

Advance Program
The Second International Computing and Combinatorics Conference
COCOON '96

Hong Kong, June 17–19 1996

In cooperation with the
Hong Kong Chapter of the ACM and the IEEE Computer Chapter, Hong Kong Section.

Day 1 (17 June 1996)

Session 2 Chair: J.-Y. Cai
1:30 pm – 3:10 pm

Keynote Address
Chair: C. K. Wong 9:00 am – 10:00 am
Algorithmic Aspects of
Computer Aided Design of VLSI Circuits
Professor C. L. Liu
University of Illinois at Urbana-Champaign

Break: 10 am – 10:20 am

Session 1 Chair: C. K. Wong
10:20 am – 12:00 noon

- 10:20 Improved Bounds for On-line Load Balancing
Matthew Andrews, Michel X. Goemans, Lisa Zhang
- 10:45 $O(n \log n)$ -average-time algorithm for shortest networks under given topology
Guo-Liang Xue, Ding-Zhu Du
- 11:10 Steiner problems on directed acyclic graphs
Tsan-Sheng Hsu, D. T. Lee, Kuo-Hui Tsai, Da-Wei Wang
- 11:35 Wormhole versus deflection routing: A case study on the mesh
Efstratios Karaivazoglou, Paul Spirakis, Vasilis Triantafylou

Lunch: 12:00 noon – 1:30 pm

- 1:30 On Sparse Parity Check Matrices
Hanno Lefmann, Pavel Pudlak, Petr Savicky
- 1:55 Finding a Hidden Code by Asking Questions
Zhixiang Chen, Steven Homer, Carlos Cunha
- 2:20 Improved Length Lower Bounds for Reflecting Sequences
H. K. Dai, K. E. Flannery
- 2:45 Combinatorial and Geometric Approaches to Counting Problems on Linear Matroids, Graphic Arrangements and Partial Orders
Hiroshi Imai, Satoru Iwata, Kyoko Sekine, Kensyu Yoshida

Break: 3:10 pm – 3:30 pm

Session 3: Chair: D. T. Lee
3:30 pm – 5:10 pm

- 3:30 Output-Sensitive Reporting of Disjoint Paths
Giuseppe Di Battista, Roberto Tamassia, Luca Vismara
- 3:55 Rectangular Grid Drawings of Plane Graphs
Md. Saidur Rahman, Shin-ichi Nakano, Takao Nishizeki
- 4:20 Area-Efficient Algorithms for Upward Straight-Line Tree Drawings
Chan-Su Shin, Sung Kwon Kim, Kyung-Yong Chwa
- 4:45 A Straight Skeleton for General Polygonal Figures in the Plane
Oswin Aichholzer, Franz Aurenhammer

Reception: 5:30 pm – 6:30 pm

Break: 3:10 pm – 3:30 pm

Day 2 (18 June 1996)

Session 4 Chair: S. Toda
8:45 am – 10:00 am

Session 7 Chair: C. Yap
3:30 pm – 5:35 pm

- 8:45 A note on uniform circuit lower bounds for the counting hierarchy
Eric Allender
- 9:10 A note on the simulation of exponential threshold weights
Thomas Hofmeister
- 9:35 Harmonic analysis, real approximation, and the communication complexity of Boolean functions
Vince Grolmusz

- 3:30 Depth-efficient threshold circuits for multiplication and symmetric function computation
Chi-Hsiang Yeh, Emmanouel A. Varvarigos
- 3:55 On the self-witnessing property of computational problems
V. Arvind
- 4:20 The Inverse Satisfiability Problem
Dimitris Kavvadias, Martha Sideri
- 4:45 The Join Can Lower Complexity
Lane A. Hemaspaandra, Zhigen Jiang, Joerg Rothe, Osamu Watanabe
- 5:10 On the distribution of eigenvalues of graphs
Xuerong Yong

Break: 10 am – 10:20 am

Session 5 Chair: T. Nishizeki
10:20 am – 12:00 noon

- 10:20 Finding Large Planar Subgraphs and Large Subgraphs of a Given Genus
Gruia Calinescu, Cristina G. Fernandes
- 10:45 A Deterministic Algorithm for Embedding Bipartite Graphs on $O(\sqrt{|E|})$ Pages
Farhad Shahrokhi, Weiping Shi
- 11:10 Optimal Bi-Level Augmentation for selectivity enhancing graph connectivity with applications
Tsan-sheng Hsu, Ming-Yang Kao
- 11:35 Exact Learning of Subclasses of CDNF formulas with Membership queries
Carlos Domingo

Banquet: 7:00 pm – 10:00 pm

Lunch: 12:00 noon – 1:30 pm

Session 6 Chair: H. Edelsbrunner
1:30 pm – 3:10 pm

- 1:30 Fast Separator-Decomposition for Finite-Element Meshes and Sparse Symbolic-Factorization
Shang-Hua Teng
- 1:55 Reduction Algorithms for Constructing Solutions in Graphs with Small Treewidth
Hans L. Bodlaender, Babette de Fluiter
- 2:20 Fast RNC and NC algorithms for finding a maximal set of paths with an application
Zhi-Zhong Chen, Ryuhei Uehara, Xin He
- 2:45 Sparse suffix trees
Juha Kärkkäinen, Esko Ukkonen

Day 3 (19 June 1996)

