

# COCOA'2007 Final Program

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August 11, 2007 (Saturday)—Reception & Registration: Lobby, 4pm—7pm

—————August 12, 2007 (Sunday)—————

9:00am—9:10am

**Opening address: Andreas Dress and Ding-Zhu Du**

9:10am—10:10am

**Invited Talk I: Matchings in Graphs — Variations of the Problem**

Invited Speaker: Kurt Mehlhorn

10:10am—10:30am ————— *Coffee break*

*10:30am—11:50am: Session 1—Exact and FPT Algorithms*

*Chair: Michael Fellows*

**(1) On the Complexity of Some Colorful Problems Parameterized by Treewidth**

Michael Fellows, Fedor V. Fomin, Daniel Lokshtanov, Frances Rosamond, Saket Saurabh, Stefan Szeider and Carsten Thomassen

**(2) An Exact Algorithm based on Chain Implication for the Min-CVCB Problem**

Jianxin Wang, Xiaoshuang Xu and Yunlong Liu

**(3) Exact Algorithms for Generalized Combinatorial Optimization Problems**

Petrica Claudiu Pop, Corina Pop Sitar, Ioana Zelina and Ioana Tascu

**(4) A New Exact Algorithm for the Two-Sided Crossing Minimization Problem**

Zheng Lanbo and Christoph Buchheim

12:00am—13:40pm ————— *Lunch*

*14:00pm—15:00am: Session 2—Graph Searching and Online Algorithms*

*Chair: Rudolf Fleischer*

**(5) Searching Cycle-Disjoint Graphs**

Boting Yang, Runtao Zhang and Yi Cao

**(6) Arc Searching Digraphs without Jumping**

Brian Alspach, Danny Dyer, Denis Hanson and Boting Yang

**(7) On the On-line k-Taxi Problem with Limited Look Ahead**

Weimin Ma, Ting Gao and Ke Wang

15:00pm—15:20pm—————*Coffee break*

*15:20pm—16:40am: Session 3—Scheduling*

*Chair: Boting Yang*

**(8) An Asymptotic PTAS for Batch Scheduling With Nonidentical Job Sizes to Minimize Makespan**

Yuzhong Zhang and Cao Zhigang

**(9) Energy Minimizing Vehicle Routing Problem**

Imdat Kara, Bahar Yetis Kara and M. Kadri Yetis

**(10) Worst Case Analysis of a New Lower Bound for Flow Shop Weighted Completion Time Problem**

Danyu Bai and Lixin Tang

**(11) Single Machine Common Due Window Scheduling with Controllable Job Processing Times**

Guohua Wan

*16:50pm—17:30am: Session 4—Applications*

*Chair: Yinfeng Xu*

**(12) A Grid Resource Discovery Method based on Adaptive k-Nearest Neighbors Clustering**

Yan Zhang, Yan Jia, Xiaobin Huang, Bin Zhou and Jian Gu

**(13) A New Hybrid Algorithm for Feature Selection and Its Application to Customer Recognition**

Yan Luo and Changrui Yu

—————August 13, 2007 (Monday)—————

9:00am—10:00am

**Invited Talk II: Combinatorics from Bacterial Genomes**

Invited Speaker: Bailin Hao

10:00am—10:30am—————*Coffee break*

*10:30am—11:50am: Session 5—Computational Biology*

*Chair: Binhai Zhu*

**(14) A New Dynamic Programming Algorithm for Multiple Sequence Alignment**

Jean-Michel Richer, Vincent Derrien and Jin-Kao Hao

**(15) An Experimental Study of Compressed Indexing and Local Alignment of DNA**

Tak-Wah Lam, Wing-Kin Sung, Siu-Lung Tam, Simon C.K. Wong and SM Yiu

**(16) A Lagrangian Relaxation Approach for the Multiple Sequence Alignment Problem**

Ernst Althaus and Stefan Canzar

**(17) A PTAS for the Weighted 2-Interval Pattern Problem over the Preceding-and-Crossing Model**

Minghui Jiang

12:00am—13:40pm—————*Lunch*

*14:00pm—15:00am: Session 6—Computational Game Theory, I*

*Chair: Hanno Lefmann*

**(18) Communication Leading to Nash Equilibrium Through Robust Messages**

Takashi Matsuhisa

**(19) Secure Multiparty Computations Using the 15 Puzzle**

Takaaki Mizuki, Yoshinori Kugimoto and Hideaki Sone

