

Table of Contents

Invited Talks

Trends in Theory

Quantum Challenges	1
<i>Jozef Gruska</i>	

Stability of Approximation Algorithms for Hard Optimization Problems	29
<i>Juraj Hromkovič</i>	

Algorithms on Compressed Strings and Arrays	48
<i>Wojciech Rytter</i>	

Core Technologies

WWW Based Collaboration with the BSCW System	66
<i>Wolfgang Appelt</i>	

Middleware and Quality of Service	79
<i>Christian Bac, Guy Bernard, Didier Le Tien and Olivier Villin</i>	

Dynamic Reconfiguration of CORBA-Based Applications	95
<i>Noemi Rodriguez and Roberto Ierusalimsky</i>	

Fast, Error Correcting Parser Combinators: A Short Tutorial	112
<i>S. Doaitse Swierstra and Pablo R. Azero Alcocer</i>	

IBM SanFrancisco:Java Based Business Components, and New Tools to Develop Applications	132
<i>Ghica van Emde Boas</i>	

Software and Information Engineering

Databases and the World Wide Web	150
<i>Paolo Atzeni</i>	

Exploiting Formality in Software Engineering	163
<i>Juan C. Bicarregui</i>	

Biomolecular Computing and Programming (Extended Abstract)	181
<i>Max H. Garzon, Russell J. Deaton and The Molecular Computing Group</i>	

Software Change and Evolution	189
<i>Václav Rajlich</i>	

Distributed Simulation with Cellular Automata: Architecture and Applications	203
<i>P. M. A. Sloot, J. A. Kaandorp, A. G. Hoekstra and B. J. Overeinder</i>	

From Data to Knowledge

Supporting Group-By and Pipelining in Bitmap-Enabled Query Processors	249
<i>Alejandro P. Buchmann and Ming-Chuan Wu</i>	
On Interactive Computation: Intelligent Tutoring Systems (Extended Abstract)	261
<i>Max H. Garzon and The Tutoring Research Group</i>	
Coherent Concepts, Robust Learning	264
<i>Dan Roth and Dmitry Zelenko</i>	

Applications

Application of Artificial Neural Networks for Different Engineering Problems	277
<i>Martin Bogdan and Wolfgang Rosenstiel</i>	
Factor Oracle: A New Structure for Pattern Matching	295
<i>Cyril Allauzen, Maxime Crochemore and Mathieu Raffinot</i>	
Principles of Forecasting – A Short Overview	311
<i>Emil Pelikán</i>	

Contributed Papers

UPV-Curry: An Incremental Curry Interpreter	331
<i>M. Alpuente, S. Escobar and S. Lucas</i>	
Quantum Finite Multitape Automata	340
<i>Andris Ambainis, Richard Bonner, Rūsiņš Freivalds, Marats Golovkins and Marek Karpinski</i>	
Decomposable Bulk Synchronous Parallel Computers	349
<i>Martin Beran</i>	
Component Change and Version Identification in SOFA	360
<i>Přemysl Brada</i>	
Pattern Equations and Equations with Stuttering	369
<i>Ivana Černá, Ondřej Klíma and Jiří Srba</i>	
Garbage Collection for Mobile and Replicated Objects	379
<i>Pablo Galdámez, Francesc D. Muñoz-Escoté and José M. Bernabéu-Aubán</i>	
Randomized Gossiping by Packets in Faulty Networks	387
<i>Anna Gambin and Adam Malinowski</i>	
Object-Oriented Specification with the Parallel Multi-Label-Selective λ -calculus	395
<i>Carlos Herrero and Javier Oliver</i>	

Simulation Problems for One-Counter Machines	404
<i>Petr Jančar, Faron Moller and Zdeněk Sawa</i>	
On Semantics of Petri Nets over Partial Algebra	414
<i>Gabriel Juhás</i>	
Towards Possibilistic Decision Functions with Minimum-Based Sugeno Integrals	422
<i>Ivan Kramosil</i>	
Quantum Finite One-Counter Automata	431
<i>Maksim Kravtsev</i>	
A Performance Comparison of Mobile Agents and RPC	441
<i>David Rutter</i>	
Cyclic Cutwidth of the Mesh	449
<i>Heiko Schröder, Ondrej Šýkora and Imrich Vrto</i>	
Some Afterthoughts on Hopfield Networks	459
<i>Jiří Šíma, Pekka Orponen and Teemu Antti-Poika</i>	
A Persistent-Set Approach to Abstract State-Space Construction in Verification	470
<i>Ulrich Ultes-Nitsche</i>	
Computational Power of Neuroidal Nets	479
<i>Jiří Wiedermann</i>	
Cellular Automata with Dynamically Reconfigurable Buses	488
<i>Thomas Worsch</i>	
Author Index	497

SOFSEM'99: Theory and Practice of Informatics
26th Conference on Current Trends in Theory and
Practice of Informatics, Milovy, Czech Republic,
November 27 - December 4, 1999 Proceedings
Pavelka, J.; Tel, G.; Bartosek, M. (Eds.)
1999, XIV, 506 p., Softcover
ISBN: 978-3-540-66694-3