

The 10th International Conference on Bio-inspired Computing: Theories and Applications (BIC-TA 2015)

September 25-27, 2015 – Hefei, Anhui, China

Conference Venue: Lakeside Hotel Hefei (翡翠湖迎宾馆)

No.1 Rongcheng Road, Economic & Technological Development Zone, Hefei, Anhui (合肥经济技术开发区容成路1号)

Programme Outline

Registration (Friday, 25th September 2015)

14:00h - 18:30h	Registration and authors' kits (please approach the registration desk at the lobby of the hotel)
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Technical Programme (Saturday, 26th September 2015)

08:00h – 08:30h	Opening Ceremony
08:30h - 09:30h	Keynote Speech A Prof. Xin Yao, University of Birmingham, UK
09:30h - 10:30h	Keynote Speech B Prof. Derong Liu, Institute of Automation, Chinese Academy of Sciences, China
10:30h - 11:00h	Coffee/Tea Break
11:00h - 12:00h	Keynote Speech C Prof. Kay Chen Tan, National University of Singapore, Singapore
12:00h - 14:00h	Lunch
14:00h - 16:00h	3 Parallel Technical Sessions
16:00h – 16:30h	Coffee/Tea Break
16:30h – 18:30h	3 Parallel Technical Sessions
19:00h – 21:00h	Conference Banquet

Technical Programme (Sunday, 27th September 2015)

08:30h – 09:30h	Keynote Speech D Prof. Bryan Wei, Tsinghua University, China
9:30h - 10:00h	Coffee/Tea Break
10:00h - 12:00h	4 Parallel Technical Session

Detailed Programme

Friday, 25th, September, 2015

- **14:00 – 18:30, Sept. 25**

Registration and authors' kits

Location: Registration desk in the lobby of the hotel

Note: You may also pick up your authors' kits on Sept. 26 at the registration desk during the coffee/tea break.

Saturday, 26th, September, 2015

- **08:00 – 08:30, Sept. 26**

Opening Ceremony

Location: Building No. 6, 3rd floor, Multi-functional Conference Room (6 号楼 3 楼多功能厅)

- **08:30 – 09:30, Sept. 26,**

Plenary Talk A, Large Scale Global Optimisation through Co-operative Co-evolution

Speaker: Xin Yao, University of Birmingham, UK

Location: Building No. 6, 3rd floor, Multi-functional Conference Room (6 号楼 3 楼多功能厅)

- **09:30 – 10:30, Sept. 26,**

Plenary Talk B, New Development of Adaptive Dynamic Programming for Intelligent Control

Speaker: Derong Liu, Institute of Automation, Chinese Academy of Sciences, China

Location: Building No. 6, 3rd floor, Multi-functional Conference Room (6 号楼 3 楼多功能厅)

- **11:00 – 12:00, Sept. 26,**

Plenary Talk C, New Development of Adaptive Dynamic Programming for Intelligent Control

Speaker: Kay Chen Tan, National University of Singapore, Singapore

Location: Building No. 6, 3rd floor, Multi-functional Conference Room (6 号楼 3 楼多功能厅)

- **14:00 – 16:00, Sept. 26**

Session on Bio-Inspired Algorithms - I

Location: Building No. 6, 1st floor, Conference Room No. 1 (6 号楼 1 楼 1 号会议室)

Session Chair: Wei Fang, Aimin Zhou

Paper ID 23: Ant Colony Optimization with Different Crossover Schemes for Continuous Optimization

Authors: Zhiqiang Chen, Yun Jiang and Rong-Long Wang

Paper ID 26: An Algorithm for Finding Non-Dominated Set Based on two dimension Sorting

Authors: Yuzhen Fu, Han Huang, Shujin Ye, Longqiu Shao and Hui Zhang

Paper ID 38: A Multiobjective Evolutionary Algorithm based on Decomposition and Preselection

Authors: Jinyuan Zhang, Aimin Zhou and Guixu Zhang

Paper ID 55: Chaos Multi-Objective Particle Swarm Optimization Based on Efficient Non-dominated Sorting

Author: Xuncaizhang

Paper ID 88: A Sorting Based Selection for Evolutionary Multiobjective Optimization

Authors: Zhixiang Yang, Xinye Cai and Zhun Fan

Paper ID 93: Clustering Quantum-behaved Particle Swarm Optimization Algorithm for Solving Dynamic Optimization Problems