**(20) Scaling, Renormalization and Universality in Combinatorial Games: The Geometry of Chomp**

Eric Friedman and Adam Landsberg

15:00pm—15:20pm—————*Coffee break*

15:20pm—16:20am: *Session 7—Graph Theory*

*Chair: ???????*

**(21) Infinite Families of Optimal Double-loop Networks**

Xiaoping Dai, Jianqin Zhou and Xiaolin Wang

**(22) The Size of a Minimum Critically  $m$ -Neighbor-scattered Graph**

Fengwei Li and Qingfang Ye

**(23) The Minimum All-Ones Problem for Graphs with Small Treewidth**

Yunting Lu and Yueping Li

16:20pm—16:30pm—————*Short Break*

16:30pm—17:10am: *Special Session*

*Chair: Andreas Dress*

**A Combinatorial Method for Comparing Sequences**

Alexandre Grossmann

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

—————August 14, 2007 (Tuesday)—————

9:00am—10:00am: *Session 8—Mathematical Programming*

*Chair: ????????*

**(24) On Threshold BDDs and the Optimal Variable Ordering Problem**

Markus Behle

**(25) Fundamental Domains for Combinatorial Integer Programs  
with Symmetries**

Eric Friedman

**(26) An Algorithm for Computing Virtual Cut Points in Finite Metric Spaces**

Andreas Dress, Katharina Huber, Jacobus Koolen and Vincent Moulton

10:00am—10:30am—————*Coffee break*

10:30am—12:00am: *Session 9—Graph Algorithms*

*Chair: Kanliang Wang*

**(27) Finding the Anti-Block Vital Edge of a Shortest Path Between  
Two Nodes**

Bing Su, Qingchuan Xu and Peng Xiao

**(28) The Minimum Risk Spanning Tree Problem**

Xujin Chen, Jie Hu and Xiaodong Hu

**(29) K-connected Target Coverage Problem in Wireless Sensor Networks**

Deying Li, Jiannong Cao, Ming Liu and Yuan Zhang

**(30) Algorithms for Minimum m-Connected k-Dominating Set Problem**

Shang Weiping, Frances Yao, Peng-Jun Wan and Xiaodong Hu

**(31) Steiner Forests on Stochastic Metric Graphs**

Vangelis Paschos, Orestis Telelis and Vassilis Zissimopoulos

12:00am—13:40pm—————*Lunch*

14:00pm—15:00am: *Session 10—Computational Game Theory, II*

*Chair: Xiaodong Hu*

**(32) The Computational Complexity of Game Trees by Eigen-Distribution**

ChenGuang Liu and Kazuyuki Tanaka

**(33) Mechanism Design by Creditability**

Raphael Eidenbenz, Yvonne Anne Oswald, Stefan Schmid and Roger Wattenhofer

**(34) Point Sets in the Unit Square and Large Areas of Convex Hulls  
of Subsets of Points**

Hanno Lefmann

15:00pm—15:20pm—————*Coffee break*

15:20pm—16:20am: Session 11—Approximation Algorithms

Chair: Kyung-Yong Chwa

**(35) Improved Approximation Algorithm for Connected Facility Location Problems**

Mohammad Khairul Hasan, Hyunwoo Jung and Kyung-Yong Chwa

**(36) A Lower Bound on Approximation Algorithms for the Closest Substring Problem**

Jianxin Wang, Min Huang and Jianer Chen

**(37) Approximation Algorithms for k Duplicates Combinatorial Auctions with Subadditive Bidders**

Wenbin Chen and Jiangtao Meng

—————*End of technical program*—————

**Note #1:** The August 11 reception and all the meals, except for coffee breaks and the banquet, are served in the Main Dining Room.

**Note #2:** The August 15 Terracotta Warriors Tour will be arranged as follows. A bus will pick people up at the main entry of NanYang Hotel at 8:30am. So try to wait at the main entry a few minutes earlier. Bring some drinking water, a pair of sunglasses and certainly a camera! Lunch is on your own.

We wish you have a good time in Xi'an!