

Contents

Logic Operation Model of the Complementer Based on Two-Domain DNA Strand Displacement	1
<i>Wendan Xie, Changjun Zhou, Hui Lv, and Qiang Zhang</i>	
TS-Preemption Threshold and Priority Optimization for the Process Scheduling in Integrated Modular Avionics	9
<i>Qianlin Zhou, Hui Lu, Honglei Qin, Jinhua Shi, and Rongrong Zhou</i>	
An Approach to the Bio-Inspired Control of Self-reconfigurable Robots.	24
<i>Dongyang Bie, Miguel A. Gutiérrez-Naranjo, Jie Zhao, and Yanhe Zhu</i>	
Multi-threshold Image Segmentation Method Based on Flower Pollination Algorithm	39
<i>Jingjing Xue, Xingshi He, Xinshe Yang, Xiaoying Hao, and Feiyue He</i>	
An Elitist Non-dominated Sorting Hybrid Evolutionary Algorithm for Multi-objective Constrained Ship Arrangements Optimization Problem	52
<i>Hao Wang, Shunhuai Chen, and Liang Luo</i>	
Evolutionary Algorithms' Feature Selection Stability Improvement System	68
<i>Yi Liu, Xingchun Diao, Jianjun Cao, and Lei Zhang</i>	
Global Path Planning of Unmanned Surface Vessel Based on Multi-objective Hybrid Particle Swarm Algorithm.	82
<i>Hao Zhou, Dongming Zhao, and Xuan Guo</i>	
Predicting Essential Proteins Based on Gene Expression Data, Subcellular Localization and PPI Data	92
<i>Xiujuan Lei, Siguo Wang, and Linqiang Pan</i>	
Semi-Supervised Classification Based on SAGA for PolSAR Images.	106
<i>Hongying Liu, Zhi Wang, Feixiang Wang, Haisheng Deng, and Licheng Jiao</i>	
Spiking Neural P Systems with Minimal Parallelism	117
<i>Yun Jiang, Fen Luo, and Yueguo Luo</i>	

Model Checking for Computation Tree Logic with Past Based on DNA Computing	131
<i>Yingjie Han, Qinglei Zhou, Linfeng Jiao, Kai Nie, Chunyan Zhang, and Weijun Zhu</i>	
A Hybrid Parameter Adaptation Based GA and Its Application for Data Clustering	148
<i>Kangfei Ye and Weiguo Sheng</i>	
Population Control in Evolutionary Algorithms: Review and Comparison. . . .	161
<i>Yuyang Guan, Ling Yang, and Weiguo Sheng</i>	
A Family of Ant Colony P Systems	175
<i>Ping Guo, Mingzhe Zhang, and Jing Chen</i>	
Using an SN P System to Compute the Product of Any Two Decimal Natural Numbers	194
<i>Fangxiu Wang, Kang Zhou, and Huaqing Qi</i>	
A Modified Standard PSO-2011 with Robust Search Ability	207
<i>Hongguan Liu and Fei Han</i>	
A Lexicon LDA Model Based Solution to Theme Extraction of Chinese Short Text on the Internet	223
<i>Xu Wang and Jing Zhou</i>	
The Decoder Based on DNA Strand Displacement with Improved “AND” Gate and “OR” Gate	233
<i>Weixuan Han, Changjun Zhou, Xiaojun Wang, and Qiang Zhang</i>	
Multi-objective Optimization for Ladle Tracking of Aluminium Tapping Based on NSGA-II	248
<i>Kaibo Zhou, Yutao Zou, Hongting Wang, Gaofeng Xu, and Sihai Guo</i>	
Short Time and Contactless Virus Infection Screening System with Discriminate Function Using Doppler Radar	263
<i>Xiaofeng Yang, Koichiro Ishibashi, Toshiaki Negishi, Tetsuo Kirimoto, and Guanghao Sun</i>	
Fault Diagnosis in Aluminium Electrolysis Using a Joint Method Based on Kernel Principal Component Analysis and Support Vector Machines	274
<i>Kaibo Zhou, Gaofeng Xu, Hongting Wang, and Sihai Guo</i>	
A New Image Encryption Algorithm Based on DNA Dynamic Encoding and Hyper-Chaotic System.	286
<i>Guangzhao Cui, Yishan Liu, Xuncaizhang, and Zheng Zhou</i>	

