Editorial

Al-Sakib Khan Pathan

Department of Computer Science and Engineering,
Southeast University,
Banani, Dhaka 1213, Bangladesh
Email: sakib.pathan@gmail.com
Email: spathan@ieee.org

Biographical notes: Al-Sakib Khan Pathan received his PhD in Computer Engineering in 2009 from the Kyung Hee University, South Korea, and BSc in Computer Science and Information Technology from the Islamic University of Technology (IUT), Bangladesh in 2003. He has several notable publications in the areas of networking, security, cloud, wireless technologies, and some multidisciplinary issues, some of which earned him awards. He is currently an Associate Professor of the CSE Department at Southeast University, Bangladesh. He is serving as the Editor-in-Chief/Editor/Guest Editor of several journals, as well as a Chair and committee member in many prestigious conferences. He is a senior member of IEEE.

Wireless networks have become an integral part of our lives today. In the past decade, wireless technologies advanced significantly to allow numerous devices to be connected with each other via wireless communication medium. Smart gadgets and high-powered wirelessly connected devices have penetrated many of our daily activities. People are constantly using their online presence to drive transformation of societies, to raise timely issues that need to be addressed, to help build awareness of various matters, and so on – all of these activities, with the aid of *anywhere-anytime* communication, are now possible because of easily usable wireless connectivity. If we consider our surroundings today, especially in the urban areas, we are in reality immersed into numerous wireless signals and this fact has become so common that we often do not even fully recognise how our *tech-life* has changed significantly. For instance, a smartphone today can have simultaneous internet connectivity via Wi-Fi network and regular cellular network. With the aid of appropriate equipment, satellite connection is also possible to achieve. When a user is browsing the internet using the local Wi-Fi, if it goes down, the internet could still be accessed via a cellular network's infrastructure or vice versa, to get seamless internet connectivity. Other technologies support downloading, uploading and sharing even large-sized electronic files from device to device without the use of any wire or solid medium. Applications such as *WhatsApp* could run in a smooth fashion for receiving and sending time critical messages, online ticket booking applications could allow quick booking of bus tickets (for instance), video chatting applications allow one to directly communicate with one's friend, a car's doors could be unlocked/locked with just a simple pressing of a button, video played on a smartphone can be projected on a smart TV's screen, wirelessly, and so on, all of which get the desired flexibility using wireless mechanisms.

The use of wireless communication has made life easier for both the rich and the poor. It has significantly reduced the gap between developed and developing countries in terms of how people communicate and how they do even their professional work. For instance, a farmer in a remote village in a developing country could simply make a mobile phone call to know the latest price of grain that he would like to take to the town to sell on a particular day. Today, it does not need one to have formal literacy or sophisticated technical know-how to use various applications and even to browse the internet to check the latest prices of goods. Online and mobile banking has made it easier for even an illiterate person to do monetary transactions using simple yet effective wireless and mobile applications. The real impact of these mechanisms with the aid of wireless technology could be observed clearly in the developing countries while the developed countries were the main beneficiary of these in the past.

The scope of today's wireless applications and innovative approaches to use those for various sectors in life is indeed very wide. A lot of researchers in both academia and industry are focusing on finding yet more novel solutions for existing problems in the wireless arena and together are preparing to deal with possible new challenging issues that may appear in the future.

Considering the dynamism and wide range of wireless issues, the objective of this special issue was to address various aspects of the advances in wireless networks technologies and their applications.

A good number of papers were submitted to the special issue and finally, after rigorous review process, only seven papers were accepted. The titles of the papers are:

- Paper 1: Checkpointing distributed application running on mobile ad hoc networks

- Paper 2: Cluster-based routing protocol using traffic information

- Paper 3: Detection and mitigation of pulse-delay attacks in pairwise-secured wireless sensor networks

- Paper 4: PSCAR: a proactive-optimal-path selection with coordinator agents assisted routing for vehicular ad hoc networks

- Paper 5: EAHKM+: energy-aware secure clustering scheme in wireless sensor networks

- Paper 6: RPSE – reenactment of data using polynomial-variant cryptographic scheme in sensor environment

- Paper 7: Compact UWB BPF with notch-band using SIR and DGS.

Some of the submissions were the revised and substantially extended versions of selected papers that had been presented at the International Conference on Advanced Wireless, Information, and Communication Technologies (AWICT 2015) (http://www.awict.net/). Hopefully, the papers that are finally included in this issue will be useful for the researchers and practitioners in this area.