Authors: Mengmei Wang, Wei Fang and Chaofeng Li

- **14:00 – 16:00, Sept. 26**

Session on DNA Computing - I

Location: Building No. 6, 1st floor, Conference Room No. 2 (6 号楼 1 楼 2 号会议室)

Session Chair: Álvaro Romero-Jiménez, Linqiang Pan

Paper ID 27: Generating Diophantine Sets by Virus Machines

Authors: Álvaro Romero-Jiménez, Luis Valencia-Cabrera and Mario J. Pérez-Jiménez

Paper ID 32: Versatile Archimedean Tilings Self-Assembled from Combined Symmetric DNA Motifs

Authors: Guangzhao Cui, Wanli Zheng and Xuncaizhang

Paper ID 44: Controllable DNA Nano-Tweezer Technique Based On The Combinatorial Strand Displacement

Authors: Xuncaizhang, Chaonan Shen and Guangzhao Cui

Paper ID 45: Nucleic acid logic gates based on strand displacement

Authors: Minghui Li, Fangfang Liu, Ming Song, Xiangxiang Chen and Yafei Dong

Paper ID 60: The design of voting device based on DNA Strand Displacement reaction

Authors: Zicheng Wang, Zhonghua Sun and Zijie Cai

Paper ID 97: A Picture Array Generating Model Based on Flat Splicing Operation

Authors: K.G. Subramanian, A.K. Nagar and Linqiang Pan

- **14:00 – 16:00, Sept. 26**

Session on Bio-inspired Methods for Data Analytics - I

Location: Building No. 6, 1st floor, Conference Room No. 7 (6 号楼 1 楼 7 号会议室)

Session Chair: Qiguang Miao, Maoguo Gong

Paper ID 25: Identification of Remote Sensing Image of Adverse Geological Body based on Classification

Author: Xiang Li

Paper ID 43: A NSGA-II with ADMM Mutation for Solving Multi-Objective Robust PCA Problem

Authors: Weitao Yuan, Na Lin, Hanning Chen and Xiaodan Liang.

Paper ID 51: Three-Class Change Detection in Synthetic Aperture Radar Images Based on Deep Belief Network

Author: Maoguo Gong.

Paper ID 57: Self-Adaptive Multiple Evolution algorithms for Image Segmentation using Multilevel Thresholding

Authors: Liling Sun, Jingtao Hu, Qiaocui Zhang, Hanning Chen and Na Lin

Paper ID 78: Remote Sensing Image Fusion based on Shearlet and Genetic Algorithm

Authors: Qiguang Miao, Ruyi Liu, Yiding Wang, Jianfeng Song and Yining Quan

Paper ID 92: PSO Optimized Multipurpose Image Watermarking Using SVD and Chaotic Sequence

Authors: Irshad Ahmad Ansari, Millie Pant, Chang Wook Ahn and Jaehun Jeong

- **16:30 – 18:30, Sept. 26**

Session on Bio-Inspired Algorithms - II

Location: Building No. 6, 1st floor, Conference Room No. 1 (6 号楼 1 楼 1 号会议室)

Session Chair: Lining Xing, Thomas Weise

Paper ID 11: Adaptive Neighborhood Search's DGSO Applied to TSP

Authors: Dong Wen Bo, Zhou Kang and Fu Qin Hong

Paper ID 35: Hybrid Ejection Chain Methods for the TSP

Authors: Weichen Liu, Thomas Weise, Yuezhong Wu and Raymond Chiong

Paper ID 41: A Stochastic Local Search Heuristic for the Multidimensional Multiple-choice Knapsack Problem

Authors: Xia Youxin, Gao Chao and Li Jinlong

Paper ID 53: A new BN structure learning mechanism based on the decomposability of scoring functions

Authors: Guoliang Li, Lining Xing and Yingwu Chen

Paper ID 47: PDE: A Parallel Version of Differential Evolution Based on Resilient Distributed Datasets Model

Authors: Changshou Deng, Xujie Tan, Xiaogang Dong and Yucheng Tan

Paper ID 80: Discrete Particle Swarm Optimization Algorithm for Solving Graph Coloring Problem

