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Soggetti	Computer science Artificial intelligence - Data processing Algorithms Machine theory Theory of Computation Data Science Computer Science Logic and Foundations of Programming Formal Languages and Automata Theory
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Invited Lectures -- Approximation Schemes for Metric Clustering Problems -- Positional Determinacy of Infinite Games -- Structural Complexity (I) -- Individual Communication Complexity -- The Complexity of Satisfiability Problems over Finite Lattices -- Constant Width Planar Computation Characterizes ACC0 -- Graph Algorithms (I) -- A Simple and Fast Approach for Solving Problems on Planar Graphs -- Sum-Multicoloring on Paths -- Matching Algorithms Are Fast in Sparse Random Graphs -- Quantum Computations -- Algebraic Results on Quantum Automata -- Quantum Identification of Boolean Oracles -- Pattern Inference and Statistics -- Local Limit Distributions in Pattern Statistics: Beyond the Markovian Models -- A Discontinuity in Pattern

Inference -- Satisfiability – Constraint Satisfaction Problem -- Algorithms for SAT Based on Search in Hamming Balls -- Identifying Efficiently Solvable Cases of Max CSP -- The Complexity of Boolean Constraint Isomorphism -- Scheduling (I) -- On Minimizing the Total Weighted Tardiness on a Single Machine -- Online Competitive Algorithms for Maximizing Weighted Throughput of Unit Jobs -- Optimal and Online Preemptive Scheduling on Uniformly Related Machines -- Algorithms -- Parallel Prefetching and Caching Is Hard -- Strongly Stable Matchings in Time O(nm) and Extension to the Hospitals-Residents Problem -- Approximation Algorithms for Minimizing Average Distortion -- Networks (I) -- Digraphs Exploration with Little Memory -- Approximate Path Coloring with Applications to Wavelength Assignment in WDM Optical Networks -- An Algorithmic View on OVSF Code Assignment -- Automata Theory and Words -- The Syntactic Graph of a Sofic Shift -- Periodicity and Unbordered Words -- Desert Automata and the Finite Substitution Problem -- Structural Complexity (II) -- Satisfiability Problems Complete for Deterministic Logarithmic Space -- A Logspace Approximation Scheme for the Shortest Path Problem for Graphs with Bounded Independence Number -- The Minimal Logically-Defined NP-Complete Problem -- Path Algorithms -- Solving the 2-Disjoint Paths Problem in Nearly Linear Time -- Simpler Computation of Single-Source Shortest Paths in Linear Average Time -- Cryptography -- Lattices with Many Cycles Are Dense -- Automata-Based Analysis of Recursive Cryptographic Protocols -- Networks (II) -- On Minimum Circular Arrangement -- Integral Symmetric 2-Commodity Flows -- Efficient Algorithms for Low-Energy Bounded-Hop Broadcast in Ad-Hoc Wireless Networks -- Logic and Formal Languages -- On the Expressiveness of Deterministic Transducers over Infinite Trees -- Definability and Regularity in Automatic Structures -- Active Context-Free Games -- Graphs Algorithms (II) -- Worst Case Performance of an Approximation Algorithm for Asymmetric TSP -- On Visibility Representation of Plane Graphs -- Topology Matters: Smoothed Competitiveness of Metrical Task Systems -- Game Theory and Complexity -- A Randomized Competitive Algorithm for Evaluating Priced AND/OR Trees -- The Plurality Problem with Three Colors -- A Measured Collapse of the Modal ?-Calculus Alternation Hierarchy -- Networks (III) -- An Information Theoretic Lower Bound for Broadcasting in Radio Networks -- A New Model for Selfish Routing -- Broadcast in the Rendezvous Model -- Structural Complexity (III) -- Time-Space Tradeoff in Derandomizing Probabilistic Logspace -- What Can be Efficiently Reduced to the K-Random Strings? -- Regular Language Matching and Other Decidable Cases of the Satisfiability Problem for Constraints between Regular Open Terms -- Scheduling (II) -- Deterministic Truthful Approximation Mechanisms for Scheduling Related Machines -- The Expected Competitive Ratio for Weighted Completion Time Scheduling -- Algorithmic Information -- Effective Strong Dimension in Algorithmic Information and Computational Complexity -- A Lower Bound on the Competitive Ratio of Truthful Auctions -- Errata to STACS 2003 -- Errata to Analysis of the Harmonic Algorithm for Three Servers.

Sommario/riassunto

The Symposium on Theoretical Aspects of Computer Science (STACS) is alt- nately held in France and in Germany. The conference of March 25–27, 2004 at the Corum, Montpellier was the twenty-?rst in this series. Previous meetings took place in Paris (1984), Saarbruc ¨ ken (1985), Orsay (1986), Passau (1987), Bordeaux (1988), Paderborn (1989), Rouen (1990), Hamburg (1991), Cachan (1992),Wurzburg ¨ (1993), Caen(1994),Munc ¨ hen(1995),Grenoble(1996),Lub ¨ eck (1997), Paris

(1998), Trier (1999), Lille (2000), Dresden (2001), Antibes (2002), and Berlin (2003). The symposium looks back at a remarkable tradition of over 20 years. The interest in STACS has been increasing continuously during recent years and has turned it into one of the most signi?cant conferences in theoretical computer science. The STACS 2004 call for papers led to more than 200 submissions from all over the world. Thereviewingprocesswasextremelyhard:morethan800reviewsweredone. We would like to thank the program committee and all external referees for the valuable work they put into the reviewing process of this conference. We had a two-day meeting for the program committee in Montpellier during November 21–22, 2003. Just 54 papers (i.e., 27% of the submissions) could be accepted, as we wanted to keep the conference in its standard format with only two parallel sessions. This strict selection guaranteed the very high scienti?c quality of the conference.