

2012 Third Workshop on Applications for Multi-Core Architecture

(WAMCA 2012)

**New York, New York, USA
24 – 25 October 2012**



**IEEE Catalog Number: CFP1279R-PRT
ISBN: 978-1-4673-5025-9**

2012 Third Workshop on Applications for Multi-Core Architecture

WAMCA 2012

Table of Contents

Message from the Organizers.....	vii
Committees.....	viii
Program Committee.....	ix

Session 1: GPU Computing

A Load Distribution Algorithm Based on Profiling for Heterogeneous GPU Clusters	1
<i>Raphael Y. de Camargo</i>	
A Study on Mixed Precision Techniques for a GPU-based SIP Solver	7
<i>Pablo Igounet, Ernesto Dufrechou, Martín Pedemonte, and Pablo Ezzatti</i>	
Architecture of Request Distributor for GPU Clusters	13
<i>Mani Shafaat Doost, S. Masoud Sadjadi, Jose Ricardo da Silva Jr., Marcelo Zamith, Mark Joselli, and Esteban Clua</i>	
A Hybrid CPU-GPU Local Search Heuristic for the Unrelated Parallel Machine Scheduling Problem	19
<i>Igor Machado Coelho, Matheus Nohra Haddad, Luiz Satoru Ochi, Marcone Jamilson Freitas Souza, and Ricardo Farias</i>	

Session 2: Multi-core Computing

A High-Level Implementation of STM Haskell with Write/Write Conflict Detection	24
<i>André Rauber Du Bois, Maurício Lima Pilla, and Rodrigo Medeiros Duarte</i>	
Optimal Virtual Channel Insertion for Contention Alleviation and Deadlock Avoidance in Custom NoCs	30
<i>Anita Tino and Gul N. Khan</i>	
A Novel Virtual Channel Implementation Technique for Multi-core On-chip Communication	36
<i>Masoud Oveis Gharan and Gul N. Khan</i>	
Autotuning Wavefront Abstractions for Heterogeneous Architectures	42
<i>Siddharth Mohanty and Murray Cole</i>	

Session 3: Energy and Scheduling

Time-to-Solution and Energy-to-Solution: A Comparison between ARM and Xeon	48
<i>Edson L. Padoin, Daniel A.G. de Oliveira, Pedro Velho, and Philippe O.A. Navaux</i>	
Scheduling Cyclic Task Graphs with SCC-Map	54
<i>Alexandre Sardinha, Tiago A.O. Alves, Leandro A.J. Marzulo, Felipe M.G. França, Valmir C. Barbosa, and Vitor Santos Costa</i>	
Author Index	60