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## Editorial

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**Biographical notes:** Brijesh Iyer holds a PhD in RF and Communication Engineering from the Indian Institute of Technology, Roorkee. Currently, he is an Associate Professor at the Department of Electronic and Telecommunication Engineering, Dr. B.A.T.U. Lonere, Raigad. His research interests include NANO photonics/RF front end design, pervasive healthcare system design and allied signal/image processing. He has published research papers in several peer-reviewed journals, conference proceedings and authored two books. He is a reviewer for many high impact international journals and actively serves on various committees, like the IEEE-MTTS, IETE, CSI, IEANG, and ISTE.

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N.P. Pathak is an Associate Professor at the Indian Institute of Technology, Roorkee. He completed his PhD in Millimetre Wave Integrated Circuits at IIT, Delhi. He has developed many courses at the IIT Roorkee, e.g., RF and mixed signal circuits, communication systems and techniques, optical communication, and microwave/millimetre wave integrated circuits. He has worked on many projects as a Principal Investigator, and has published in many journals and conference proceedings. In addition, he has developed two key technologies with applications in defence, healthcare, disaster management, medicine, and the veterinary sciences.

We would like to welcome you to the special issue on ‘Next generation technologies in computing, communication and signal processing’ of *International Journal of Intelligent Systems Design and Computing*.

This issue is a collection of extended version of selected papers from ICCASP-2018. This special issue of the journal thus subscribes to a broad understanding of innovation in the field of engineering and technology in order to provide a wide platform for academic and practitioner discussion. We are interested to open a discussion on how innovation may be an integral part of future trends of the research landscape worldwide.

In this special issue of the *IJISDC*, the authors’ disciplinary backgrounds are diverse, ranging from computing science, knowledge management engineering to digital image and signal processing.

The first contribution is reported by Ravi Kiran Varma Penmatsa and Padmaprabha K. entitled as ‘Web phishing detection: feature selection using rough sets and ant colony optimisation’. This paper proposes rough-set and ant colony optimisation technique for attribute minimisation on standardised phishing dataset. Experiment results show improvement in performance with reduced attributes for web phishing detection.

The second contribution is the research work by Nada Al-Humidi and Girish Chowdhary of SRTMU Nanded-India entitled as ‘Selection of energy efficient path by applying particle swarm optimisation method in wireless sensor networks’. In this paper, energy efficiency-based clustering and particle swarm optimisation (EECPSO) method is proposed. EECPSO performance is evaluated and justified through extensive analysis, comparison, and implementation. The results show that the proposed method is highly efficient and effective in term of balancing the consumption of energy and prolonging network lifetime.

The third contribution is entitled as ‘The detrended fluctuation and cross-correlation analysis of EEG signals’ by Sunil Hirekhan and Ramchandra Manthalkar. The paper reports a comparison of detrended fluctuation and cross-correlation analysis of the EEG signals pre and post-meditation (mindfulness) intervention.

‘Performance analysis of VoIP under the effect of interference and during conference call in WLAN network using OPNET modeller’ is reported by Poonam Chakraborty and Aparna Telgote. This research is carried out to evaluate the quality of voice in VoIP experimentally, under the effect of interference and during conference calls. The simulations were carried out using Riverbed modeller academic edition 17.5. The results of the analysis and the performance evaluation are presented in this paper. This work can guide researchers and designers to design a network for VoIP services and its deployment based on their requirements.

‘Identification and classification of historical Kannada handwritten document images using LBP features’ is reported by Chandrashekar Gudada and Parashuram Bannigidad. In this work, the age-type identification and classification of historical Kannada handwritten document images is done by applying text-block wise segmentation method, extracting the LBP features and using LDA, K-NN and SVM classifiers. The purpose of the present work is to identify the document script of the dynasties, whether it belongs to Hoysala dynasty or Vijayanagara dynasty or Mysore Wodeyar’s dynasty? As per the results obtained from the experimentation, it is proved that the SVM classifier has got good classification ability comparatively with respect to LDA and K-NN classifiers for historical types of Kannada handwritten document images of all age-type scripts.

Although the various authors come from different disciplines and use different research frameworks, they all explored the topic of next generation science and technology. We hope that this special issue of the *IJISDC* will benefit readers in their work, may that be research or practice, and will encourage the exchange of critical thoughts about innovation in education.