Editorial

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In the last decade, evolutionary computation, fuzzy logic and swarm intelligence have experienced an incredible growth in both theoretical analyses and industrial applications. These techniques are quite popular for their adaptability and suitability of use in various real life applications. The scope of both evolutionary computation and swarm intelligence techniques has a growth more than their original evolving aspects such as biological evolution, nature and behaviour of swarm elements, etc. On the other hand, fuzzy logic has witnessed a great success in solving a number of real life automatic control applications. This special issue is dedicated for reporting latest research and new developments in these multidisciplinary fields of computing. The issue will be helpful to promote original research articles on theoretical, experimental, and practical aspects of swarm intelligence, evolutionary computation and fuzzy logic. It offers readers reports on advances in the understanding and utilisation of systems those are based on the principles of swarm intelligence and evolutionary computation along with fuzzy logic. Emphasis is given to such topics as the modelling and analysis of collective biological systems; application of biological swarm intelligence models to real-world problems; and theoretical and empirical research in ant colony optimisation, particle swarm optimisation, swarm robotics and other swarm intelligence algorithms.

This special issue comprises of some interesting and important articles on the applications of swarm intelligence, evolutionary computation and fuzzy logic-based approaches to solve some of the diversified problem domains such as diagnosis of atrial fibrillation, task scheduling in distributed systems, avoidance strategies and neighbourhood topologies in PSO algorithm, power factor and motor efficiency optimisation of three-phase linear induction motor, network reconfiguration problem in distribution system, optimal dipole planar antenna array design for different UHF band applications, likelihood DOA estimation in wireless sensor networks, etc. The articles are well described and are the real reflections of some recent advances of evolutionary

computation, swarm intelligence and fuzzy logic. This special issue covers both the theory and applications of the above mentioned techniques embedded to the diversified spanning fields of evolutionary computation, neural networks, connectionist system, artificial intelligence, fuzzy systems, wireless networks, fault tolerant systems, etc. The wider use and successful applications in various diversified problem domains discussed in this special issue show the efficiency of these methods. As guest editors, we hope that spectrum of research works covered under this special issue will be of value for whole host of readers/researchers working in the domain of evolutionary computing, swarm intelligence, fuzzy logic and related areas. It is important to have a good balance of different article type within the special issue. We are grateful to our authors who have contributed their valued research to this special issue and always supported us during the reviewing of the articles. The technical standards and quality of published articles in this special issue is based on the strength and expertise of the reviewer board members who have been grossly involved in providing high quality reviews for the submitted papers. Our special thanks go to the Editor-in-Chief of the *International Journal of Swarm Intelligence* (*IJSI*), Dr. J.C. Bansal for all his continued guidance and input on the policies of the journal as well as for his volunteered significant time despite of his busy schedules.