

TABLE OF CONTENTS

INVITED LECTURES

P. K. Agarwal, J. Matoušek On Range Searching with Semialgebraic Sets	1
J. Díaz Graph Layout Problems	14
K.-J. Lange, P. Rossmanith, W. Rytter Parallel Recognition and Ranking of Context-Free Languages	24
M. Mihail On the Expansion of Combinatorial Polytopes	37
P. Orponen Neural Networks and Complexity Theory	50
J. V. Tucker, J. I. Zucker Theory of Computation over Stream Algebras, and its Applications	62
U. Vishkin Methods in Parallel Algorithmics	81
O. Watanabe On the Complexity of Small Description and Related Topics	82
J. Wiedermann Weak Parallel Machines: a New Class of Physically Feasible Parallel Machine Models	95
A. Wigderson The Complexity of Graph Connectivity	112

COMMUNICATIONS

H. Bast, M. Dietzfelbinger, T. Hagerup A Perfect Parallel Dictionary	133
B. Becker, J. Hartmann Some Remarks on the Test Complexity of Iterative Logic Arrays	142
H.-J. Burtschick, A. Hoene The Degree Structure of 1-L Reductions	153
J. Cai, L. A. Hemachandra, J. Vyskoč Promise Problems and Access to Unambiguous Computation	162
S. Chari, D. Ranjan, P. Rohatgi On the Complexity of Incremental Computation	172

Ch. Choffrut, M. Goldwurm Rational Transductions and Complexity of Counting Problems	181
H. Comon, M. Fernández Negation Elimination in Equational Formulae	191
J. F. Costa, A. Sernadas, C. Sernadas, H.-D. Ehrich Object Interaction	200
P.-L. Curien, T. Hardin, A. Ríos Strong Normalization of Substitutions	209
R. Daley, B. Kalyanasundaram Probabilistic and Pluralistic Learners with Mind Changes	218
C. Damm, M. Holzer, K.-J. Lange Parallel Complexity of Iterated Morphisms and the Arithmetic of Small Numbers	227
D. Derencourt, J. Karhumäki, M. Latteux, A. Terlutte On Computational Power of Weighted Finite Automata	236
R. Feldmann, P. Mysliwicz The Shuffle Exchange Network has a Hamiltonian Path	246
P. Gastin, A. Petit Poset Properties of Complex Traces	255
A. Goerdt A Threshold for Unsatisfiability	264
R. Gold Dataflow Semantics for Petri Nets	275
I. Guessarian, M. Veloso-Peixoto About Boundedness for some <i>DATALOG</i> and <i>DATALOG^{neg}</i> Programs	284
T. Hagerup, O. Petersson Merging and Sorting Strings in Parallel	298
P. Jančar, F. Mráz, M. Plátek Characterization of Context-Free Languages by Erasing Automata	307
L. Kari Insertion and Deletion of Words: Determinism and Reversibility	315
F. Kašćák Small Universal One-State Linear Operator Algorithm	327
C. Laneve, U. Montanari Mobility in the CC-Paradigm	336
K.-J. Lange, P. Rossmanith The Emptiness Problem for Intersections of Regular Languages	346

H. Leung	
On Finite Automata with Limited Nondeterminism	355
I. Litovsky, Y. Métivier, E. Sopena	
Definitions and Comparisons of Local Computations on Graphs	364
B. Martin	
Efficient Unidimensional Universal Cellular Automaton	374
O. Maruyama, S. Miyano	
Inferring a Tree from Walks	383
E. Mayordomo	
Almost Every Set in Exponential Time is P-Bi-Immune	392
D. Murphy, A. Poigné	
A Functorial Semantics for Observed Concurrency	401
E. Ochmański	
Modelling Concurrency with Semi-Commutations	412
J. Pedersen	
Decision Problems for Cellular Automata and Their Semigroups	421
G. M. Pinna, A. Poigné	
On the Nature of Events	430
W. Preilowski, E. Dahlhaus, G. Wechsung	
New Parallel Algorithms for Convex Hull and Triangulation in 3-Dimensional Space	442
T. C. Przymusiński	
Two Simple Characterizations of Well-Founded Semantics	451
S. Ramesh	
Fully Abstract Semantics for Higher Order Communicating Systems	463
N. Reimen	
Superposable Trellis Automata	472
T. Roos, G. Albers	
Maintaining Proximity in Higher Dimensional Spaces	483
A. Szilard, S. Yu, K. Zhang, J. Shallit	
Characterizing Regular Languages with Polynomial Densities	494
D. Wang	
A Strategy for Speeding-up the Computation of Characteristic Sets	504
C. Wrathall, V. Diekert, F. Otto	
One-Rule Trace-Rewriting Systems and Confluence	511