Editorial

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Biographical notes: Naveen Chilamkurti is currently working as a Senior Lecturer at Department of Computer Science and Computer Engineering, La Trobe University, Australia. He received his PhD from La Trobe University. He is also the Inaugural Editor-in-Chief for *International Journal of Wireless Networks and Broadband Technologies* launched in July 2011. He has published about 105 Journal and conference papers. His current research areas include intelligent transport systems (ITS), wireless multimedia, wireless sensor networks, vehicle to infrastructure, vehicle to vehicle communications, health informatics, mobile communications, WiMAX, mobile security, mobile handover, and RFID. He currently serves on editorial boards on several international journals. He is a senior member of IEEE. He is also an Associate Editor for Wiley *IJCS*, *SCN*, Inderscience *JETWI*, and *IJIPT*.

In the past few decades, a technological revolution has occurred that has changed the way we live in dramatic ways. This technological revolution is the result of the emergence and evolution of a wide variety of new wireless networking technologies. Now people using these technologies are able to access the network and control many applications at will with their handheld devices anywhere, anytime. Although these technologies have made a long lasting impact in the revolution, but it has also opened up various challenging issues which are yet to be resolved to make them more efficient and cost-effective. Wireless technologies are used in mobile cellular networks, wireless access network, mobile adhoc networks (MANET), wireless sensor networks (WSNs), and wireless mesh networks (WMNs). The very first issue is the efficient use of available resources to reap the maximum benefits of these new technologies. In addition, there are other major challenges that still need to be addressed and these include multimedia transmission, access control mechanism, efficient resource allocation, energy efficient communication, data dissemination with respect to mobility of nodes, channel allocation, context aware information for routing decision, service selection, etc.

Long term evolution (LTE) standard is expected to dominate next generation networks. Voice over IP (VoIP) service will be introduced on the mobile networks, using LTE technology, the quality will be high and cost of calls will be low. In 'Performance of LTE network for VoIP users', A. Asheralieva, J.Y. Khan and K. Mahata analysed the performance of VoIP services on the LTE network using the fully dynamic (FD) and the semi-persistent packet (SMP) packet scheduling techniques. Authors in this work analysed and simulated the packet scheduling techniques to enhance the quality of service (QoS) of the VoIP services. The simulations are based on OPNET VoIP services on LTE incorporation G.711 and G.723 speech decoders. The simulation results shows that the VoIP capacity of LTE

network can be significantly increased if the low bit rate codec, such as G.723.1, is used for VoIP services.

In 'A new BlueGreen methodology for designing next generation networks', W. Liu, H. Sirisena and K. Pawlikowski proposed a novel BlueGreen methodology to rethinking and redesigning network protocols and infrastructures so as to satisfy the criteria of being service resilient, energy efficient and eco-friendly. The authors showed that the algebraic connectivity, adopted from spectral graph theory, namely the second smallest eigenvalue of the Laplacian matrix of the network topology, is a better numerical descriptor that characterises the network's survivability than the average node degree that has been traditionally used. Using a case study, the authors proved that this method is energy efficient and achieves BlueGreen targets as proposed.

WMNs have emerged as a leading technology for providing various cost effective services to the end users in recent times. In 'Agent assisted mobility and load aware fast handoff scheme in wireless mesh networks', N. Kumar and N. Chilamkurti proposed a new agent assisted mobility and load aware fast handoff scheme (AMLFH) in WMNs. Using agents deployed on mesh gateways, the authors monitor the load status on the respective region to guide the incoming mobile clients to the suitable mobile gateways for handoff. Agents exchange the gateway load index (GLI) values in their respective regions before starting the handoff procedure. The results indicate that the proposed scheme is effective and has less delay compared to existing handoff mechanisms.

Due to recent deployment of 4G wireless systems, video transmission over these next generation networks are topic of research. In 'Hierarchical DWT-based optimal diversity power allocation for video transmission in OFDMA/MIMO wireless systems', S. Mahajan and A.K. Jagannatham proposed a novel algorithm for optimal

subcarrier power allocation towards video transmission in OFDM and MIMO-based 4G wireless systems. Using exclusively employed partial channel state information (CSI) feedback based on the order statistics of the allocated subcarriers in OFDMA system, the authors reduced the communication overhead on the reserve link, thus reducing complexity and enhancing throughput. Simulation results demonstrate superior performance of the proposed optimal power allocation schemes over past power allocation schemes.