Fourth International Conference on
SOFT COMPUTING FOR PROBLEM SOLVING (SOCPROS' 2014)
At: NIT SILCHAR, ASSAM, INDIA; 27-29 DEC 2014

Program Schedule

DAY-1: 27.12.14 (SATURDAY)

10AM - 11.30AM
Inaugural Event

11.30AM - 1PM
TALK BY PROF. N. R. PAL, ISI KOLKATA

1PM - 2PM
LUNCH BREAK

2PM - 5PM
Parallel Technical Sessions (ps)

PS1: Applications of Soft Computing Techniques (I)
SC: MP/RR/DS

PS2: Different Applications of Optimization Techniques
SC: KD/GT/NS

PS3: Different Approaches of Optimization Algorithms (I)
SC: JC/AO/JK

DAY-2: 28.12.14 (SUNDAY)

10AM - 11AM
TALK BY PROF. KIM, KOREA

11AM - 1PM
Parallel Technical Sessions (ps)

PS4: Applications of Genetic Algorithm
SC: KD/GT/DS

PS5: Soft Computing Techniques in Bio-Medical Applications
SC: MP/RR/PN

PS6: Different Approaches of Optimization Algorithms (II)
SC: JB/AO/AO

1PM - 2PM
LUNCH BREAK

2PM - 9PM
2pm - 5 pm: Tea Garden Visit
6pm - 8pm: Cultural Program
8pm - 9pm: Conference Banquet

DAY-3: 29.12.14 (MONDAY)

10AM - 11AM
TALK BY Prof. WANG, CHINA

11AM - 1PM
Parallel Technical Sessions (ps)

PS7: Applications of Fuzzy in Decision Making (I)
SC: MS/DS/AO

PS8: Advanced Approaches of PSO
SC: JB/RR/PN

PS9: Applications of Soft Computing Techniques (II)
SC: RM/AY/GT

1PM - 2PM
LUNCH BREAK

2PM - 4PM
Parallel Technical Session (ps)

PS10: Applications of Fuzzy in Decision Making (II)
SC: SR/AO/RR

Best paper Competitions
Judges: NS/ PD/ MS/ DC/ JB

4PM - 5PM
Valedictory Function

Session Chairs (SC):
- Dr. Kusum Deep (KD), IIT Roorkee
- Dr. Millie Pant (MP), IIT Roorkee (Saharanpur Campus)
- Dr. Jagdish Bansal (JB), South Asian University, New Delhi
- Dr. Ghanshyam Singh Thakur (GT), MNIT, Bhopal
- Dr. Ram Ratan (RR), DRDO
- Dr. Akhaya Kumar Ojha (AO), IIT Bhubaneswar
- Dr. Pijus Kanti De (PD), NIT Silchar

- Dr. Joong Hoon Kim (JK), Korea University, Korea
- Dr. Mausumi Sen (MS), NIT Silchar
- Dr. Anupam Yadav (AY), NIT Uttarakhand
- Dr. Rajashree Mishra (RM), KIIT Bhubaneswar
- Dr. Nidul Sinha (NS), NIT Silchar
- Dr. Deepa Sinha (DS), South Asian University, New Delhi
- Dr. Parma Nanda (PN), Galgotia University, Greater Noida
- Dr. Dibakar Chakrabarty (DC), NIT Silchar
PS1: Applications of Soft Computing Techniques (I)

ID_3  Comparison of Soft Computing Techniques for Modelling Resistance Spot Welding Process
Biranchi Narayan Panda, M V A Raju Babhualendruni, Bibhuti Bhusan Biswal and Dheerendra Singh Rajput

ID_13 Cuckoo Search Optimization for Job Shop Scheduling Problem
Shekhar Singh and Krishna Pratap Singh

ID_14 Artificial Neural Network Technique for the Solution of Non-Linear Elliptic Boundary Value Problems
Neha Yadav, Anupam Yadav and Kusum Deep

ID_40 Application of new hybrid harmony search algorithms based on cellular automata theory for solving magic square problems
Do Guen Yoo, Ali Sadollah, Joong Hoon Kim and Ho Min Lee

