香港中文大學
The Chinese University of Hong Kong

Institute of Theoretical Computer Science and Communications

IE - ITCSC Joint Seminar

Distributed Scheduling for Communication and Processing Networks

By
Prof. Jean Walrand
Professor, EECS, University of California, Berkeley, USA

December 14, 2009 (Monday)
2:00pm - 3:00pm
Rm. 121, Ho Sin Hang Engineering Building, CUHK

Abstract:
This talk reviews some recent progress on the scheduling of communication and processing networks. Using one example, we discuss the Maximum Weighted Matching (MWM) and Longest Queue First algorithms and explain their properties. We then describe the distributed algorithm. Processing networks are more general models of resource sharing systems than wireless networks and they can be used to model service systems, manufacturing plants, and many practical systems. We explain why MWM is generally not stable for such systems and we discuss a stable algorithm called Deficit Maximum Weight.

Joint work with Libin Jiang.

Biography:
Prof. Walrand received his Ph.D. in EECS from UC Berkeley. He is the author of An Introduction to Queueing Networks (Prentice Hall, 1988) and of Communication Networks: A First Course (2nd ed. McGraw-Hill, 1998) and co-author of High-Performance Communication Networks (2nd ed. Morgan Kaufman, 2000). Prof. Walrand is a Fellow of the Belgian American Education Foundation and of the IEEE and a recipient of the Lanchester Prize and of the Stephen O. Rice Prize.

*** ALL ARE WELCOME ***

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