

COCOON'2003 Final Program

July 24, 2003 (Thursday)—Reception & Registration: Peaks, 4pm—7pm

July 25, 2003 (Friday)

8:50am—9:00am

Opening address: Tandy Warnow and Binhai Zhu

9:00am—10:00am

Invited talk I: Liar!

Invited Speaker: Joel Spencer

10:00am—10:20am—————*Coffee break*

10:20am—11:40am: Session 1
Computational Geometry, I
Chair: Cao An Wang

**Cylindrical hierarchy for
deforming necklaces**
Sergei Bespamyatnikh

**Geometric algorithms
for agglomerative
hierarchical clustering**
Danny Chen and Bin Xu

**Traveling salesman problem
of segments**
Jinhui Xu, Yang Yang
and Zhiyong Lin

10:20am—11:40am: Session 2
Computational Biology, I
Chair: Brendan Mumey

**A space efficient algorithm for
sequence alignment with inversions**
Yong Gao, Junfeng Wu, R. Niewiadomski,
Yang Wang, Z-Z Chen and Guohui Lin

**On the similarity of sets of
permutations and its
applications to genome comparison**
Anne Bergeron and Jens Stoye

**Genomic distances under
deletions and insertions**
Mark Marron, Krister Swenson
and Bernard Moret

On all-substrings alignment problems
Wei Fu, Wing-Kai Hon and Wing-Kin Sung

12:00am—13:30pm—————*Lunch*

13:40pm—14:40am: Session 3
Computability/Complexity Theory, I
Chair: Jin-Yi Cai

The Specker-Blatter theorem revisited: generating functions for definable classes of structures

E. Fischer and J. Makowsky

On the divergence bounded computable real numbers

Xizhong Zheng

Sparse parity-check matrices over finite fields

Hanno Lefmann

13:40pm—14:40am: Session 4
Graph Theory/Algorithms, I
Chair: Stephan Eidenbenz

On the full and bottleneck Steiner tree problem

Yen Hung Chen, Chin Lung Lu and Chuan Yi Tang

The structure and number of global roundings of a graph

Tetsuo Asano, Naoki Katoh Hisao Tamaki and Takeshi Tokuyama

On even triangulations of 2-connected embedded graphs

Huaming Zhang and Xin He

14:40pm—15:00pm—————*Coffee break*

15:00pm—15:40am: Session 5
Automata/Petri Net Theory
Chair: Xizhong Zheng

Petri nets with simple circuits

Hsu-Chun Yen and Lien-Po Yu

Automatic verification of multi-queue discrete timed automata

Pierluigi San Pietro and Zhe Dang

July 26, 2003 (Saturday)

9:20am—10:20am

Invited talk II: Experiments for Algorithm Engineering

Invited Speaker: Jon Bentley

10:20am—10:40am ————— *Coffee break*

10:40am—11:40am: Session 6

Graph Theory/Algorithms, II

Chair: Michael Langston

10:40am—11:40am: Session 7

Complexity Theory, II

Chair: Anna Gal

**List total colorings of
series-parallel graphs**

Xiao Zhou, Yuki Matsuo
and Takao Nishizeki

**On proving circuit lower bounds
against the polynomial-time hierarchy:
positive and negative results**

Jin-Yi Cai and Osamu Watanabe

**Finding hidden independent
sets in interval graphs**

Theresa Biedl, Brona Brejova
Erik Demaine, Angele Hamel
Alex Lopez-Ortiz and Tomas Vinar

**The complexity of boolean
matrix root computation**

Martin Kutz

**Matroid representation
of clique complexes**

Kenji Kashiwabara, Yoshio Okamoto
and Takeaki Uno

**A fast bit-parallel algorithm for
matching extended regular expressions**

Hiroaki Yamamoto and Takashi Miyazaki

12:00am—13:30pm ————— *Lunch*

13:40pm—14:40pm: *Session 8*
Distributed Computing
Chair: Xiang-Yang Li

Group mutual exclusion algorithms based on ticket orders
M. Takamura and Y. Igarashi

Distributed algorithm for better approximation of the maximum matching
A. Czygrinow and M. Hanckowiak

Efficient data mappings for parity-declustered data layouts
Eric Schwabe and Ian Sutherland

13:40pm—14:40pm: *Session 9*
Web-Based Computing
Chair: Zhixiang Chen

Approximate Rank Aggregation
Xiaotie Deng, Qizhi Fang and Shanfeng Zhu

Perturbation of the hyper-linked environment
Hyun Chul Lee and Allan Borodin

Fast construction of generalized suffix trees over a very large alphabet
Zhixiang Chen, Richard Fowler
Ada Fu and Chunyue Wang

14:40pm—15:00pm ————— *Coffee break*

15:00pm—16:00pm: *Session 10*
Complexity Theory, III
Chair: Francis Chin

Complexity theoretic aspects of some cryptographic functions
Eike Kiltz and Hans Ulrich Simon

