
Editorial

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The last two decades have witnessed a rapid growth in research on smart grid (SG) and green communications. The *International Journal of Smart Grid and Green Communications (IJSGGC)* has been launched to provide a medium for researchers in these areas to publish state-of-the-art research results. The objective is to enable the international research community to help learn the research advancements in this area from each other's work.

IJSGGC is initially planned to be released at the rate of four issues per year. We are pleased to launch this issue as the *inaugural issue* of the journal. In this issue, there are six papers.

The first of these papers is entitled 'Identified improvements of wireless sensor networks in smart grid: issues, requirements and challenges', and is authored by Ines Hosni and Nouredine Hamdi investigated the communications research challenges and opportunities in the areas of SG and smart metres. The authors focus on some of the main communications challenges to achieve interoperability and future proof, SG/metering networks. They describe the basic taxonomy and proposed a model to break the network data collection of wireless sensors.

Farhan Beg studied the journey of the Indian power sector through time, analyses various demand and supply scenarios which are mutually exclusive and also assesses various issues facing the Indian power system. The author highlighted the ICT infrastructure concepts as well as various technologies involved to deploy a SG infrastructure and thereby leading to a conception of safety by means of design and modification resulting in an enhanced electricity management environment and hence leading to energy independence and an electrical grid that is much more reliable, secure, efficient, and greener.

V. Madhu Viswanatham, A.A. Chari and V. Saritha propose a region-based group and hierarchical key management protocol. The authors claim that protocol becomes scalable and reconfigurable dynamically by grouping the smart metres which behave as nodes in the SG based on the range of distribution substation (DSS). The authors show that their protocol improves the mobility of nodes.

Mostafa Hefnawi proposes an adaptive multiple input multiple output-beam forming scheme (MIMO-BF) for cognitive radio enabled broad band SG systems concurrently sharing the same spectrum with the primary network (PN) and employing orthogonal frequency-division multiplexing with space division multiple access (OFDM-SDMA) technologies. The author establishes through simulations the superiority of their proposed model over the existing models.

Pradeep Reddy and P. Venkata Krishna propose a scheme for connection admission control based on energy aware cross layer mechanism, to address the problems relating to the allocation of bandwidth for real-time and non-real-time traffic utilising a shared database. The shared database contains the energy available at the node, routing information, prediction of congestion and issues of congestion control in order to maximise the throughput of the network. They have established the superiority of their proposed scheme through simulations.

In the last paper in this issue, M.V. Rathnamma and P. Chenna Reddy propose a new secure routing mechanism for MANETS. This mechanism uses trust-based method to establish secure routes. The authors claim that the mechanism is a family relationship-based approach in which security is established by considering certain parameters which can be used to determine the ingenuity of the nodes. The authors aim at providing an improved AODV protocol called secure family-based routing protocol (SFRP) which involves less resource consumption with good security.

We hope that readers will enjoy reading these papers and find them valuable. The readers are encouraged to contact the authors, if they need any further clarification regarding their works presented.

Finally, we take this opportunity to express a few words of our thankfulness. First, we would like to thank all the authors for considering *IJSGGC* as a medium for publishing their work. We are also very much thankful to the members of the editorial board for their support in planning the journal and reviewing several papers. Last, but not the least, we would like to thank the staff at Inderscience for the continuous support and assistance they have provided us in the prepublication process.