
— COCOON 2017 AUGUST 3–5, HONG KONG, CHINA —

PROGRAM

[Proceedings \(direct link, no subscription required\)](#)

AUGUST 3 (THURSDAY)

7:45–8:45 REGISTRATION

8:45–10:00

Jiannong Cao, Opening

(Chair:

Dániel Marx, The optimality program for parameterized algorithms

10:00–10:30 COFFEE & TEA BREAK

10:30–12:10

SESSION 1

(Chair: Dán

Jakub Gajarský, Petr Hliněný, Martin Koutecký, and Shmuel Onn

Parameterized shifted combinatorial optimization

Qilong Feng, Senmin Zhu, and Jianxin Wang

An improved kernel for parameterized bisection above tight lower bound

Pranabendu Misra, Fahad Panolan, Ramanujan M. S., and Saket Saurabh

Linear representation of transversal matroids and gammoids parameterized by rank

Hoang-Oanh Le and Van Bang Le

NP-hardness and structural results for half-squares of tree convex bipartite graphs

SESSION 2

(Chair: Da

Yuval Filmus, Hamed Hatami, Yaqiao Li, and Suzin You

Information complexity of the AND function in the two-party and multi-party settings

Kun He, Qian Li, and Xiaoming Sun

A tighter relation between sensitivity complexity and certificate complexity

Purnata Ghosal, Om Prakash, and Raghavendra Rao B V

On constant depth circuits parameterized by degree: identity testing and depth reduction

Akinori Kawachi, Kenichi Kawano, Francois Le Gall, and Suguru Tamaki

Quantum query complexity of unitary operator discrimination

12:10–14:00 LUNCH BREAK

SESSION 3

(Chair: Xidun)

Zhi-Zhong Chen, Guohui Lin, Lusheng Wang, Yong Chen, and Dan Wang

Approximation algorithms for the maximum weight internal spanning tree problem

*Yiyao Jiang*Constant approximation for stochastic orienteering problem with $(1+\epsilon)$ -budget relaxation*Guangwei Wu and Jianxin Wang*

Approximation algorithms for scheduling multiple two-stage flowshops

*Dongmei Zhang, Chunlin Hao, Chenchen Wu, Dachuan Xu, and Zhenning Zhang*A local search approximation algorithm for the k -means problem with penalties

SESSION 4

(Chair: Gill)

Elena Khramtcova and Evanthia Papadopoulou

Randomized incremental construction for the Hausdorff Voronoi diagram revisited and extended

*Li-Hsuan Chen, Sun-Yuan Hsieh, Ling-Ju Hung, and Ralf Klasing*The approximability of the p -hub center problem with parameterized triangle inequality*Pradeesha Ashok, Aniket Basu Roy, and Sathish Govindarajan*

Local search strikes again: PTAS for variants of geometric covering and packing

Hee-Kap Ahn, Nicola Baraldo, Eunjin Oh, and Francesco Silvestri

A time-space trade-off for triangulations of points in the plane

15:40–16:10 COFFEE & TEA BREAK

16:10–17:50

SESSION 5

(Chair: Yot)

Mikko Koivisto, Petteri Laakkonen, and Juho Lauri

NP-completeness results for partitioning a graph into total dominating sets

*Congsong Zhang and Yong Gao*On the complexity of k -metric antidimension problem and the size of k -antireloving sets in random graphs*Alan Carneiro, Fabio Protti, and Uéverton Souza*

Deletion graph problems based on deadlock resolution

SESSION 6

(Chair: Hsu-)

Stanley Fung

Optimal online two-way trading with bounded number of transactions

Ruta Mehta and Vijay Vazirani

An incentive compatible, efficient market for air traffic flow management

Maximilian Drees, Matthias Feldotto, Sören Riechers, and Alexander Skopalik

Pure Nash equilibria in restricted budget games

Zhou Chen, Yukun Cheng, Qi Qi, and Xiang Yan

Incentive ratios of a proportional sharing mechanism in resource sharing

18:00–18:30 BUSINESS MEETING

9:00–10:00

Shang-Hua Teng, Scalable algorithms for data and network analysis

(Chair: Jian)

10:00–10:30 COFFEE & TEA BREAK

10:30–12:10

SESSION 7

(Chair: Akinori)

Alessio Conte, Mamadou Moustapha Kanté, Yota Otachi, Takeaki Uno and Kunihiko Wasa