ID_44 Internet of Things: Route Search Optimization Applying Ant Colony Algorithm & Theory of Computation
Tushar Bhardwaj and Subhash Chander Sharma

ID_45 Multi-objective Optimization of Knitted Fabric Comfort and Ultraviolet Radiation Protection by Evolutionary Algorithm
Anindya Ghosh, Prithwiraj Mal, Abhijit Majumdar and Debamalya Banerjee

ID_46 Optimal Product Design of Textile Spinning Industry Using Simulated Annealing
Subhasis Das, Anindya Ghosh and Bapi Saha

ID_52 Hybridization of Self Organizing Migrating Algorithm with Quadratic Approximation and Non Uniform Mutation for Function Optimization
Dipti Singh and Seema Agrawal

ID_56 Design of PID and FOPID Controllers tuned by Firefly Algorithm for Magnetic Levitation System
Lalbahadur Majhi, Prasanta Roy and Binoy Krishna Roy

ID_57 Distance based analysis for base vector selection in mutation operation of differential evolutionary algorithm
Amit Khaparde, Dr. M. M. Raghuvanshi and Dr. Mrs. L. G. Malik

ID_70 A Niching Co - Swarm Gravitational Search Algorithm for Multi-modal Optimization
Anupam Yadav and Joong Hoon Kim

ID_82 RBHR: Region-Based Hybrid Routing Protocol for Wireless Sensor Networks Using AI Technique
Sonam Maurya and A.K. Daniel

ID_85 Parameter Optimization of Winner-Take-All circuit for Attention Shift using Drosophila Food-search Algorithm
Kedar Das, Tapan Singh and Krishna Lal Baishnab

ID_97 Accelerated Shuffled frog-leaping algorithm
Tarun Kumar Sharma, Millie Pant, Jitendra Rajpurohit, Shweta Sharma and Bhagyashree Naruka

ID_117 Optimization of livestock feed by blend of linear programming and SOMGA
Dipti Singh and Pratiksha Saxena
**PS2: Different Applications of Optimization Techniques**

**ID_7**  Two Warehouse Reverse Logistic Inventory Model for Deteriorating Item under Learning Effect  
S. R. Singh and Himanshu Rathore

**ID_9**  An Integrated Approach of Logarithmic Transformation and Histogram Equalization for Image Enhancement  
Saurabh Chaudhury

**ID_31**  Optimization of Clustering in SPIN and LEACH for Data Centric Wireless Sensor Network  
Ashutosh Tripathi

**ID_39**  Speed Control of Multilevel Inverter Based Induction Motor Using v/f Method  
Smrati Singh, Piyush Sharma, Arpit Varshney and Ankit Kumar

**ID_43**  Background Subtraction Algorithm for Moving Object Detection Using SAMEER-TU Dataset  
Kakali Das, Mrinal Kanti Bhowmik, Barin Kumar De and Debotosh Bhattacharjee

**ID_54**  Identification of Single and Double Jersey Fabrics Using Proximal Support Vector Machine  
Abul Hasnat, Anindya Ghosh, Subhasis Das and Santanu Halder

**ID_55**  Dynamic Modeling & Simulation of Induction Motor Drives  
Prashant Menghal and A. Askani

**ID_62**  Demonstration of Improved Performance of a 4-level DSEP to Enhance the Efficiency in Heterogeneous Wireless Sensor Networks  
Gagandeep Singh

**ID_71**  Comparing Rapid Sort with some existing sorting algorithms  
Mriganka Sarmah and Rohen Heisnam

**ID_64**  Selection of material under conflicting situation using simple ratio optimization technique  
Rajnish Kumar and Amitava Ray

**ID_79**  Optimization of mechanical properties of wood dust reinforced epoxy composite using grey relational analysis  
Barnasree Chanda, Rahul Kumar, Kaushik Kumar and Sumit Bhowmik

**ID_81**  Weight computation of alternatives in a decision making problem by preference relation  
Satyajit Das and Debashree Guha

**ID_84**  Image Encryption using Chaotic Maps with a Double Key Protection  
Sanjukta Krishnagopal, Sakshi Pratap and Bijil Prakash

