Editorial

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Biographical notes: Kin Fun Li is the Computer Engineering Program Director in the Department of Electrical and Computer Engineering at the University of Victoria, Victoria, Canada. His research interests include web search, data mining, and application specific hardware architecture. He is very active in the organisation of international conferences in these research areas. In addition to his Bachelor and PhD in Computer Engineering, he also holds a Master of Business Administration. He is a Senior Member of the IEEE.

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This special issue is based on innovative ideas that were presented at the 2009 IEEE Pacific Rim Conference on Computers, Communications, and Signal Processing, held on 23–26 August at the University of Victoria, Victoria, BC, Canada. The conference was co-chaired by Dr. Aaron Gulliver and Dr. Kin Fun Li. The General Chair was Dr. Hisashi Kobayashi and Dr. Xiaodai Dong served as the Program Chair. Dr. Hideo Miyahara presented a keynote lecture on challenges for a new generation network. The proceedings were published by IEEE Computer Society.

PACRIM 2009 is the 11th edition of a series of biennial international forum sponsored by the University of Victoria and IEEE Victoria Section, which took place for the first time in 1987 in Victoria, BC, Canada, and was chaired by Dr. Vijay K. Bhargava. Since its inception, the PACRIM conference series has established itself as the premier IEEE biennial event in the Pacific Northwest, attracting participants from countries all over the world.

Based on initial recommendations made by PACRIM 2009 conference reviewers, a list of papers were selected for their high quality and potential for significant archival publication. The authors were invited to submit extended versions of their papers for this special issue of the *International Journal of Communication Networks and Distributed Systems (IJCNDS)*. After a thorough review process, five papers were selected to appear in this special issue. This issue covers a variety of important research issues in communications and distributed systems, which represent major areas of interest to *IJCNDS* readers.

Selected papers in the communications area include Cheung and Cheng, Feng et al., and Khunjush et al. Cheung and Cheng propose a network code assisted hybrid ARQ system, considering uplink transmission with multiple mobile-stations cooperating with a relay-station. Feng et al. propose an efficient distributed reconfiguration algorithm for heterogeneous networks, based on the Q-learning algorithm and the self-optimisation of each network entity acting as independent agents. Khunjush, Gong, and Dimopoulos implement several collective communications and investigate their performance in terms of latency and the associated components, in a parallel application environment using the cell broadband engine.

In the distributed systems area, two papers are selected for this special issue Endo, and Yonezawa et al. Endo presents a method to analyse the performance of peer-to-peer content-sharing systems, in which a node can receive the same query from different nodes. Yonezawa, Kino, and Wada propose an algorithm to eliminate barrier synchronisation in parallel systems, where the behavior of parallel programs are modelled and analysed.

We hope that this issue stimulates new directions and innovations that would raise the state of the art of the research being conducted in the areas promoted by *IJCNDS*.