# Editorial

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**Biographical notes:** D. Jude Hemanth received his BE degree from Bharathiar University, India in 2002, ME degree from Anna University, India in 2006 and PhD degree from Karunya University, India in 2013. He has published several research papers in several SCIE indexed international journals and reputed international conferences. He has written books on 'soft computing' approach with leading international publishers. He has organised several international conferences across the globe. He also serves in various positions of editorial board of many international journals. He is a member of IEEE TC on soft computing (SMC Society) and IEEE TC on neural networks (Computational INTELLIGENCE SOCIETY). His current areas of interest are soft computing techniques, image processing and biomedical applications.

Aboul Ella Hassanien is the Founder and Chair of the Scientific Research Group in Egypt. He has authored/co-authored over 500 research publications. He has served as the general chair, co-chair, program chair, program committee member of various international conferences. He has received the Best Young Researcher Award in 1990 from Scientific Academic Research, Cairo, Egypt and received the Excellence Younger Researcher Awards from Kuwait University for the academic year 2003/2004. He has gain the JSPS fellowship, Tokyo Institute of Technology, Japan. His research interests include computational intelligence, medical image analysis, network security, animal identification and multimedia data mining.

Image processing is one of the significant computational areas which have found application in almost all practical scenarios. The application of soft computing techniques in the field of image processing has become increasingly important because of the numerous advantages. However, there is always scope for improvement in these traditional soft computing approaches. One way of improvement can be achieved by developing an approach which is actually a combination of several soft computing techniques. This special issue has been proposed with an objective to bring out the

various possible hybrid soft computing approaches which may be superior to their traditional counterparts.

The first paper deals with differential evolution and genetic algorithm techniques for optimisation applications in JPEG algorithm. Experimental results portray the superior nature of the proposed approach over the conventional approaches. The second paper is a survey paper which brings out the advantages of hybrid approaches specifically in the area of image compression. Several application fields are covered in this work besides telemedicine applications which is the main focus of this paper. The third paper deals with image steganography in which the combination of genetic algorithm and Gaussian models are used for processing the images. Colour images are used in this work for data hiding which is a complex process. An extensive experimental analysis is performed which justifies the hybrid approach of evolutionary computation and statistical processing.

Machine learning algorithms are discussed in the fourth paper which deals with image segmentation. In this work, blood cell images are used for the experimental analysis. The segmentation methodology is based on visual attention which is one of the emerging areas in soft computing. The final paper deals with pattern recognition application in which colour features are used for processing the images. This work is mainly deployed on paddy crop images which will be highly useful for agricultural applications. The work also suggests high quality results for the proposed technique.