
Preface

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Biographical notes: P. Helen Chandra received her PhD in Mathematics from the University of Madras, Chennai, India, in 2004. She has been the Teaching Faculty of the Department of Mathematics from 1990 to 2019 and served at different positions like Head of the Department of Computer Science, Vice Principal, Controller of Examination and Secretary of Jayaraj Annapackiam College for Women (Autonomous), Periyakulam, Theni, India. She has presented papers in India and abroad and published papers in national and international journals. Her areas of interest include, picture languages, DNA computing, membrane computing, artificial cell system, interactive system and fuzzy mechanism.

G. Michael Rosario has 37 years (from 1982 to 2019) of teaching experience at the Department of Mathematics, Jayaraj Annapackiam College for Women (Autonomous) Periyakulam, Tamil Nadu, India. She also served as the Vice Principal and Head of the Department of the same institution. Her research interest includes applied probability theory, inventory models, stochastic models, reliability theory and application of fuzzy numbers in mathematical models. She has published numerous research papers in various reputed national and international referred journals. She is a life member of the Operational Research Society of India.

S. Athisaya Ponmani is a Faculty of the Department of Mathematics, Jayaraj Annapackiam College for Women (Autonomous), Periyakulam, affiliated to Mother Teresa Women's University, Kodaikanal, Tamil Nadu, India from 1992 to till date. Her research area is topology and she has published many research articles. She has received her PhD at the Madurai Kamaraj University, Madurai, in 2009.

K.G. Subramanian was with the Faculty of the Department of Mathematics, Madras Christian College, Chennai, India, from 1970 to 2006. He was a Visiting Professor at the Universiti Sains Malaysia from 2007 to 2015. His main areas of research include theory and applications of formal languages, combinatorics on words and biologically motivated computing models. He has many publications in reputed journals. He was awarded a UGC (India) Emeritus Fellow (2016–2018).

An International Conference on ‘Emerging Trends in Mathematical Sciences and Technology’ (ICETMST 2018) was organised during December 20–21, 2018, by the Research Centre and PG Department of Mathematics, Jayaraj Annapackiam College for Women, Periyakulam Theni, Tamil Nadu, India, affiliated to Mother Teresa Women’s University, Kodaikanal. The conference provided forum for the dissemination of original research results, new ideas and developments in both theory and practice of mathematical sciences.

This special issue related to ICETMST 2018 on ‘Mathematical modelling and computation’ in the *International Journal of Artificial Intelligence and Soft Computing*, which had an open call, consists of papers from a selection of papers presented in ICETMST 2018 and another paper, in total seven papers, all of which have been accepted after having undergone reviews according to the journal procedure and standards.

The paper by J. Arockia Jeyakumar and T. Rajaretnam discusses the recognisability of a probabilistic automaton with respect to homomorphism of strings. M. Nithya Kalyani, in her paper, provides a new generative model for generating picture languages based on Diamond tile self-assembly shape grammar system while A. Dharani and R. Stella Maragatham generate two-dimensional picture array languages consisting of equi-triangular picture arrays using equal matrix type of rules. The article by T. Nancy Dora and S.M. Saroja Theerdús Kalavathy deals with an interesting probability game related to coin arrangements in structured hexagonal interactive system. C.K. Roopa et al. propose efficient medical data segmentation using ant colony optimisation and modified intuitionistic fuzzy C-means clustering. B. Rama and G. Michael Rosario use fuzzy numbers to provide an inventory model with penalty cost. V. Thanga Murugeshwari and J.D. Emerald Princess Sheela develop graph P systems with context-free type of rules. R.S. Barkavi and P. Helen Chandra simulate universal gates using P systems.

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