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## Preface

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**Biographical notes:** Yuhang Yang received his BS degree from the Electronic Engineering Department of Chengdu Institute of Meteorology, China, in 1982. From 1984 to 1987, he studied telecommunications and computer networking and received his MSEE from Aston University, Great Britain. Now, he is a Professor of the Department of Electronic Engineering, Shanghai Jiao Tong University. His current research interest lies mainly in the field of computational science, broadband wireless, grid networking, information security and online video distribution. He has about 150 international academic publications including IEEE academic journal and conference papers. He has been invited to be a member of the Technical Program Committee or Session Chair for more than 30 international conferences.

Yanchun Zhang is currently a Full Professor and the Director of Centre for Applied Informatics Research at Victoria University. He obtained his PhD in Computer Science from The University of Queensland in 1991. He has been active in areas of database and information systems. He has published over 200 research papers in refereed international journals and conference proceedings. He is currently a communication expert panel member of Cheung Kong Scholars Programme from Ministry of Education of China (since 2006), and member of Australian Research Council (ARC) College of Experts (2008 to 2010), and steering committee member of The ARC Research Network in Enterprise Information Infrastructure (EII). He is the Editor-in-Chief of *World Wide Web Journal*.

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With the rapid development of computer science and technology, innovative computing in information networks and applications has attracted more and more attention, which is an important underpinning for techniques used in information science and there are many unresolved problems are worth studying. This special issue aims to give a timely and comprehensive presentation of the findings and achievements from such an explosion in the areas of advanced innovative computing in computer networks and applications.

This special issue contains extended versions of selected contributions to the field of information networks and applications presented at the International Conference on Information Computing and Applications – ICICA 2010, held at the Tangshan, China, on 15 and 18 October 2010. After two rounds of rigorous peer-review and revision processes, only seven out of 200 papers presented at ICICA 2010 were selected for this special. These papers deal with a wide range of problems and propose some novel techniques to solve these problems.

We briefly summarise those papers as follow.

The first paper in this issue, ‘Quasi-parallel network applications in real-time distribution management system’ by Izudin Dzafic and Hans-Theo Neisius, enables us to understand better the shock-capturing property of composite schemes. The study allows us to understand why not all composite schemes can be effective to control dispersion and dissipation in regions of shocks when used to solve 1D linear advection problems.

The second paper, ‘Comparison of some optimisation techniques for numerical schemes discretising equations with advection terms’ by Appanah Rao Appadu, presents an introduction to the topology of the HPGRID along with isomorphic partitioning of the system which aids to enhance resource discovery and scheduling mechanism.

The third paper, ‘Towards optimisation of the management of resources in the CloudSim simulator’ by Ghalem Belalem, presents two approaches that aim at returning a better availability of datacentres without deteriorated the performances in cloud computing.

The fourth paper, 'Indoor pedestrian displacement estimation using Smart phone inertial sensors' by Shahid Ayub, Xiaowei Zhou, Soroush Honary, Alireza Bahraminasab, Bahram Honary, proposes a mechanism for indoor pedestrian positioning using a combination of accelerometer and compass.

The fifth paper, 'A novel approach for QoS guided metascheduler for hypercubic P2P grid system' by D. Doreen Hephzibah Miriam and K.S. Easwarakumar, proposes a novel approach for QoS guided task scheduling algorithm using min mean computation algorithm.

The sixth paper, 'LDPC coding proposal for pulsed-OFDM modulation for WPAN systems using UWB communication in indoor propagation channels', by C.T. Manimegalai, R. Kumar and Sumith Babu S.B. proposes a combined approach where low density parity check (LDPC) codes are used to reduce the complexity and power consumption of pulsed orthogonal frequency-division multiplexing (pulsed-OFDM) ultra-wideband (UWB) systems.

The last paper, 'Mathematical model for designing the traffic circle control', by Nan Ji, Jie Zhang and Kaiwen Guo, investigates the influence of the mesh densities and mesh orientations of three-dimensional finite element (FE) models with shell elements on elastic wave propagation.

The Guest Editors would like to thank all the authors for their contributions and the referees for their helpful comments on the papers. Last but not least, we are deeply grateful to the Editor-in-Chief Professor Nadia Nedjah and the publishing staff of *International Journal of Innovative Computing and Applications* for their support and guidance during the preparation of this special issue, and staff at the Inderscience Publishers for their assistance in publishing this special issue.