

Table of Contents

Invited Talks

Region Analysis and a π -Calculus with Groups	1
<i>Silvano Dal Zilio and Andrew D. Gordon</i>	
Abstract Data Types in Computer Algebra.....	21
<i>James H. Davenport</i>	
What Do We Learn from Experimental Algorithmics?	36
<i>Camil Demetrescu and Giuseppe F. Italiano</i>	
And/Or Hierarchies and Round Abstraction.....	52
<i>Radu Grosu</i>	
Computational Politics: Electoral Systems.....	64
<i>Edith Hemaspaandra and Lane A. Hemaspaandra</i>	
0-1 Laws for Fragments of Existential Second-Order Logic: A Survey	84
<i>Phokion G. Kolaitis and Moshe Y. Vardi</i>	
On Algorithms and Interaction	99
<i>Jan van Leeuwen and Jiří Wiedermann</i>	
On the Use of Duality and Geometry in Layouts for ATM Networks	114
<i>Shmuel Zaks</i>	

Contributed Papers

On the Lower Bounds for One-Way Quantum Automata	132
<i>Farid Ablayev and Aida Gainutdinova</i>	
Axiomatizing Fully Complete Models for ML Polymorphic Types	141
<i>Samson Abramsky and Marina Lenisa</i>	
Measure Theoretic Completeness Notions for the Exponential Time Classes	152
<i>Klaus Ambos-Spies</i>	
Edge-Bisection of Chordal Rings	162
<i>Lali Barrière and Josep Fàbrega</i>	
Equation Satisfiability and Program Satisfiability for Finite Monoids	172
<i>David Mix Barrington, Pierre McKenzie, Cris Moore, Pascal Tesson, and Denis Thérien</i>	

XML Grammars	182
<i>Jean Berstel and Luc Boasson</i>	
Simplifying Flow Networks	192
<i>Therese C. Biedl, Broňa Brejová, and Tomáš Vinarš</i>	
Balanced k -Colorings	202
<i>Therese C. Biedl, Eowyn Čenek, Timothy M. Chan, Erik D. Demaine, Martin L. Demaine, Rudolf Fleischer, and Ming-Wei Wang</i>	
A Compositional Model for Confluent Dynamic Data-Flow Networks	212
<i>Frank S. de Boer and Marcello M. Bonsangue</i>	
Restricted Nondeterministic Read-Once Branching Programs and an Exponential Lower Bound for Integer Multiplication (Extended Abstract)	222
<i>Beate Bollig</i>	
Expressiveness of Updatable Timed Automata	232
<i>P. Bouyer, C. Dufourd, E. Fleury, and A. Petit</i>	
Iterative Arrays with Small Time Bounds	243
<i>Thomas Buchholz, Andreas Klein, and Martin Kutrib</i>	
Embedding Fibonacci Cubes into Hypercubes with $\Omega(2^{cn})$ Faulty Nodes	253
<i>Rostislav Caha and Petr Gregor</i>	
Periodic-Like Words	264
<i>Arturo Carpi and Aldo de Luca</i>	
The Monadic Theory of Morphic Infinite Words and Generalizations	275
<i>Olivier Carton and Wolfgang Thomas</i>	
Optical Routing of Uniform Instances in Tori	285
<i>Francesc Comellas, Margarida Mitjana, Lata Narayanan, and Jaroslav Opatrný</i>	
Factorizing Codes and Schützenberger Conjectures	295
<i>Clelia De Felice</i>	
Compositional Characterizations of λ -Terms Using Intersection Types (Extended Abstract)	304
<i>M. Dezani-Ciancaglini, F. Honsell, and Y. Motohama</i>	
Time and Message Optimal Leader Election in Asynchronous Oriented Complete Networks	314
<i>Stefan Dobrev</i>	
Subtractive Reductions and Complete Problems for Counting Complexity Classes	323
<i>Arnaud Durand, Miki Hermann, and Phokion G. Kolaitis</i>	

