Editorial

Abderrahim Benslimane

Computer Science Laboratory of Avignon (LIA), University of Avignon, 339 chemin des Meinajariès, BP1228 84911 AVIGNON Cedex 9, France Email: abderrahim.benslimane@univ-avignon.fr

Milena Radenkovic

School of Computer Science and IT University of Nottingham, Wollaton Road, Nottingham, NG8 1BB, UK Email: mvr@cs.nott.ac.uk

Der-Jiunn Deng

Department of Computer Science and Information Engineering, National Changhua University of Education, Bao-Shan Campus, No. 2, Shi-Da Rd, Changhua City 500, Taiwan Email: djdeng@cc.ncue.edu.tw

Biographical notes: Abderrahim Benslimane is Professor of Computer-Science at the Avignon University/France since 2001. He obtained the French title to supervise researches, 2000, Cergy-Pontoise University/France. He received the PhD Degree, 1993, Franche-Comte University/France. His current research and teaching interests are in wireless and mobile networks. He has several refereed international publications. He is member of several editorial boards of international journals such as IEEE Wireless Communication Magazine. He serves as General-Chair of several conferences such as IEEE WiMob since 2008. He participated as Guest Editor in many special issues. He participates to the steering and the program committee of many IEEE international conferences.

Milena Radenkovic received her PhD Degree in Computer Science from The University of Nottingham, UK and Dipl-Ing from the University of Electrical and Electronic Engineering, Niš, Serbia. She has been the Principle and Co-Investigator of several EPSRC and EU funded grants. Her research spans the areas of mobile social networks, privacy and energy efficiency. She is Visiting Researcher at Microsoft Research and has organized and chaired multiple IEEE and ACM conferences. She has been Area Editor, Guest Editor and member of Editorial Boards of several premium international journals. She has over 40 publications in journal and conference venues.

Der-Jiunn Deng received the PhD Degree in Electrical Engineering from the National Taiwan University. He joined the National Changhua University of Education as an Assistant Professor in the Department of Computer Science and Information Engineering in August 2005 and then became a full Professor in February 2012. In 2012, he received the Outstanding Faculty Research Award of National Changhua University of Education. He served or is serving as an editor and guest editor for several technical journals. He also served or is serving on several symposium chairs and technical program committees for IEEE and other international conferences.

The ever-increasing market penetration of smartphones, tablets and netbooks, along with the ubiquitous availability of wireless networks, are deeply influencing the way people live, work, interact and socialise. The broad popularity and diffusion of innovative services and applications tailored at mobile users is also raising challenging research issues that require us to rethink available mobile technology solutions to meet the emerging needs of a broader and ever-growing user base. The goal of this special issue is to publish both state-of-the-art and prospective papers regarding the ways to handle dynamism and mobility in mobile and wireless networking and to present methodologies, models, simulation tools, applications, works in progress and real world experiences. The call for papers for this special issue attracted 61 submissions from Asia, Europe, and the US covering a wide range of topics in the related field. Each paper was carefully evaluated by at least three reviewers. This careful evaluation process has allowed us to select 12 high quality research papers. We strongly believe that the selected papers will make a significant contribution to researchers, practitioners, and students working in this field. We present a brief overview of each manuscript in the following paragraphs.

The 12 accepted papers are divided into four categories. Six papers are related to algorithm/protocol design. 'Cross layer trigger-based handover scheme for mobile WiMAX networks' by S. Pahal et al. propose a cross layer trigger based handover scheme to offer uninterrupted services to mobile users. 'SPEED-3D: a geographic routing protocol for 6LoWPAN networks' by S. Bocchino et al. propose an extension of the SPEED geographic, SPEED-3D, in 6LoWPAN networks that caters for 3D routing. 'RSSI-based localisation algorithms using spatial diversity in wireless sensor networks' by S. Hamdoun et al. propose a comparative study of RSSI-based localisation algorithms using spatial diversity in WSNs. In this paper the authors show that exploiting spatial diversity by using multiple antenna systems improve significantly the accuracy of the location estimation. 'Reliable multicast as a Bayesian coalition game for a non-stationary environment in vehicular ad hoc networks: a learning automata-based approach' by N. Kumar et al. propose a new approach called reliable multicasting in non-stationary environment as a Bayesian coalition game using learning automata (RMBCG-LA) for VANETs. 'An energy-efficient and client-centric data streaming technique on smartphones' by A. Abogharaf et al. present a novel, energy-efficient and purely client-centric video downloading algorithm with three tunable parameters namely, buffer size, low water mark and socket-reading size. Finally, time bound broadcasts in VANETs are required to be verified before expiration. In the paper entitled 'Efficient authentication approach for highly dynamic vehicular ad hoc networks' by K. Grover et al., the authors present a practical and effective mobility based probabilistic signature verification solution to reduce packet loss ratio, particularly with the dynamically changing topology of highly mobile vehicles.

Two papers are about system application. Excellent medical care quality not only involves upgrading of the quality staff, but also the enhancement of information systems to maximise the results. In the paper entitled 'Developing a wireless based dynamic management mechanism for intravenous drip scheduling' by C.L. Chen et al., a system built in a mobile nursing station accompanied by a high-tech device installed in the infusion drip equipment transmitting signals through a ZigBee wireless network is proposed. This system will reschedule previous processing ranks to assist nurses in taking care of routine medical operations efficiently. 'SocioCar: a transient social vehicular network' by R. Esmaeilyfard et al. develop a transient social vehicular network service to inspire the users to communicate quickly by reducing social constraints. Two papers address resource management.

Three papers address resource management issues. 'Spectrum sharing model for OFDMA macro-femtocell networks' by R. Estrada et al. propose a spectrum sharing approach that aims to maximise the network throughput based on linear programming. 'QoE preserving resource scheduling for M2M terminals and human users in LTE networks' by I. Abdalla and S. Venkatesan study the impact of supporting a large number of Machine to Machine (M2M) communication terminals in the 4th Generation (4G) Long Term Evolution (LTE) wireless networks. In this paper the authors try to accommodate the large number of M2M devices without negatively impacting the human subscribers' Quality of Experience by dividing the available radio resources between human users and M2M devices. 'A resource management scheme and its performance analysis for integrated wireless and mobile networks with multiple traffic' by Z.J. Zhang et al., propose a resource management scheme to support multiple traffic in an integrated wireless and mobile network.

The special issue concludes with an article entitled 'Evaluating 3D wireless grids as parallel platforms', authored by A.M. Kamali et al. In this paper a novel 3D wireless grid for a new style of parallel platform is introduced. According to the evaluation results, the authors believe that it is the right time to start thinking about using wireless devices in parallel platforms.

As the guest editors of this special issue, we would like to thank all authors who have submitted papers to the special issue and in particular those whose papers have been accepted for this special issue. Assistance from the editorial staff of the *IJAHUC* is also much appreciated. Besides, the guest editors wish to acknowledge all those who have generously given their time to review the papers submitted for consideration for this special issue. Finally, our special thanks go to Professor Yuh-Shyan Chen and Professor Han-Chieh Chao (Editor-in-Chief) for their valuable support throughout the preparation of this special issue.