**ID_90**  Analysis of Hybrid Temperature Control for Nonlinear Continuous Stirred Tank Reactor  
Om Prakash Verma, Sonu Kumar and Dr. Gaurav Manik

**ID_128**  Gaussian Process Regression to Predict Incipient Motion of Alluvial Channel  
J Jaideep, Mahesh Patel and Bimlesh Kumar

**ID_132**  Transportation Decision Making through Logistics Outsourcing and 3PL selection in an integrated Closed Loop Supply Chain  
Kiran Garg, Vernika Agarwal and P C Jha

**ID_137**  A State-of-the-art Review of Biogeography-Based Optimization  
Vanita Garg and Kusum Deep
**PS3: Different Approaches of Optimization Algorithms (I)**

**ID_2**  Cluster Head Selection using Modified ACO  
Varsha Gupta and Shashi Sharma

**ID_11**  Data Mining in Market Segmentation: A Literature Review and Suggestions  
Saibal Dutta, Sujoy Bhattacharya and Kalyan Kumar Guin

**ID_16**  Parikh Matrices and Words over Ternary Alphabet  
Amrita Bhattacharjee and Bipul Syam Purkayastha

**ID_47**  Contrast Restoration of Fog-Degraded Image Sequences  
Tannistha Pal, Mrinal Kanti Bhowmik and Anjan Kumar Ghosh

**ID_51**  Optimization Models for Solid Waste Management in Indian Cities: A Study  
Dipti Singh and Ajay Satija

**ID_61**  Predicting the Risk of Extinction of Species: Impact of Negative Growth Rate and Allee Effect  
Bapi Saha

**ID_65**  An investigation into use of different soft artificial intelligence techniques in mechanical engineering domain  
Anubha Tiwari, Rajvardhan Jaideva and Sharad Pradhan

**ID_67**  Partial Commutation on Some Classes of 2D Picture Languages  
T Kamaraj, D.G. Thomas, T Robinson and A.K. Nagar

**ID_68**  Dynamic Stability Enhancement of Power System Using Intelligent Power System Stabilizer  
Swati Paliwal, Piyush Sharma, Ajit Kumar Sharma and Dr. H.P. Singh

**ID_69**  An Analytical Study of OrderedWeighted Geometric Averaging Operator on Web Data set as a MCDM Problem  
Ankit Gupta and Shruti Kohli

**ID_73**  An Ensemble Wrapper Feature Selection for Credit Scoring  
Waad Bouaguel

**ID_96**  Enhanced Accident detection System using Safety Application For Emergency in Mobile Environment: SafeMe  
Amit Hirawat and Deepshikha Bhargava

**ID_99**  A Study on Various Attacks of TCP/IP and Security Challenges in MANET Layer Architecture  
Girish Paliwal, Ankur Prakash Mudgal and Swapnesh Taterh

**ID_103**  An Image Steganography Method Using Spread Spectrum Technique  
Mahinderpal Singh Bhatia, Sunil Kumar Muttoo and Manjot Bhatia

**ID_105**  Digitization of Library: Engineering Colleges  
Om Prakash Dubey, Pankaj Kumar Singh, Pramod Kumar Hota, Satya Narayan Singh and Kusum Deep

**PS4: Applications of Genetic Algorithm**

**ID_1**  Solving the 0-1 Knapsack Problem Using Genetic Algorithm - Teaching Learning Based Optimization Algorithms  
A. J. Umbarkar

**ID_10**  Genetic Algorithms, a Nature-Inspired Tool: Review of Applications in Supply Chain Management  
Sunil Kumar Jauhar and Millie Pant

**ID_17**  Neuro-Gene Genetic Approach to Predict Scour Depth around Vertical Bridge Abutment
Abul Kashim Md Fujail, Shahin Ara Begum and Abdul Karim Barbhuiya

ID_36 Application of Genetic Algorithm in Optimization of Hydrodynamic bearings
Lintu Roy and Sashindra Kakoty

ID_38 Diversity based Dual Population Genetic Algorithm (DPGA): A Review
A. J. Umbarkar, Madhuri Joshi and Ms. Pranali Dilip Sheth