On the Autoreducibility of Random Sequences	333
<i>Todd Ebert and Heribert Vollmer</i>	
Iteration Theories of Boolean Functions	343
<i>Zoltán Ésik</i>	
An Algorithm Constructing the Semilinear Post* for 2-Dim Reset/Transfer VASS (Extended Abstract)	353
<i>A. Finkel and G. Sutre</i>	
NP-Completeness Results and Efficient Approximations for Radiocoloring in Planar Graphs	363
<i>D.A. Fotakis, S.E. Nikolettseas, V.G. Papadopoulou, and P.G. Spirakis</i>	
Explicit Fusions	373
<i>Philippa Gardner and Lucian Wischik</i>	
State Space Reduction Using Partial τ -Confluence	383
<i>Jan Friso Groote and Jaco van de Pol</i>	
Reducing the Number of Solutions of NP Functions	394
<i>Lane A. Hemaspaandra, Mitsunori Ogihara, and Gerd Wechsung</i>	
Regular Collections of Message Sequence Charts (Extended Abstract)	405
<i>Jesper G. Henriksen, Madhavan Mukund, K. Narayan Kumar, and P.S. Thiagarajan</i>	
Alternating and Empty Alternating Auxiliary Stack Automata	415
<i>Markus Holzer and Pierre McKenzie</i>	
Counter Machines: Decidable Properties and Applications to Verification Problems	426
<i>Oscar H. Ibarra, Jianwen Su, Zhe Dang, Tevfik Bultan, and Richard Kemmerer</i>	
A Family of NFA's Which Need $2^n - \alpha$ Deterministic States	436
<i>Kazuo Iwama, Akihiro Matswara, and Mike Paterson</i>	
Preemptive Scheduling on Dedicated Processors: Applications of Fractional Graph Coloring	446
<i>Klaus Jansen and Lorant Porkolab</i>	
Matching Modulo Associativity and Idempotency Is NP-Complete	456
<i>Ondřej Klíma and Jiří Srba</i>	
On NP-Partitions over Posets with an Application to Reducing the Set of Solutions of NP Problems	467
<i>Sven Kosub</i>	

Algebraic and Uniqueness Properties of Parity Ordered Binary Decision Diagrams and Their Generalization (Extended Abstract)	477
<i>Daniel Král'</i>	
Formal Series over Algebras	488
<i>Werner Kuich</i>	
μ -Calculus Synthesis	497
<i>Orna Kupferman and Moshe Y. Vardi</i>	
The Infinite Versions of $\text{LOGSPACE} \neq \text{P}$ Are Consistent with the Axioms of Set Theory	508
<i>Grégory Lafitte and Jacques Mazoyer</i>	
Timed Automata with Monotonic Activities	518
<i>Ruggero Lanotte and Andrea Maggiolo-Schettini</i>	
On a Generalization of Bi-Complement Reducible Graphs	528
<i>Vadim V. Lozin</i>	
Automatic Graphs and Graph $D0L$ -Systems	539
<i>Olivier Ly</i>	
Bilinear Functions and Trees over the $(\max, +)$ Semiring	549
<i>Sabrina Mantaci, Vincent D. Blondel, and Jean Mairesse</i>	
Derivability in Locally Quantified Modal Logics via Translation in Set Theory	559
<i>Angelo Montanari, Alberto Policriti, and Matteo Slanina</i>	
π -Calculus, Structured Coalgebras, and Minimal HD-Automata	569
<i>Ugo Montanari and Marco Pistore</i>	
Informative Labeling Schemes for Graphs (Extended Abstract)	579
<i>David Peleg</i>	
Separation Results for Rebound Automata	589
<i>Holger Petersen</i>	
Unary Pushdown Automata and Auxiliary Space Lower Bounds	599
<i>Giovanni Pighizzini</i>	
Binary Decision Diagrams by Shared Rewriting	609
<i>Jaco van de Pol and Hans Zantema</i>	
Verifying Single and Multi-mutator Garbage Collectors with Owicki-Gries in Isabelle/HOL	619
<i>Leonor Prensa Nieto and Javier Esparza</i>	

Why so Many Temporal Logics Climb up the Trees?	629
<i>Alexander Rabinovich and Shahar Maoz</i>	
Optimal Satisfiability for Propositional Calculi and Constraint Satisfaction Problems	640
<i>Steffen Reith and Heribert Vollmer</i>	
A Hierarchy Result for Read-Once Branching Programs with Restricted Parity Nondeterminism (Extended Abstract)	650
<i>Petr Savický and Detlef Sieling</i>	
On Diving in Trees	660
<i>Thomas Schwentick</i>	
Abstract Syntax and Variable Binding for Linear Binders	670
<i>Miki Tanaka</i>	
Regularity of Congruential Graphs	680
<i>Tanguy Urvoy</i>	
Sublinear Ambiguity	690
<i>Klaus Wich</i>	
An Automata-Based Recognition Algorithm for Semi-extended Regular Expressions	699
<i>Hiroaki Yamamoto</i>	
Author Index	709