



香港中文大學  
The Chinese University of Hong Kong

Institute of Theoretical Computer Science and Communications  
*ITCSC-IE-CSE Joint Seminar*

*23 July 2024, Tuesday*

*2:30 pm – 3:30 pm*

*Room 408, William MW Mong Engineering Building, CUHK*

## **Graph sparsification by deterministic discrepancy walks**

*By*

**Prof. Lap Chi Lau**

Professor, University of Waterloo

**Abstract:** Graph sparsification and discrepancy minimization are two well-studied areas that are closely related. In this talk, I will first give a brief survey of these two areas. Then, I will present a general approach for graph sparsification using deterministic discrepancy walks, building on the works of Reis-Rothvoss and Pesenti-Vladu. This approach provides improved constructions of sparsifiers with simpler analyses, as well as deterministic algorithms. No background is assumed. Joint work with Robert Wang and Hong Zhou.

**Biography:** Lap Chi Lau is a professor in the School of Computer Science at University of Waterloo. Before joining Waterloo, he was a faculty member in CSE CUHK from 2007 to 2014. He did his PhD in University of Toronto and his BSc in CUHK. His research interests are in spectral graph theory and combinatorial optimization.

\*\*\*\*\* ALL ARE WELCOME \*\*\*\*\*

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