ID_49 Optimization of Primary Loop Pump Power of a Loop Type Liquid Metal Fast Breeder Reactor with Annular Fuel using Genetic Algorithm
Shubhajit Karmakar, Swarnendu Sen and Sanjib Kumar Acharyya

ID_58 A Novel Chemo-Inspired Genetic Algorithm For Economic Load Dispatch With Valve Point Loading Effect
Kedar Nath Das and Rajashree Mishra

PS5: Soft Computing Techniques in Bio-Medical Applications

ID_29 Mind Reading by Face Recognition using security enhancement model
Vranda Vyas, Sameer Saxena and Dr. Deepshikha Bhargava

ID_41 A Survey On Imaging Based Breast Cancer Detection
Debalina Saha, Mrinal Kanti Bhowmik, Barin Kumar De and Debotosh Bhattacharjee

ID_42 Automated Cervical Cancer Detection Using Pap Smear Images
Payel Rudra Paul, Mrinal Kanti Bhowmik and Debotosh Bhattacharjee

ID_50 Recent Advances on Erythrocyte Image Segmentation for Biomedical Applications
Salam Shuleenada Devi, Ram Kumar and Rabul Hussain Laskar

ID_77 Face Recognition Using 2DPCA and ANFIS Classifier
Dr. Hitesh Shah, Dr. Rahul Kher and Ketan Patel

ID_89 Hybrid-ACO Chaos assisted Support Vector Machines for classification of Medical Datasets
Gunjan Mishra Ojha, Vivek Ananth R P, Kalpesh Shelke, Deepak Sehgal and Jayaraman Valadi

ID_93 Real Time Hand Tracking For Dynamic Gesture Recognition
Varsha Dixit and Anupam Agarawal

ID_95 An Approach To Emotion Identification Using Human Gait
Deepjoy Das

ID_116 Incorporating Phase Information for Efficient Glaucoma Diagnoses Through Hyper-analytic Wavelet Transform
Raja Chandrasekaran and Gangatharan Narayanann

ID_127 Liver Disease Diagnosis using Quantum Based Binary Neural Network Learning Algorithm
Om Prakash Patel and Aruna Tiwari

ID_146 Effects of Lysogenic and Lytic path of bacteriophage on the Coexistence of Bacteria and Bacteriophage
Saroj Kumar Sahani and Sunita Gakkhar
**PS6: Different Approaches of Optimization Algorithms (II)**

**ID_110** How improvements in Glowworm Swarm Optimization can solve Real Life Problems  
Amarjeet Singh and Kusum Deep

**ID_111** Cryptanalysis of Transposition Cipher Using Hill Climbing and Simulated Annealing  
Girish Mishra and Sarvejnt Kaur

**ID_112** Classification of Error Correcting Coded Data Using Multidimensional Feature Vectors  
Rajesh Asthana, Anand Sharama, Ram Ratan and Neelam Verma

**ID_113** A Virtualized Architecture for Secure Database Management in Cloud Computing  
Manjeet Singh and Jasbeer Singh

**ID_120** An Add-On To Present Banking: M-Banking  
Parma Nand and Rani Astya

**ID_129** Analytical and Numerical Solutions of 2-Dimensional Brusselator System by Modified Variational Iteration Method  
Ankita Sharma and Rajan Arora

**ID_134** A Novel Approach for Evaluating Web Crawler Performance Using Content Relevant Metrics  
Rajesh L and Shanthi V

**ID_135** Enhanced Web Crawler Design to Classify Web Documents Using Contextual Metadata  
Rajesh L, Shanthi V and Varadhan V

**ID_136** Selected Bit Replacement Steganography Over Smqt Preprocessed Digital Image  
Jithesh K, Aravindhan Mohan, Reshma P K, Anupama M and Babu Anto P

**ID_144** Characterization of chi-topological modules  
Saugata Purkayastha and Helen Saikia

**ID_145** An intermediate nonpolynomial spline algorithm for second order nonlinear differential problems: Applications to physiology and thermal explosion  
Navnit Jha