A Circuit Simplification Mechanism Based on DNA Combinatorial Strands Displacement.	304
<i>Xuncaï Zhang, Feng Han, and Yanfeng Wang</i>	
The Design of RNA Biosensors Based on Nano-Gold and Magnetic Nanoparticles	320
<i>Jing Yang, Zhi-xiang Yin, and Jian-zhong Cui</i>	
Distributed Fuzzy P Systems with Promoters and Their Application in Power Balance of Multi-microgrids	329
<i>Wenping Yu, Jun Wang, Tao Wang, and Yanxiang Yang</i>	
Cell-Like P Systems with Symport/Antiport Rules and Promoters	343
<i>Suxia Jiang, Yanfeng Wang, Jinbang Xu, and Fei Xu</i>	
Dynamical Analysis of a Novel Chaotic Circuit	359
<i>Junwei Sun, Nan Li, and Yanfeng Wang</i>	
The Logic Circuit Design of Fire Alarm System Device by DNA Strand Displacement	369
<i>Yanfeng Wang, Jixiang Li, Chun Huang, and Junwei Sun</i>	
An Improved Spiking Neural P Systems with Anti-Spikes for Fault Location of Distribution Networks with Distributed Generation.	380
<i>Chengyu Tao, Jun Wang, Tao Wang, and Yanxiang Yang</i>	
Five-Input Square Root Logical Operation Based on DNA Strand Displacement	396
<i>Yanfeng Wang, Panru Wang, and Junwei Sun</i>	
Design and Analysis of Complement Circuit by Using DNA Strand Displacement Reaction.	405
<i>Guangzhao Cui, Yangyang Jiao, Jianxia Liu, Jixiang Li, Xuncaï Zhang, and Zhonghua Sun</i>	
Extreme Learning Machine Based on Evolutionary Multi-objective Optimization	420
<i>Yaoming Cai, Xiaobo Liu, Yu Wu, Peng Hu, Ruilin Wang, Bi Wu, and Zhihua Cai</i>	
An Ions-Medicated Single Molecular Multi-functional DNA Cascade Logic Circuit and Signal Amplifier Model	436
<i>Bingjie Guo, Xiangxiang Chen, Tao Wu, and Yafei Dong</i>	
A Recommendation Approach Based on Latent Factors Prediction of Recurrent Neural Network	446
<i>Ruihong Li, Xingquan Zuo, Pan Wang, and Xinchao Zhao</i>	

Hypervolume-Based Multi-level Algorithm for the Bi-criteria Max-Cut Problem	456
<i>Li-Yuan Xue, Rong-Qiang Zeng, Hai-Yun Xu, Zheng-Yin Hu, and Yi Wen</i>	
Comparator Logic Circuits Based on DNA Strand Displacement by DNA Hairpin	466
<i>Zicheng Wang and Hongbo Meng</i>	
Experimental Study of Distributed Differential Evolution Based on Different Platforms	476
<i>Lin Shi, Zhi-Hui Zhan, Zi-Jia Wang, and Jun Zhang</i>	
Derivation Languages of Splicing P Systems	487
<i>Kalpana Mahalingam, Prithwineel Paul, Bosheng Song, Linqiang Pan, and K.G. Subramanian</i>	
Adaptive Cauchy Differential Evolution with Strategy Adaptation and Its Application to Training Large-Scale Artificial Neural Networks	502
<i>Tae Jong Choi and Chang Wook Ahn</i>	
Effect of Transfer Functions in Deep Belief Network for Short-Term Load Forecasting.	511
<i>Xiaoyu Zhang, Rui Wang, Tao Zhang, Yajie Liu, and Yabin Zha</i>	
Cloud Service Resource Allocation with Particle Swarm Optimization Algorithm	523
<i>Shi Cheng, Lantian Guo, Tao Yang, Jiqiang Feng, Yifei Sun, Chang Shao, and Qiqi Duan</i>	
Markov-Potts Prior Model and Fuzzy Membership Based Nonparametric SAR Image Change Detection.	533
<i>Ronghua Shang, Weitong Zhang, Yijing Yuan, and Licheng Jiao</i>	
Computing Stability of Products of Grassmannians with Fixed Total Dimension Using MAXIMA	544
<i>Dun Liang</i>	
Predictive Controller Design Using Ant Colony Optimization Algorithm for Unmanned Surface Vessel.	557
<i>Dongming Zhao, Tiantian Yang, Wen Ou, and Hao Zhou</i>	
Two-Dimensional DOA Estimation of Multipath Signals Using Compressive Sensing	567
<i>Lin Zhao, Jian Xu, and Jicheng Ding</i>	

Enhanced Pairwise Learning for Personalized Ranking from Implicit Feedback	580
<i>Yunzhou Zhang, Bo Yuan, and Ke Tang</i>	
Improved OBS-NMF Algorithm for Intrusion Detection.	596
<i>Wenping Ma, Yue Wu, Shanfeng Wang, and Maoguo Gong</i>	
Hand Target Extraction of Thermal Trace Image Using Feature and Manifold Inspired by Coordination of Immune	614
<i>Tao Yang, Dongmei Fu, Xiaogang Li, and Jintao Meng</i>	
Motion Deblurring Based on Convolutional Neural Network	623
<i>Yunfei Tan, Di Zhang, Fei Xu, and Danyang Zhang</i>	
Author Index	637

Bio-inspired Computing: Theories and Applications
12th International Conference, BIC-TA 2017, Harbin,
China, December 1-3, 2017, Proceedings
He, C.; Mo, H.; Pan, L.; Zhao, Y. (Eds.)
2017, XV, 638 p. 290 illus., Softcover
ISBN: 978-981-10-7178-2