Minimal unsatisfiable formulas with bounded clause-variable difference are fixed-parameter tractable
Stefan Szeider

Quantum sampling for balanced allocations
Kazuo Iwama, Akinori Kawachi
and Shigeru Yamashita

15:00pm—16:00pm: *Session 11*
Graph Theory/Algorithms, III
Chair: Takao Nishizeki

Fault-Hamiltonicity of product graph of path and cycle
Jung-Heum Park and Hee-Chul Kim

How to obtain the complete list of caterpillars
Yosuke Kikuchi, Hiroyuki Tanaka
Shin-ichi Nakano and Yukio Shibata

Randomized approximation of the stable marriage problem
Magnus Halldorsson, Kazuo Iwama
Shuichi Miyazaki and Hiroki Yanagisawa

18:30pm—21:00pm ————— *Conference Banquet*

July 27, 2003 (Sunday)

9:20am—10:20am

**Invited talk III: Empirical Exploration of Perfect Phylogeny Haplotyping
and Haplotypes**

Invited Speaker: Dan Gusfield

10:20am—10:40am—————*Coffee break*

10:40am—11:40am: Session 12
Computational Geometry, II
Chair: Jinhui Xu

10:40am—11:40am: Session 13
Graph Theory/Algorithms, IV
Chair: Takeshi Tokuyama

**Tetris is hard,
even to approximate**

Erik Demaine, Susan Hohenberger
and David Liben-Nowell

**Approximate MST for
UDG locally**
Xiang-Yang Li

**Efficient construction of low
weight bounded degree planar
spanner**
Xiang-Yang Li and Yu Wang

**Subexponential-time algorithms
for maximum independent set and
related problems on box graphs**
Andrzej Lingas and Martin Wahlen

**Isoperimetric inequalities
and the width parameters
of graphs**

Sunil Chandran, T. Kavitha
and C.R. Subramanian

**Graph coloring and
the immersion order**
Faisal Abu-Khzam and Michael Langston

**Optimal MST maintenance for
transient deletion of every node in
planar graphs**
Carlo Gaibisso, Guido Proietti
and Richard Tan

12:00am—13:30pm—————*Lunch*

13:40pm—14:40pm: *Session 14*
Scheduling
Chair: Kyung-Yong Chwa

**Scheduling broadcasts
with deadlines**

Jae-Hoon Kim and
Kyung-Yong Chwa

**Improved competitiveness
algorithms for online scheduling
with partial job values**

Francis Chin and Stanley Fung

**Majority equilibrium for
public facility allocation**

Lihua Chen, Xiaotie Deng
Qizhi Fang and Feng Tian

13:40pm—14:40pm: *Session 15*
Computational Geometry, III
Chair: Xiaodong Wu

**On constrained minimum
pseudotriangulations**

Gunter Rote, Cao An Wang
Lusheng Wang and Yin-Feng Xu

**Pairwise data clustering
and applications**

Xiaodong Wu, Danny Chen
James Mason and Steven Schmid

**Covering a set of points with
a minimum number of turns**

Michael Collins

14:40pm—15:00pm ————— *Coffee break*

15:00pm—16:00pm: *Session 16*
Computational Biology, II
Chair: Sergei Bespamyatnikh

**On a conjecture on Wiener
indices in combinatorial
chemistry**

Yih-Eh Ban, Sergei Bespamyatnikh
and Nabil Mustafa

**Double digest revisited:
complexity and approximability
in the presence of noisy data**

Mark Cieliebak, Stephan Eidenbenz
and Gerhard Woeginger

**Fast and space-efficient location
of heavy or dense segments in
run-length encoded sequences**

Ronald Greenberg

15:00pm—16:00pm: *Session 17*
Graph Drawing
Chair: Shinichi Nakano

**Area-efficient order-preserving
planar straight-line drawings of
ordered trees**

Ashim Garg and Adrian Rusu

Bounds for convex crossing numbers

Farhad Shahrokhi, Ondrej Sykora
Laszlo Szekely and Imrich Vrt'o

On spectral graph drawing

Yehuda Koren.

————— *End of technical program* —————

Note #1: The July 24 reception will be held in Peaks (across the hall from the Talus room at Summit). All other meals, except for coffee breaks, are served in the Main Dining Room. The talks are presented in two adjacent rooms: Dunraven Obsidian and Gibbon Lamar.

Note #2: The July 28 Yellowstone tour will be arranged as follows. Two buses will pick people up at the main entry of Huntley/Shoshone hotel at 8:00am. So try to wait at the main entry a few minutes earlier. Bring some drinking water, an umbrella and a thick jacket (in case the weather is not good). Lunch is on your own.

Note #3: Regardless of whether you take part in the Yellowstone tour, besides your summer clothing an umbrella and a thick jacket is necessary. The temperature in Big Sky (or more generally, West Yellowstone) could be cold even in the summer in the early morning or late evening — could be around 40F or 5°C sometimes. During the day it should be much better.