

May 11-13, 1981

THIRTEENTH ANNUAL ACM SYMPOSIUM  
ON THEORY OF COMPUTING

Milwaukee, Wisconsin

SPONSOR ACM Special Interest Group for Automata and  
Computability Theory

Cooperating Organizations IEEE Computer Society Technical  
Committee on Mathematical Foundations of Computing, and  
the University of Wisconsin, Milwaukee.

Contact W.A. Burkhard  
Department of Electrical Engineering and  
Computer Sciences C-014  
University of California, San Diego  
La Jolla, California 92093

## SIGACT Plans Symposium

The Thirteenth Annual ACM Symposium on Theory of Computing will be held May 11-13, 1981, in Milwaukee, Wisconsin, at the Phister Hotel and Tower. The Symposium is sponsored by the ACM Special Interest Group on Automata and Computability Theory, with the cooperation of the IEEE Computer Society Technical Committee on Mathematical Foundations of Computing and the University of Wisconsin, Milwaukee. Forty-three papers will be presented in areas including analysis of algorithms, automata and formal languages, computational complexity, formal semantics and proof theory, mathematical aspects of programming languages, mathematics of computation, theoretical studies of computer systems, theory of data bases and data structures, and theory of parallel and asynchronous computation. Information and registration forms can be obtained by writing to Professor W. A. Burkhard, Computer Science Division C-014, University of California, San Diego, La Jolla, CA 92093.

Proceedings will be available at the conference, or subsequently from the ACM order department.

TECHNICAL PROGRAM

- The omega-Sequence Equivalence Problem for DOL Systems is Decidable  
K. Culik II, T. Harju  
Univ. of Waterloo, Univ. of Turku
- Unique Normal Forms in Term Rewriting Systems with Repeated Variables  
P. Chew  
Purdue Univ.
- Classes of Functions for Computing on Binary Trees  
F. Hawrusik, K. N. Venkataraman, A. Yasuhara  
Bell Labs at Holmdel, Rutgers Univ., Rutgers Univ.
- Examples of Hard Tautologies in the Propositional Calculus  
B. Krishnamurthy, R. N. Moll  
Univ. of Massachusetts
- Programming Language Theorems Unprovable in Very Strong Theory  
D. Leivant  
Cornell Univ.
- Context-Free Languages, Groups, the Theory of Ends, Second-Order Logic, Tiling Problems, Cellular Automata, and Vector Addition Systems  
D. E. Muller, P. E. Schupp  
Univ. of Illinois
- Fast Programs for Initial Segments and Polynomial Time Computation in Weak Models of Arithmetic  
D. Joseph, P. Young  
Purdue Univ.
- Localized Search in Sorted Lists  
S. R. Kosaraju  
The Johns Hopkins Univ.
- Convex Decompositions of Polyhedra  
B. M. Chazelle  
Carnegie-Mellon Univ.
- Digital Straightness and Convexity  
C. E. Kim, A. Rosenfeld  
Univ. of Maryland
- A Linear Probing Sort and its Analysis  
G. Gonnet, J.I. Munro  
Univ. of Waterloo
- Lower Bounds for the Cycle Detection Problem  
F. E. Fich  
Univ. of California, Berkeley
- Time-Space-Optimal String Matching  
Z. Galil, J. Seiferas  
Tel-Aviv Univ., Univ. of Rochester
- A Data Structure for Dynamic Trees  
D. Sleator, R.E. Tarjan  
Bell Labs at Murray Hill
- On the Parallel Computation for the Knapsack Problem  
A.C. Yao  
Stanford Univ.

