

Maximum B-matching Based Approximation Algorithm Design

SPEAKER Prof LIN Guohui

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TIME 2:30 pm - 3:30 pm

VENUE CS Seminar Room, Y6405, 6th Floor
Yellow Zone, Academic 1
City University of Hong Kong
83 Tat Chee Avenue
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ABSTRACT

A classic use of a maximum weight matching in approximating the traveling salesman problem leads to the 1.5-approximation algorithm in 1976. The maximum b-matchings, weighted and unweighted, have also been employed in the design of approximation algorithms for the maximum traveling salesman problem, with its most recent ratio of 0.8 achieved by Dudynez et al. (2015), and many other problems. In this talk, we will present another use of the maximum b-matchings in approximating the Bandpass problem, which is formulated out of the optical communication networks. To the end, we show that a maximum weight matching, a maximum weight 2-matching, and a maximum weight 4-matching can be used together to design a $13/24$ -approximation algorithm for the Bandpass problem.

BIOGRAPHY

Prof Guohui Lin is currently a Professor of Computing Science at the University of Alberta, with tenure. He was an Assistant and then an Associate Professor at the same university since 2001. He obtained his PhD degree in Computer Science, specialized in Combinatorial Optimization, in 1998 from the Chinese Academy of Sciences (Thesis Supervisor: Dr Ding-Zhu Du); and he obtained Master of Science and Bachelor of Science in Applied Mathematics in 1995 and 1993, respectively, from the Zhejiang University. Prof Lin has two lines of research interests, one is Combinatorial Optimization, mostly on approximability and inapproximability, and the other is Bioinformatics, especially on cattle genomics and human proteomics, metabolomics, and lipidomics.

All are welcome!



In case of questions, please contact Prof WANG Lusheng at Tel: 3442 9820, E-mail: cswangl@cityu.edu.hk, or visit the CS Departmental Seminar Web at <http://www.cs.cityu.edu.hk/news/seminars/seminars.html>.

