

Table of Contents

McFLAT: A Profile-Based Framework for MATLAB Loop Analysis and Transformations	1
<i>Amina Aslam and Laurie Hendren</i>	
Static Analysis of Dynamic Schedules and Its Application to Optimization of Parallel Programs	16
<i>Christoph M. Angerer and Thomas R. Gross</i>	
Lowering STM Overhead with Static Analysis	31
<i>Yehuda Afek, Guy Korland, and Arie Zilberstein</i>	
A Parallel Numerical Solver Using Hierarchically Tiled Arrays	46
<i>James C. Brodman, G. Carl Evans, Murat Manguoglu, Ahmed Sameh, María J. Garzarán, and David Padua</i>	
Tackling Cache-Line Stealing Effects Using Run-Time Adaptation	62
<i>Stéphane Zuckerman and William Jalby</i>	
Locality Optimization of Stencil Applications Using Data Dependency Graphs	77
<i>Daniel Orozco, Elkin Garcia, and Guang Gao</i>	
Array Regrouping on CMP with Non-uniform Cache Sharing	92
<i>Yunlian Jiang, Eddy Z. Zhang, Xipeng Shen, Yaoqing Gao, and Roch Archambault</i>	
Sublimation: Expanding Data Structures to Enable Data Instance Specific Optimizations	106
<i>Harmen L.A. van der Spek and Harry A.G. Wijshoff</i>	
Optimizing and Auto-tuning Belief Propagation on the GPU	121
<i>Scott Grauer-Gray and John Cavazos</i>	
A Programming Language Interface to Describe Transformations and Code Generation	136
<i>Gabe Rudy, Malik Murtaza Khan, Mary Hall, Chun Chen, and Jacqueline Chame</i>	
Unified Parallel C for GPU Clusters: Language Extensions and Compiler Implementation	151
<i>Li Chen, Lei Liu, Shenglin Tang, Lei Huang, Zheng Jing, Shizhong Xu, Dingfei Zhang, and Baojiang Shou</i>	

How Many Threads to Spawn during Program Multithreading?	166
<i>Alexandru Nicolau and Arun Kejariwal</i>	
Parallelizing Compiler Framework and API for Power Reduction and Software Productivity of Real-Time Heterogeneous Multicores	184
<i>Akihiro Hayashi, Yasutaka Wada, Takeshi Watanabe, Takeshi Sekiguchi, Masayoshi Mase, Jun Shirako, Keiji Kimura, and Hironori Kasahara</i>	
Debugging Large Scale Applications in a Virtualized Environment	199
<i>Filippo Gioachin, Gengbin Zheng, and Laxmikant V. Kalé</i>	
Optimizing the Exploitation of Multicore Processors and GPUs with OpenMP and OpenCL	215
<i>Roger Ferrer, Judit Planas, Pieter Bellens, Alejandro Duran, Marc Gonzalez, Xavier Martorell, Rosa M. Badia, Eduard Ayguade, and Jesus Labarta</i>	
CnC-CUDA: Declarative Programming for GPUs	230
<i>Max Grossman, Alina Simion Sbirlea, Zoran Budimlić, and Vivek Sarkar</i>	
Parallel Graph Partitioning on Multicore Architectures	246
<i>Xin Sui, Donald Nguyen, Martin Burtcher, and Keshav Pingali</i>	
The STAPL pView	261
<i>Antal Buss, Adam Fidel, Harshvardhan, Timmie Smith, Gabriel Tanase, Nathan Thomas, Xiabing Xu, Mauro Bianco, Nancy M. Amato, and Lawrence Rauchwerger</i>	
Author Index	277