



**PDP 2012**

**20th Euromicro International Conference on Parallel, Distributed  
and Network-based Processing**

15-17 February 2012 in Garching, Germany

## Special Session on GPU Computing and Hybrid Computing

### Program Chairs:

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### CALL FOR PAPER

#### Scope:

For the next decade, Moore's Law is still going to bring higher transistor densities allowing Billions of transistors to be integrated on a single chip. However, it becomes obvious that exploiting significant amounts of instruction-level parallelism with deeper pipelines and more aggressive wide-issue superscalar techniques, and using most of the transistor budget for large on-chip caches has come to a dead end. Especially, scaling performance with higher clock frequencies is getting more and more difficult because of heat dissipation problems and too high energy consumption. The latter is not only a technical problem for mobile systems, but is even going to become a severe problem for computing centers because high energy consumption leads to significant cost factors in the budget. For the moment, improving performance can only be achieved by exploiting parallelism on all system levels. Multicore architectures like Graphics Processing Unit (GPU) offer a better performance/Watt ratio than single core architectures with similar performance. Combining multicore and coprocessor technology promises extreme computing power for highly CPU-time-consuming applications like in image processing.

The Special Session on GPU Computing and Hybrid Computing aims at providing a forum for scientific researchers and engineers on hot topics related to GPU computing and hybrid computing with special emphasis on applications, performance analysis, programming models and mechanisms for mapping codes.

#### Topics:

GPU computing, multi GPU processing, hybrid computing.

Programming models, programming frameworks, CUDA, OpenCL, communication libraries.

Mechanisms for mapping codes.

Task allocation.

Fault tolerance.

Performance analysis.

Applications: image processing, signal processing, linear algebra, numerical simulation, optimization.

Domains: computer science, electronic, embedded systems, telecommunication, medical imaging, finance.

#### Submission details:

Prospective authors should submit a full paper not exceeding 5000 words in length and including a 150-200 word abstract. To facilitate an anonymous reviewing process, the first page of the paper should contain only the title and abstract. Proceedings will be published by IEEE Computer Society's Conference Publishing Service (CPS). Authors of accepted papers are expected to register and present the paper at the Conference.

Papers submitted to the Special Session must be submitted through the conference submission system with an indication of the name of the Special Session. Papers must adhere to the formatting rules of the conference and will undergo the same review process as other papers submitted to the conference.

Paper submission: <http://www.pdp2012.org/>

Special Session web page: <http://conf.laas.fr/GPU/>

### Important dates:

Closing date for submissions:	July 25, 2011
Acceptance notification:	October 10, 2011
Camera-ready version:	November 11, 2011
Conference:	February 15 -17, 2012

**Location:** Garching/Munich, Germany