## **Table of Contents**

## **Parallel Computing**

Towards Energy Efficient Parallel Computing on Consumer Electronic Devices	1
Karl Fürlinger, Christof Klausecker, and Dieter Kranzlmüller	1
Characterizing Applications from Power Consumption: A Case Study for HPC Benchmarks	10
Principles of Energy Efficiency in High Performance Computing  Axel Auweter, Arndt Bode, Matthias Brehm, Herbert Huber, and Dieter Kranzlmüller	18
ICT for Transportation	
Geocast Routing in Vehicular Networks for Reduction of $CO_2$ Emissions	26
Limiting Pollution in Ground Control Optimization	41
A Simulation Environment for Smart Charging of Electric Vehicles Using a Multi-objective Evolutionary Algorithm  Maryam Ramezani, Mario Graf, and Harald Vogt	56
Cloud Computing	
Furthering the Growth of Cloud Computing by Providing Privacy as a Service	64
The Concept of a Mobile Cloud Computing to Reduce Energy Cost of Smartphones and ICT Systems	79



## Pervasive Computing

A Model for Sequence Based Power Management in Cyber Physical Systems	87
Andreas Barthels, Florian Ruf, Gregor Walla, Joachim Fröschl, Hans-Ulrich Michel, and Uwe Baumgarten	
A System for Energy Savings in an Ambient Intelligence Environment	102
Alexandros Arvanitidis, and Ioannis Vlahavas	
Profiling Power Consumption on Desktop Computer Systems	110
Measurement and Control	
GAINS – An Interactive Tool for Assessing International GHG	
Mitigation Regimes	124
Role of Context-Awareness for Demand Response Mechanisms	136
An Architecture and Methodology for a Four-Phased Approach to Green Business Process Reengineering	150
Storage	
ADSC: Application-Driven Storage Control for Energy Efficiency  Cinzia Cappiello, Alicia Hinostroza, Barbara Pernici,  Mariagiovanna Sami, Ealan Henis, Ronen Kat, Kalman Meth, and  Marcello Mura	165
Utilization-Aware Redirection Policy in CDN: A Case for Energy Conservation	180
Author Index	189