Efficient enumeration of maximal k -degenerate subgraphs in a chordal graph

Qian Li and Xiaoming Sun

On the modulo degree complexity of Boolean functions

Gill Barequet, Mira Shalah and Yufei Zheng

An improved lower bound on the growth constant of polyiamonds

Panagiotis Charalampopoulos, Maxime Crochemore, Costas Iliopoulos, Tomasz Kociumaka, Solon Pissis, Jakub Radoszewski, Wojciech Rytter, Tomasz Walen

Efficient enumeration of non-equivalent squares in partial words with few holes

SESSION 8

(Chair: Lushe)

Edward J. Lee and Serge Gaspers

Faster graph coloring in polynomial space

Sankardeep Chakraborty and Srinivasa Rao Satti

Space-efficient algorithms for maximum cardinality search, stack BFS, queue BFS and applications

Aizhong Zhou, Haitao Jiang, Jiong Guo, Haodi Feng, Nan Liu and Binhai Zhu

Improved approximation algorithm for the maximum base pair stackings problem in RNA secondary structures prediction

Saeed Mehrabi

Approximating weighted duo-preservation in comparative genomics

12:10–14:00 LUNCH BREAK

14:00–15:40

SESSION 9

(Chair: Qilo)

Wei Yu and Zhaohui Liu

Better inapproximability bounds and approximation algorithms for min-max tree/cycle/path cover problems

Ei Ando and Shuji Kijima

An FPTAS for the volume of some V -polytopes --It is hard to compute the volume of the intersection of two cross-polytopes

Kuan-Yi Ho, Yi-Jun Chang and Hsu-Chun Yen

Unfolding some classes of orthogonal polyhedra of arbitrary genus

Sanjib Sadhu, Sasanka Roy, Subhas Nandy and Suchismita Roy

Optimal covering and hitting of line segments by two axis-parallel squares

SESSION 10

(Chair:)

Takehiro Ito, Naonori Kakimura, Naoyuki Kamiyama, Yusuke Kobayashi, and Yoshio Okamoto

Reconfiguration of maximum-weight b -matchings in a graph

Satoshi Tayu and Shuichi Ueno

Stable matchings in trees

Jian Xu, Soumya Banerjee, and Wenjing Rao

The existence of universally agreed fairest semi-matchings in any given bipartite graph

15:40–16:10 COFFEE & TEA BREAK

16:10–17:50

SESSION 11

(Chair: Hee-

Prosenjit Bose, Matias Korman, André van Renssen and Sander Verdonschot

Constrained routing between non-visible vertices

Sumedh Tirodkar and Sundar Vishwanathan

Maximum matching on trees in the online preemptive and the incremental dynamic graph models

Prajakta Nimbhorkar and Arvind Rameshwar V

Dynamic rank-maximal matchings

Wenkai Dai

Reoptimization of minimum latency problem

SESSION 12

(Chair: Dong

Konstantin E. Avrachenkov, Aleksei Yu. Kondratev, and Vladimir V. Mazalov

Cooperative game theory approaches for network partitioning

Pavla Drazdilova, Jan Konecny, and Milos Kudelkas

Chain of influencers: multipartite intra-community ranking

Jing (Selena) He, Ying Xie, Tianyu Du, Shouling Ji, and Zhao Li

Influence spread in social networks with both positive and negative influences

Pavel Krömer and Jana Nowaková

Guided genetic algorithm for the influence maximization problem

18:00–22:00 BANQUET (COACHES DEPART AT 18:00 FROM THE CONFERENCE VENUE)

AUGUST 5 (SATURDAY)

9:00–10:00

Virginia Vassilevska Williams, Fine-grained complexity of problems in P

(Chair: Shang-

10:00–10:30 COFFEE & TEA BREAK

10:30–12:10

SESSION 13

(Chair: Virginia Vassilevska

Jérémy Barbay, Pablo Pérez-Lantero and Javiel Rojas

Depth distribution in high dimensions

Mohammad Ghodsi, Hamid Homapour, and Masoud Seddighin

Approximate minimum diameter

Xuehou Tan and Bo Jiang

Simple $O(n \log^2 n)$ algorithms for the planar 2-center problem

SESSION 14

(Chair: Pav

Suchi Kumari, Anurag Singh, and Hocine Cherifi

Optimal local routing strategies for community structured time varying communication networks

Eliska Ochodkova, Sarka Zehnalova, and Milos Kudelka

Graph construction based on local representativeness

Adam Viktorin, Roman Senkerik, Michal Pluhacek, and Tomas Kadavy

SHADE algorithm dynamic analyzed through complex network

Siman Zhang and Jiping Zheng

An efficient potential member promotion algorithm in social networks via skyline

ORGANISER



SPONSO



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