IJCIS: Call for Papers Special Issue
"Bio-Inspired Optimization Techniques for Engineering Applications"

Guest Editors:

Dr. Harish Garg

Aims and Scope

This special issue will provide a systematic overview and state-of-the-art research in the field of Soft Computing and its application to various engineering applications. The primary task of this special issue is on some hybrid algorithms for solving the real world complex constrained optimization problems for modelling of various benchmark design problems and hence present an efficient technique using bio-inspired optimization. We invite the researchers to contribute some new algorithm and its applications, as well as review articles that will stimulate the continuing research effort on applications of the bio-inspired optimization to model engineering design and constrained optimization problems.

Relevance to this journal

Relevance to the main scope of this journal:

    This issue is related to the real-world application of the soft computing techniques.

Main topics and quality control

During the last three decades, unconventional methods have become an important class of efficient tools, providing solutions to complicated engineering problems. Among these methods, bio-inspired optimization (BIO) algorithms include evolutionary algorithms, swarm intelligence, artificial neural networks, artificial life, artificial immune systems, quantum computing and many more have to be mentioned as one of the most eminent approaches. BIO refers to a collection of computational techniques in computer science, artificial intelligence, machine learning and some engineering disciplines which attempt to study, model and analyze very complex phenomena. Particle Swarm Optimization, Artificial Bee colonies, Biography based optimization, Artificial Neural networks (ANNs), and evolutionary algorithms (EAs) are the most popular BIO techniques and has been widely used in these days to get the optimal solution or near to optimal solution.

We welcome authors to present new techniques, methodologies, mixed method approaches and research directions unsolved issues. Topics of interest include, but are not limited to:

- State-of-the-art on a specific theme
- Evolutionary Computations
- Evolutionary Strategies/Programming
- Genetic Algorithms/Programming

- Particle Swarm Optimization
- Swarm-based Algorithms
- Teaching-Learning-Based Optimization Algorithm
- Artificial Neural Network
- Hybrid algorithms
- Flower Pollination Algorithm
- Cat Swarm Optimization Algorithm
- Applications of the bio-inspired algorithms.
- Fuzzy optimization
- Constrained optimization

Applications to real-world complex problems

- Reliability optimization,
- Bioinformatics,
- Cloud computing, Control systems, Grid Computing,
- Data mining and Clustering,
- Engineering,
- Signal and Image processing, Speech Processing,
- Renewable Energy, Scheduling and Time-Tabling, Supply Chain Management,
- Expert Systems, Robotics,
- Decision Making and Risk Management,
- Human-Computer Interaction and Interface,
- Pattern Recognition, Probabilistic Reasoning.

Important Dates

Submission of papers:	**15 August 2020**
Notification of review results:	15 November 2020
Submission of revised papers:	30 December 2020
Notification of final review results:	15 February 2021

Submit your paper

All papers have to be submitted via the Editorial Manager online submission and peer review system. Instructions will be provided on screen and you will be stepwise guided through the process of uploading all the relevant article details and files associated with your submission. All manuscripts must be in the English language.

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To access the online submission site for the journal, please visit https://www.editorialmanager.com/ij-cis/default.aspx. Note that if this is the first time that you submit to the International Journal of Computational Intelligence Systems, you need to register as a user of the system first.

NOTE : Before submitting your paper, please make sure to review the journal's Author Guidelines first.

Introduction of the guest editor(s)

Dr. Harish Garg received an MSc in Mathematics from Punjabi University, Patiala, Punjab, India, in 2008 and a Ph.D. degree in applied mathematics with a specialization in reliability theory and soft computing techniques from Indian Institute of Technology, Roorkee, India, in 2013. Presently, he is working as an Assistant Professor (Senior Grade) with School of Mathematics at Thapar Institute of Engineering & Technology (Deemed University) Patiala, India.

He has authored over 208+ papers published in refereed international journals including Information Sciences, IEEE Transactions on Fuzzy Systems, International Journal of Intelligent Systems, Cognitive Computation, Artificial Intelligence Review, Applied Soft Computing, Experts Systems with Applications, IEEE Access, Journal of Intelligent and Fuzzy Systems, Expert Systems, Journal of Manufacturing Systems, Applied Mathematics & Computations, ISA Transactions, IEEE/CAA Journal of Automatic Sinica, IEEE Transactions on Emerging Topics in Computational Intelligence, Applied Intelligence, Computer and Industrial Engineering, Soft Computing, Computer and Operations Research, Journal of Experimental & Theoretical Artificial Intelligence, International Journal of Uncertainty, Fuzziness and Knowledge-based Systems, Journal of Industrial and Management Optimization, International Journal of Uncertainty Quantification, and many more. He has also authored seven book chapters. His research interests are in the fields of computational intelligence, multicriteria decision-making, fuzzy decision-making, Pythagorean fuzzy sets, computing with words and soft computing.

Dr. Garg is the Associate Editor for *Journal of Intelligent & Fuzzy Systems, Mathematical Problems in Engineering, International Journal of Computational Intelligence Systems, Journal of Industrial & Management Optimization, Complex and Intelligent Systems, Complexity*, and so on. He is the Editorial Board members of the several international journals. His Google citations are over 6200+. For more details, visit http://sites.google.com/site/harishg58iitr/