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*

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*

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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

**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

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

**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*

**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

**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

**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

**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.