

Call for Papers

IET Circuits, Devices & Systems

Editors-in-Chief: Asim Ray, Brunel University, UK

Special Issue:

Dataflow Programming Models, Machines and Applications

The current trend towards multi and many-core processors demands the use of parallel programming to fully exploit its performance potential. However, parallelization of applications remains a difficult task, requiring tuning at algorithmic level, in interactions with operating and runtime systems, in data placement, and in efficient use of hardware. A bottleneck at any level can easily negate the benefits of parallelism – thus posing a challenge to the scientific and industrial communities. Creation of models and alternatives to improve parallelism still requires heroic effort on part of programmers. The Dataflow model provides a viable alternative. It handles concurrency in a natural way, while hiding memory and synchronization latencies, which can lead to simpler and more power efficient systems.

Recent work has shown that execution models based on Dataflow can outperform systems based on conventional techniques, while providing more powerful, flexible and understandable parallel programming constructs. The focus of this special issue is to revisit Dataflow and showcase recent developments of Dataflow model in context of current and emerging multi/many-core processors.

Topics of the special issue include but are not limited to:

- Dataflow execution models and languages for parallelism exploitation
- Compilers and tools for Dataflow systems
- Hybrid Dataflow/Control-Flow systems
- Dataflow based architectures (Full Dataflow machines or execution mechanisms)
- Scheduling and Placement algorithms for Dataflow systems
- Error Detection/Recovery in Dataflow Systems
- Dataflow Parallel Applications
- Theoretical Analysis of Dataflow Systems

All submissions are subject to the journal's peer-review procedures. The authors should follow the journal's Author Guide at <http://digital-library.theiet.org/journals/author-guide> when preparing papers for submission to the Special Issue.

Important dates:

Submission deadline:
31 Jan 2015

Tentative publication date:
Nov 2015

For enquiries regarding this Special Issue please contact Guest Editor:

Felipe M. G. França
Federal University of Rio de Janeiro, Brazil

Leandro A. J. Marzulo
State University of Rio de Janeiro, Brazil

Sandip Kundu
University of Massachusetts, Amherst, USA

Avi Mendelson
Technion, Israel

Contact our Guest Editors via email at: iet-dataflow@cos.ufrj.br

All papers must be submitted through the journal's Manuscript Central system:
<http://mc.manuscriptcentral.com/iet-cds>



**OPEN ACCESS
PUBLISHING NOW
AVAILABLE**

Open Access Publishing Now Available

In addition to the traditional subscription-funded model, The IET now offers a gold open access publication option in **IET *Circuits, Devices & Systems***. This allows authors to disseminate their research to a wider audience. Please contact us if you require any further information.

What is Open Access Publishing?

Open access publishing enables peer reviewed, accepted journal articles to be made freely available online to anyone with access to the internet. Open access publishing with the IET is funded through author publication charges. This model differs from the subscription based publishing model, whereby readers (or more commonly, readers' institutions) pay for access to journal articles. For more information, contact us on journals@theiet.org.

Why publish in IET *Circuits, Devices & Systems*?

- Worldwide readership and database coverage - including IET *Inspec*, SCI, SCI-E, Scopus & Ei Compendex allows your research to be easily accessed
- Online submission and tracking for up-to-date progress of your paper
- Prompt and rigorous peer review provides authors with a quick decision about publication
- Open access option available in all IET journals allows authors to disseminate their research to a wider international audience and is made freely available online
- IET journals are available online via the IET Digital Library and IEEE Xplore for easy sharing of your research
- Articles are published e-first in advance of the printed publication making your research available at the earliest opportunity

Contact us:

IET *Circuits, Devices & Systems*

IET Research Journals Dept.
Michael Faraday House
Six Hills Way
Stevenage
SG1 2AY
United Kingdom

Kruna Vukmirovic, Executive Editor (IET Research Journals)

T: +44 (0)1438 765504

E: kvukmirovic@theiet.org

www.ietdl.org/IET-CDS