Table of Contents

Semantics and Accuracy of Gene Expression Threshold Computations. A Case Study Jaime Seguel and Marie Lluberes	1
Simulation of Precipitation in an Aluminum Scandium Alloy using Kinetic Monte Carlo and Density-based Clustering with Noise Algorithms *Alfredo Moura and Antonio Esteves**	7
A CADx Scheme in Mammography: Considerations on a Novel Approach Bruno Matheus and Homero Schiabel	15
Rice-Planted Area Extraction by RADARSAT Data Using Learning Vector Quantization Algorithm Sigeru Omatu	19
A UsiXML Proposal for a Pattern-Oriented and Model-Driven Architecture for Interactive Systems Mohamed Taleb, Ahmed Seffah, and Alain Abran	24
A MapReduce Implementation of the Genetic-Based ANN Classifier for Diagnosing Students with Learning Disabilities Tung-Kuang Wu, Shian-Chang Huang, Ying-Ru Meng, Hsiu-Ting Kao, and Hsu Chang	30
Principles and State-of-the-Art of Engineering Optimization Techniques Ning Xiong and Miguel Leon Ortiz	36
Improving the Performance of Particle Swarm Optimization Algorithm With a Dynamic Search Space Benoit Vallade and Tomoharu Nakashima	43
Reliable Outer Bounds for the Dual Simplex Algorithm with Interval Right-hand Side Christoph Fuenfzig, Dominique Michelucci, and Sebti Foufou	49
Implementing a Generalized Cobb Model for Production Functions Alina Andreica and Florina Covaci	55
Trading Redundant Work Against Atomic Operations On Large Shared Memory Parallel Systems Rudolf Berrendorf	61
Proactive Automated Dependable Resource Management in Cloud Environments Anna Schwanengel, Gerald Kaefer, and Claudia Linnhoff-Popien	67
How to Run Scientific Applications with DIRAC in Federated Hybrid Clouds Victor Me?ndez Mun?oz, Adria Casaju?s Ramo, Ricardo Graciani Diaz, and Victor Fernandez Albor	73