Editorial

Xingjuan Cai*

Division of System Simulation and Computer Application,
Taiyuan University of Science and Technology,
No. 66 Waliu Road, Wanbailin District,
Taiyuan, Shanxi, 030024, China
E-mail: cai_xing_juan@sohu.com
*Corresponding author

Uday K. Chakraborty

Department of Mathematics and Computer Science,
University of Missouri,
St. Louis, MO 63121, USA
E-mail: udaychakra@yahoo.com

Biographical notes: Xingjuan Cai received her BS and MS in School of Computer Science and Technology from Taiyuan University of Science and Technology in 2003 and 2008, respectively. She is now an Assistant Professor with the School of Computer Science and Technology, Taiyuan University of Science and Technology, Shanxi, P.R. China. Her current research interests include swarm optimisation and stochastic optimisation.

U.K. Chakraborty is currently an Associate Professor of Computer Science at the University of Missouri, St. Louis and held positions at CAD Centre, Calcutta, CMC Limited (Calcutta and London), Jadavpur University, Calcutta and GMD Forschungszentrum Informationstechnik (now Fraunhofer-Gesellschaft), Bonn. His research interests include evolutionary algorithms, soft computing, scheduling, computer graphics and energy. He is (co)author/editor of three books and over 90 papers. He is an Area-editor of *New Mathematics and Natural Computation* and an Editor of *Journal of Computing and Information Technology* and serves on the Editorial Boards of three other journals. He guest-edited special issues on evolutionary computation of several journals and served as Track Chair or Programme Committee Member of numerous international conferences.

We are pleased to present this special issue on differential evolution. Differential evolution is one of the newest members of the evolutionary computation family, one that has generated a great deal of interest among scientists and engineers ever since Rainer Storn and Kenneth Price published their seminal work.

The nine papers in this special issue have been selected, after review, from the 26 that were submitted in response to the call-for-papers. The selected papers include some of the latest research on how differential evolution works and how it can be improved, as well as novel applications.

The paper by Neri et al. proposes a new differential evolution method for noisy fitness functions. Chauhan and Ravi develop a hybrid strategy for unconstrained optimisation, combining differential evolution and threshold accepting. The paper by Chakraborty and Turvey provides an empirical analysis of the techniques used for converting a floating-point vector to an integer permutation for solving the permutation flow shop sequencing problem with differential evolution. Lakshminarasimman presents a mixed integer hybrid differential evolution strategy for solving a practical problem in power systems. Gujarathi and Babu apply a hybrid multi-objective differential evolution algorithm to a problem in chemical engineering. In the paper by Naveen et al., a problem in the banking industry is solved by a radial basis function neural network trained with differential evolution. Sheta applies differential evolution to analogue filter design. Kalegari and Lopes apply differential evolution to protein structure optimisation. A computer graphics problem is solved by differential evolution in the paper by Schaefer and Nolle.

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