

# Preface

This AISC volume contains the papers presented at the *International Conference on Artificial Intelligence and Evolutionary Algorithms in Engineering Systems* (ICAEES) held on 22 and 23 April, 2014 at Noorul Islam Centre for Higher Education, Noorul Islam University, Kumaracoil. ICAEES 2014 received 526 paper submissions from various countries across the globe. After a rigorous peer-review process, 235 full length articles were accepted for oral presentation at the conference. This corresponds to an acceptance rate of 45 % and is intended for maintaining the high standards of the conference proceedings. The papers included in this LNAICS 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. Eight keynote lectures were given in two different venues as parallel sessions on 22 and 23 April, 2014. In the first session, Dr. Shivashankar B. Nair, Professor and Head, Department of Computer Science and Engineering, Indian Institute of Technology, Guwahati gave a talk on “Emulating Bio-Inspired Mechanisms Using Mobile Agents” in Venue 1 and Dr. D. Deva Raj, Professor, Department of Electrical and Electronics Engineering, Kalasalingam University gave his lecture on “Multi Objective Evolutionary Algorithms” and covered various evolutionary algorithms and its applications to Power Systems in Venue 2. In the second session, Dr. Rusli Haji Abdullah, Software Engineering and Information System Department Faculty of Computer Science and Information Technology, Universiti Putra Malaysia gave his talk on “Artificial Intelligent in Knowledge Engineering: A Case of Knowledge Management System with Agent Technology Environment”

at Venue 1 and Dr. S.S. Dash, Professor, SRM University, Chennai gave his lecture on “Intelligence Computing Toward Renewable Energy Applications” and clarified the queries raised by the participants at Venue 2. He has explained the importance of soft computing in solar plant, wind mills, etc. Similarly on the second day in the first session, Dr. Ramachandran Kaimal, Professor and Chairperson, Department of Computer Science and Engineering, Amirta School of Engineering delivered his keynote address on “High Dimensional Data Analysis” at Venue 1 and the lecture by Prof. B.K. Panigrahi of IIT Delhi, India, on “Recent Advances in Bio Inspired Computing” gave an overall idea about the need for bio-inspired computing applications to the society at Venue 2. Dr. P. Karuppanan, Associate Professor, from National Institute of Technology, Allahabad gave a talk on “Artificial Intelligence Applications in Embedded Systems” at Venue 1 and Dr. Swagatam Das, from Indian Statistical Institute, Kolkata gave his lecture on “Computational Swarm Intelligence in Engineering Systems” and discussed the applications of Intelligent Systems in real-life problems at Venue 2. All these lectures generated great interest among the participants of ICAEES 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 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 would also like to thank our sponsors for providing all the support and financial assistance. We are indebted to the Chairman, Vice-Chancellor, Advisors, Pro-Vice-Chancellor, Registrar, Faculty members, and Administrative Personnel of Noorul Islam Centre for Higher Education, Noorul Islam University, Kumaracoil for supporting our cause and encouraging us to organize the conference on a grand scale. We would also like to thank all the participants for their interest and enthusiastic involvement. Finally, we would like to 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.

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