Session 8 Chair: A. Goldberg
8:45 am – 10:00 am

- 8:45 On the difficulty of designing good classifiers
Mic Grigni, Christos Papadimitriou
- 9:10 Approximating Latin Square Extensions
S. Ravi Kumar, Alexander Russell, Ravi Sundaram
- 9:35 Approximating minimum keys and optimal substructure screens
Tatsuya Akutsu, Feng Bao

Break: 10 am – 10:20 am

Session 9 Chair: C. Papadimitriou
10:20 am – 12:00 noon

- 10:20 Reductions and coverage rates of average time
Jay Belanger, Jie Wang
- 10:45 The Complexity of Computational Problems Associated with Simple Stochastic Games
Akio Yanbe, Kouichi Sakurai
- 11:10 On the complexity of commutativity analysis
Oscar Ibarra, Pedro Diniz, Martin Rinard
- 11:35 Improved Non-approximability Results for Vertex Cover Problems with Density Constraints
A.E.F. Clementi, L. Trevisan

Lunch: 12:00 noon – 1:30 pm

Session 10 Chair: O. Ibarra
1:30 pm – 3:10 pm

- 1:30 Some notes on the Nearest Neighbour Interchange distance measure
Ming Li, John Tromp, Louxin Zhang
- 1:55 Distributed computing in asynchronous networks with byzantine edges
Vasant Shanbhogue, Moti Yung
- 2:20 Weighted biased leftist trees and modified skip lists
S. Cho, S. Sahni
- 2:45 Probabilistic Analysis of Local Search on Random Instances of Constraint Satisfaction
Hoong Chuin Lau

Break: 3:10 pm – 3:30 pm

Session 11 Chair: M. Y. Kao
3:30 pm – 5:35 pm

- 3:30 On the reconfiguration of chains
Naixun Pei, Sue Whitesides
- 3:55 Two-guarding a rectilinear polygon
Xuehou Tan, Binhai Zhu
- 4:20 Three Systems for Shared Generation of Authenticators
R. Safavi-Naini
- 4:45 Efficient Generation of Elliptic curve cryptosystems
Kwok-Yan Lam, San Ling, Lucas C-K Hui
- 5:10 Superconnectivity for Minimal Multi-Loop Networks
Jixiang Meng

Registration for COCOON'96

The registration fees for COCOON'96 are listed below. To qualify for the early registration fees, your registration application must be received by May 4, 1996. The non-student registration fee includes the reception, the banquet, coffee breaks and lunches, and a copy of the proceedings. The student fee does not include the reception, banquet or lunches.

Please fill out the form below and send it, along with a money order or bank draft (in US\$ or HK\$) made payable to COCOON'96, to:

Dr. H.F. Ting
Department of Computer Science
The University of Hong Kong
Pokfulam Road, Hong Kong

Last Name_____First Name_____

Affiliation_____

Address_____

E-mail_____

Phone_____Fax_____

Please circle one category below.

Category	Fee Before May 4	After May 4
Regular	\$350US/\$2730HK	\$420US/\$3275HK
Student	\$250US/\$1950HK	\$300US/\$2340HK

Hotel Reservations for COCOON'96

The conference will be held from June 17 to June 19, 1996 at the University of Hong Kong on Hong Kong Island. While accommodations are not available on campus the hotels listed below provide special conference rates.

For those of you not familiar with Hong Kong note that taxis are very cheap and easy to catch at hotels. A taxi from the Furama hotel to the conference site would cost approximately \$3US and take 15-20 minutes; from the Wharney or South Pacific, \$4US and 20-25 minutes.

Tsimshatsui, the location of the New World Hotel is in the tourist district across Victoria Harbour from Hong Kong Island. It therefore requires much more travelling time to get from there to the conference; first a 10 minute walk to the Star Ferry, then a ferry crossing of the harbour and, finally, a taxi to the university. The ferry + taxi should cost approximately \$3US and take 30-35 minutes total.

To make your reservations, fill out the form below and send it, along with a deposit for at least one night's stay, to:

Morning Star Travel Service Limited
(fax (+852) 2723 8033)
B19-23 Tsimshatsui Centre
66 Mody Road
Tsimshatsui East
Kowloon, Hong Kong

Reservations should be received by May 1, 1993. Deposit should be made in the form of a bank draft or money order (in US\$, or HK\$) payable to the Morning Star Travel Service Limited. Credit cards are not accepted.

Last Name _____ First Name _____

Affiliation _____

Address _____

Nationality/Citizenship _____ Passport # _____

Phone _____ Fax _____

Arrival flight # _____

Hotel rates shown below include service charge and tax. Single and double rooms have the same rates. Please choose one of the following hotels:

Furama Hotel
1 Connaught Road, Central, Hong Kong
HK\$ 1,420 (US\$ 185) per night

Wharney Hotel
57-73 Lockhart Road, Wan Chai, Hong Kong
HK\$ 1,010 (US\$ 131) per night

South Pacific Hotel
23 Morrision Hill Road, Wan Chai, Hong Kong
HK\$ 870 (US\$ 113) per night

New World Hotel
22 Salisbury Road, New World Centre, Tsimshatsui,
KOWLOON
HK\$ 1,120 (US\$ 146) per night

Single
 Double
(sharing room with _____)

Date: from _____ to _____ (No. of nights: _____)

If falling outside the conference date, reservation will be accepted subject to space availability.

I enclose a check/money order of US\$/HK\$ _____ payable to the Morning Star Travel Service Limited as deposit, and understand that the balance will be settled after arrival with the Morning Star Travel Service Limited at the conference site (instead of the hotel) using cash, credit card, or traveler's check."

Please send me information about tours to China.