authors are encouraged to submit their manuscripts for review electronically through the following web page (http://www.easychair.org/conferences/?conf=dsd2012) or by sending the paper to the DCPS SS program Chair dominique.noguet[at]cea.fr) only if an unexpected web access problem is encountered before the deadline for submission.
Each manuscript should include the complete paper text, all illustrations, and references. The manuscript should conform to the required IEEE format: single-spaced, double column, A4/US letter page size, 10-point size Times Roman font, up to 8 pages. In order to conduct a blind review, no indication of the authors' names should appear in the submitted manuscript, references included.
The IEEE Conference Publishing Services (CPS), Conference Publishing Services, publishes the DSD Proceedings, which are available worldwide through the IEEE Xplore Digital Library. An extended version of the best papers will be published in a special issue of the ISI-indexed *"Microprocessors and Microsystems: Embedded Hardware Design"* journal, printed by Elsevier

Important Dates

- **Submission of papers: March 26th, 2012**
- Notification of acceptance: May 7th, 2012
- Camera ready papers: May 31st, 2012

Web Links

DSD'12 web page:
www.univ-valenciennes.fr/dsd2012/
Euromicro web page:
http://www.euromicro.org