- A Difference in Efficiency between Synchronous and Asynchronous Systems  
E. Arjomandi, M. Fischer, N. Lynch  
York Univ., Univ. of Washington, Georgia Tech.
- Distributed Algorithms for Synchronizing Interprocess Communication Within Real Time  
J. Reif, P. Spirakis  
Harvard
- Reversal Complexity of Counter Machines  
T-h. Chan  
Univ. of Minnesota
- Space-Bounded Probabilistic Turing Machine Complexity Classes are Closed under Complement  
J. Simon  
Pennsylvania State Univ.
- A Characterization of the Class of Computable in Polynomial Time on Random Access Machines  
A. Bertoni, G. Mauri, N. Sabadini  
Univ. di Milano
- Fooling a two-way automaton or One pushdown store is better than one counter for two-way machines  
P. Duris, Z. Galil  
Slovak Academy of Science, Tel-Aviv Univ.
- Measures of Parallelism in Alternating Computation Trees  
K. N. King  
Georgia Tech.
- LALR(k) Testing in PSPACE-Complete  
E. Ukkonen, E. Soisalon-Soininen  
Univ. of Helsinki
- Bandwidth-Constrained NP-complete problems  
B. Monien, I. H. Sudborough  
Univ. Paderborn, Northwestern Univ.
- The Complexity of Dynamic Languages and Dynamic Optimization Problems  
J. Orlin  
MIT
- Low Level Complexity for Combinatorial Games  
A. Adachi, S. Iwata, T. Kasai  
IBM Japan, Sagami Inst. of Tech., Univ. of Electrocommunications in Tokyo
- An Algorithm for the General Petri Net Reachability Problem  
E. Mayr  
MIT
- An Efficient General-Purpose Parallel Computer  
Z. Galil, W. J. Paul  
Tel-Aviv Univ., Univ. of Bielefeld
- The d-way Shuffle & Other Universal Schemes for Parallel Communication  
L. G. Valiant, G. J. Brebner  
Edinburgh Univ.
- A Survey of New Layouts for the Shuffle-Exchange Graph  
D. Kleitman, T. Leighton, M. Lepley, G. Miller  
MIT
- Bounds on Minimax Edge Length for Complete Binary Trees  
M. S. Paterson, W. L. Ruzzo, L. Snyder  
Univ. of Warwick, Univ. of Washington, Purdue Univ.

- Lower Bounds for VLSI  
R. J. Lipton, R. Sedgewick  
Princeton Univ., Brown Univ.
- The Entropic Limitations on VLSI Computations  
A. C. Yao  
Stanford Univ.
- Optimal Wiring Between Rectangles  
D. Dolev, K. Karplus, A. Siegel, A. Strong, and J. Ullman  
Stanford Univ.
- A New Model of Computation for VLSI  
B. M. Chazelle, L. M. Monier  
Carnegie-Mellon Univ.
- IO Complexity: The Red-Blue Pebble Game  
J-W. Hong, H.T. Kung  
Carnegie-Mellon Univ.
- Graphs that are almost Binary Trees  
J-W. Hong, A.L. Rosenberg  
Peking Municipal Computing Center, IBM T. J. Watson Research Center
- Embedded Implicational Dependencies and their Inference Problem  
A. K. Chandra, H. R. Lewis, J. A. Makowsky  
IBM T. J. Watson Research Center, Harvard, Technion
- Properties of Acyclic Database Schemes  
C. Beeri, R. Fagin, D. Maier, A. Mendelzon, J. Ullman, M. Yannakakis  
Hebrew Univ., IBM San Jose, SUNY, Stonybrook, Univ. of Toronto,  
Stanford Univ., Bell Labs at Murray Hill
- Issues of Correctness in Database Concurrency Control by Locking  
M. Yannakakis  
Bell Labs at Murray Hill
- On the Faithful Regular Extensions of Iterative Algebras  
F. Parisi-Presicce  
Univ. of Connecticut
- Propositional Dynamic Logic of Looping and Converse  
R. S. Street  
MIT
- Equations between Regular Terms and an Application to Process Logic  
A. K. Chandra, J. Halpern, Z. Lijay, R. Parikh  
IBM T. J. Watson Research Center, Harvard and MIT, MIT, Boston Univ. and MIT