

Preface

This AISC volume contains the papers presented at the International Conference on Artificial Intelligence and Evolutionary Computations in Engineering Systems (ICAIECES) held during 22 and 23 April, 2015 at Velammal Engineering College, Chennai, India. ICAIECES 2015 received 312 paper submissions from various countries across the globe. After a rigorous peer-review process, 123 full length articles were accepted for oral presentation at the conference. This corresponds to an acceptance rate of 42 % and is intended for maintaining the high standards of the conference proceedings. The papers included in this LNAISC volume cover a wide range of topics on Genetic Algorithms, Evolutionary Programming, and Evolution Strategies such as AIS, DE, PSO, ACO, BFA, HS, SFLA, Artificial Bees and Fireflies Algorithm, Parallel Computation, Membrane, Grid, Cloud, DNA, Mobile Computing, Computer Networks and Security, Data Structures and Algorithms, Data Compression, Data Encryption, Data Mining, Digital Signal Processing, Digital Image Processing, Watermarking, Security and Cryptography, AI methods in Telemedicine and eHealth, Document Classification and Information Retrieval, Optimization Techniques, and their applications for solving problems in these areas.

In the conference, separate sessions were arranged for delivering the keynote address by eminent members from various academic institutions and industries. Four keynote lectures were given on 22 and 23 April, 2014. On the first day, Dr. Bale V. Reddy, Professor and Chair, Faculty of Engineering and Applied Science, University of Ontario, Canada gave a talk on “Research Advances in Natural Gas, Biomass and Solar Power Generation Systems and Energy Management” and in the post-lunch session, Dr. B.K. Panigarhi, Associate Professor, Department of Electrical Engineering, IIT Delhi, gave a lecture on “Optimization of Relay Operation” and covered various optimization techniques and their applications to power systems. On the second day, Dr. Ramazan Bayındır, Professor, Department of Electrical and Electronics Engineering, Gazi University, Turkey, gave a talk on “A Comprehensive Study on Microgrid: Modelling, Control, Stability” and in the post-lunch session, Dr. Swagatam Das, Assistant Professor, Electronics and Communication Sciences Unit, Indian

Statistical Institute, Kolkata, gave a lecture on “Differential Evolutionary Algorithm and its Application to Engineering Systems” and clarified the queries raised by the participants. All these lectures generated great interest among the participants of ICAIECES 2014 in paying more attention to these important topics in their research work.

We take this opportunity to thank the authors of all the submitted papers for their hard work, adherence to the deadlines, and for suitably incorporating the changes suggested by the reviewers. The quality of a refereed volume depends mainly on the expertise and dedication of the reviewers. We are indebted to the Program Committee members for their guidance and coordination in organizing the review process.

We are indebted to the Chairman, Chief Executive Officer, Advisor, Principal, Faculty members, and Administrative Personnel of Velammal Engineering College, Chennai, for encouraging us to organize the conference on such a grand scale. Also, we thank Mr. Aninda Bose, Springer India, for the suggestions in bringing out this AISC series. We thank all the participants for their interest and enthusiastic involvement. Finally, we thank all the volunteers whose tireless efforts in meeting the deadlines and arranging every detail meticulously made sure that the conference could run smoothly. We hope the readers of these proceedings find the papers useful, inspiring, and enjoyable.

Artificial Intelligence and Evolutionary Computations in
Engineering Systems

Proceedings of ICAIECES 2015

Dash, S.S.; Bhaskar, M.A.; Panigrahi, B.K.; Das, S. (Eds.)

2016, XX, 1360 p. 813 illus. in color. In 2 volumes, not
available separately., Softcover

ISBN: 978-81-322-2654-3