**PS7: Applications of Fuzzy in Decision Making (I)**

**ID_5** A fuzzy muti-criteria decision making model for green electrical discharge machining  
Jagadish and Amitava Ray

**ID_15** Scene Classification Using Fuzzy Uncertainty Texture Spectrum  
Dr N.P Rath, Swastika Mishra and Neeharika Naik

**ID_18** Rough Fuzzy Classification for Class Imbalanced Data  
Riaj Uddin Mazumder, Shahin Ara Begum and Devajyoti Biswas

**ID_30** Enhancement of Power Transfer capability of HVDC Transmission System using Fuzzy Logic Controlle  
Marpu Ramesh and A Jayalaxmi

**ID_63** Control of Two Link 2-DOF Robot Manipulator using Fuzzy Logic Techniques: a Review  
Kshetrimayum Lochan and Binoy Krishna Roy

**ID_66** On solving multiobjective quadratic programming problems in a probabilistic fuzzy environment  
Animesh Biswas and Arnab Kumar De
ID_91 A Fuzzy Logic Approach For Multistage Defects Density Analysis Of Software
Harikesh Bahadur Yadav and Dilip Kumar Yadav

**PS8: Advanced Approaches of PSO**

ID_60 Engineering Design Optimization using hybrid (DE-PSO-DE) algorithm
Kedar Nath Das and Raghav Prasad Parouha

ID_83 Trajectory Control of a Ball on a Ball and Plate System using Cascaded PD Controllers tuned by PSO
Prasanta Roy, Biprajeet Kar and Injamul Hussain

ID_102 SVD watermarking : Particle swarm optimization of scaling factors to increase the quality of watermark
Irshad Ahmad Ansari and Millie Pant

ID_109 Role of Particle Swarm Optimization in Computer Games
Garima Singh and Kusum Deep

ID_142 Hybrdize Particle Swarm Optimization with Invasive Weed Optimization for Solving Nonlinear Constrained Optimization Problems
Akshay Ojha and Y Ramu Naidu

**PS9: Applications of Soft Computing Techniques (II)**

ID_117 Optimization of livestock feed by blend of linear programming and SOMGA
Dipti Singh and Pratiksha Saxena

ID_118 Earthquake data sorting with minimum swap operations
Rama Sushil and Sushil Kumar

ID_119 Hybrid Memetic Algorithm For FPGA Placement and Routing Using Parallel Genetic Tunneling
Rajesh Eswarawaka, Noor Mahammad Sk and Eswara Reddy B

ID_123 Migration in Biogeography Based Optimization
Pushpa Farswan and Jagdish Chand Bansal

ID_124 Optimization of Parameters and its Effect on size of ZnO Nanoparticle Synthesized by Sol-Gel Method
Tankeshwar Prasad and Sudipta Halder

ID_125 A Differential Evolution Approach for Solving Integer Programming Problems
Hira Zaheer and Millie Pant

ID_140 AP-NSGA-II : An Evolutionary Multi-objective Optimization Algorithm using Average-point based NSGA-II
Prabhujit Mohapatra and Santanu Roy

ID_141 Hybrid Active and Passive Control of a Server Room Noise: A Comparative Study of Results Obtained by using Different Algorithms
Sudarsan Sahoo and Smruti Ranjan Jagdeb
PS10: Applications of Fuzzy in Decision Making (II)

ID_92 Vehicle Classification Using Adaptive Neuro Fuzzy Inference System (ANFIS)
Akhilesh Kumar Maurya and Devesh Kumar Patel

ID_130 Impact of climate change on regionalization using fuzzy clustering
Vivek Gupta and Manish Kumar Goyal

ID_131 A Hybrid Performance Evaluation Approach for Supplier Selection under Fuzzy Environment
Nidhi Bhayana, Simranjeet Kaur and P.C. Jha

ID_133 Fuzzy Optimization Approach to Supply Chain Distribution Network for Product Value Recovery
Jyoti Darbari, Vernika Agarwal and Prakash Jha

ID_138 On some generalized fuzzy continuous functions
Juthika Mahanta and P. K. Das

ID_139 Some new results on domination in fuzzy graphs
Pradip Debnath

ID_143 Some fixed point(vertex) theorems in fuzzy graph metric space
Sudipta Paul and Nanda Ram Das

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