



**IEEE Benelux Section**



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## **Conference on Design and Architectures for Signal and Image Processing (DASIP 2008)**

<http://www.ecsi.org/dasip/>

**Université Libre de Bruxelles, Belgium  
November 24-26, 2008**

### **Call for Papers**

The development of complex applications involving signal, image and control processing, is classically divided into three consecutive steps: a theoretical study of the algorithms, a study of the target architecture, and finally the implementation. Such a linear design flow is reaching its limits due to the intense pressure on design cycle and strict performance constraints. The approach, called Algorithm-Architecture-Matching, aims to leverage the design flow by a simultaneous study of both algorithmic and architectural issues, taking into account multiple design constraints, as well as algorithm and architecture optimizations.

Introducing new design methodologies is necessary when facing the new emerging applications as for example advanced mobile communication systems or smart sensors based systems. This forms a driving force for the future evolutions of embedded system designs methodologies.

The research community in Europe addressing these issues is very active both in academy and industry. The goals of this Conference are to present the latest results in the domain of design and architecture for signal and image processing and to initiate a regular meeting of European researchers addressing this topic.

The DASIP Conference will give the opportunity for researchers to exchange the ideas and to build the collaboration on emerging topics and technologies. It also aims to strength the links between the European Information Society Technologies (IST) priorities and the researchers in the domain of design and architecture for signal and image processing.

The DASIP Conference results from the success for more than ten years of the French workshop on Algorithm-Architecture-Matching. The first edition called "Workshop on Algorithm Architecture Adequation" was held in Lannion in 1992 (AAA 1992). During eight years a two-year event was organized, AAA 1994 in Grenoble, AAA 1996 in Toulouse, AAA 1998 in Saclay and AAA 2000 in Rocquencourt. In 2002 thanks to its widespread success the workshop was extended to all francophone countries, JFAAA 2002 was held in Monastir and JFAAA 2005 in Dijon. In 2007 the workshop was extended to the Europe in order to reach a wider community. Each edition was a great success gathering more than one hundred of researchers from industry, academia and government organizations. DASIP 2008 will aim to promote and strengthen the links between European researchers further.

**In the context of the architectures and tools for signal and image processing DASIP 2008 topics include but are not limited to:**

#### **Methods and tools for Algorithm-Architecture-Matching**

- System level design and hardware/software codesign
- RTOS for embedded systems
- Formal models and transformations
- Algorithm transformations and metrics
- Communication synthesis
- Architectural and logic synthesis
- Design verification, fault tolerance
- Performance analysis and estimations
- Rapid system prototyping, embedded software
- Embedded system security



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#### **New and emerging architectures and technologies**

- SoC and MPSoC
- Reconfigurable ASIP
- FPGA, dynamic reconfigurable systems
- Asynchronous circuits (self-timed)
- Analog circuits and mixed-signal circuits
- Biologically based or biologically inspired systems
- MEMS, bioMEMS
- Nano-technologies, quantum computing

#### **Smart sensors**

- Vision and audio sensor
- Fingerprint sensor, biosensor
- Structurally-embedded sensor
- Sensing requirements for active control systems
- Distributed and multiplexed sensors, sensors network
- Adaptive sensor, evolutionary sensor
- Sensor for health monitoring
- Sensor system monitoring
- Environmental monitoring

#### **Applications**

- Embedded systems for automotive
- Embedded systems for health
- Embedded platforms for multimedia and telecom
- Analog mixed-signal design challenge
- Ambient intelligence, ubiquitous computing
- Wearable computing
- Handheld devices (smart cameras, PDAs, GPSs)
- Security systems, cryptography
- Object recognition and tracking

## **Special sessions and demonstrations**

A number of special sessions are planned during the Conference. Example special sessions include the following: Design methodologies; New architectures for signal and image processing; Smart sensors; A case study dealing with signal and image processing implementations.

Demonstrations are also welcome and we encourage Authors to present their work. A special time slot will be allocated during the Conference in order to allow participants to attend demonstrations.

Prospective organisers of special sessions should submit proposals indicating:

- Title of the session
- Rationale of the need for the special session at DASIP 2008
- Short biography of the organizers
- List of contributed papers (including titles, authors, contact information of the corresponding authors, and a short abstract of each contribution). Organisers should not contribute more than one paper.
- Preliminary full version of the overview paper is desirable. If submitted, it enhances the chances of the proposal acceptance.

Proposals are due on or before May 26, 2008 and should be sent via email (in either pdf or plain ascii text form) to Ahmet.Erdogan@ee.ed.ac.uk. Proposals will be evaluated based on the timeliness of the topic, the qualifications of the organisers and the authors of the papers proposed in the session and the balance of the topics across the technical areas in DASIP 2008.



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Notification of acceptance will be sent to the organisers May 30, 2008. Authors of the papers included in successful proposals should submit a manuscript on or before June 16, 2008. Manuscripts should conform to the formatting and electronic submission guidelines of a regular DASIP paper. They will be submitted via the online submission link and undergo peer review.

## Instruction for Authors

Electronic paper submission requires a full paper, up to 8 double-column IEEE format pages, including figures and references. Demonstration papers should not exceed 1 double-column IEEE format page long. Document templates are available at the following address: <http://www.ecsi.org/dasip/>.

All accepted papers will be published in electronic version on USB key, CD-ROM, and on the web pages (ECSI, Eurasp, DBLP).

A special issue in one of the Eurasp journals is planned after the Conference in order to publish the best papers of the Conference.

The main conference topics will define the editorial of a book on the state-of-the art and perspectives in the domain of Signal and Image Processing Architectures to be published by Springer Science + Business Media publisher after the event. The authors of selected papers submitted to DASIP will be invited to prepare an extended manuscript for publication in this book.

## Important Dates

Deadline for special session proposals:	<b>May 26, 2008</b>
Deadline for special paper submission:	<b>June 16, 2008</b>
Deadline for regular paper submission:	<del>May 16, 2008</del> <b>extended till May 30</b>
Notification of paper acceptance:	<b>July 18, 2008</b>
Final camera-ready papers due:	<b>October 10, 2008</b>

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Please visit the conference web site for paper submission, registration, and current conference information.

Conference Web Site: <http://www.ecsi.org/dasip/>