



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/AY/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/AY/RR	Best paper Competitions Judges: NS/PD/MS/DC/JB	
4PM – 5PM	Val edictory 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, NewDelhi
- 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



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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 Babhubalendruni, 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. Raghuwanshi 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



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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 Modelling & 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



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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 Ordered Weighted 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-Genetic Approach to Predict Scour Depth around Vertical Bridge Abutment**



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- 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 Shuleenda 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 Narayanan
- 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



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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 Sarvjeet 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 multi-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



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- 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 Hybridize 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



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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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