Authors: Zhang Kai, Zhu Wanying, Liu Jun and He Juanjuan

- **16:30 – 18:30, Sept. 26**

Session on Bio-inspired Methods for Real-world Design Problems

Location: Building No. 6, 1st floor, Conference Room No. 2 (6 号楼 1 楼 2 号会议室)

Session Chair: Han Huang, Jinlong Li

Paper ID 7: Traffic Network Layout Problem Based on Distribution Center and Genetic Algorithm

Authors: Duan Ying Ying, Zhou Kang and Dong Wen Bo

Paper ID 10: Resource Allocation Algorithm Based On Fuzzy Cluster Grouping for Device-to-Device Communication

Authors: Jianbin Xun, Puyan Chen, Supan Wei, Yiming Chen and Yu Ji

Paper ID 16: Design Swapping Encryption System for Video Streaming with Brain Storm Optimization

Authors: Jun Huang, Qiong Wu and Qi Chen

Paper ID 73: A Fast Differential Evolution for Constrained Optimization Problems in Engineering Design

Authors: Aili Shen and Jinlong Li

Paper ID 76: An Improved Genetic Algorithm for bi-objective problem: Locating Mixing Station
Authors: Ye Shujin, Han Huang, Changjian Xu, Lv Liang and Liang Yihui

Paper ID 87: Parameter identification for area-specific resistance of direct methanol fuel cell using cuckoo search algorithm

Authors: Jiajun Ding, Xiongxiang He, Bo Jiang and Yiming Wu

- **16:30 – 18:30, Sept. 26**

Session on Bio-inspired Methods for Data Analytics - II

Location: Building No. 6, 1st floor, Conference Room No. 7 (6号楼1楼7号会议室)

Session Chair: Jaehun Jeong, Xingyi Zhang

Paper ID 3: Parallel Implementation of P Systems for Data Clustering on GPU

Authors: Jie Jin, Hui Liu, Fengjuan Wang, Hong Peng and Jun Wang

Paper ID 14: Direct Torque Control of PMSM with Torque Ripple Reduction Based on Fuzzy Logic Control

Authors: Bowen Ning, Shanmei Cheng and Yi Qin

Paper ID 15: Protein Function Prediction Using Multi-Label Learning and ISOMAP Embedding

Authors: Huadong Liang, Dengdi Sun, Zhuanlian Ding and Meiling Ge

Paper ID 17: Improved Niche Genetic Algorithm for Protein Structure Prediction

Authors: Xue Wei, Xuedong Zheng, Qiang Zhang and Changjun Zhou

Paper ID 81: Tensorial Biometric Signal Recognition Based on Feed Forward Neural Networks with Random Weights

Authors: Fan Zhang and An Qin

Paper ID 95: An Evolutionary Approach for Generating Rhythm and Melody Based on Repertories

Authors: Jaehun Jeong and Changwook Ahn.

- **19:00 – 21:00, Sept. 26, Conference banquet.**

Sunday, 27th, September, 2015

- **08:30 – 09:30, Sept. 27,**

Plenary Talk D, The secret ingredients of complex DNA nanostructures

Speaker: Bryan Wei, Tsinghua University, China

Location: Building No. 6, 3rd floor, Multi-functional Conference Room (6 号楼 3 楼多功能厅)

- **10:00 – 12:00, Sept. 27**

Session on DNA Computing – II

Location: Building No. 6, 3rd floor, Multi-functional Conference Room (6 号楼 3 楼多功能厅)

Session Chair: Xiaoli Qiang, Kai Zhang

Paper ID 29: Logic gates based on circular DNA strand displacement and a fluorescent agent

Authors: Liu Fang, Wang Yanchai, Li Minghui, Yafei Dong and Xiangxiang Chen

Paper ID 30: Analogical China map self-assembled from single-stranded DNA tiles

Authors: Yanfeng Wang, Xin Ma and Guangzhao Cui

Paper ID: 56: The Design of Digital Circuit based on DNA Strand Displacement Reaction

Authors: Zicheng Wang, Zijie Cai and Zhonghua Sun

Paper ID 90: Application of DNA Self-Assembly for Maximum Matching Problem

Authors: Hui Zhang, Xiaoli Qiang and Kai Zhang

Paper ID 46: A DNA Code Converter Model for Decimal Numbers Displaying

Authors: Zicheng Wang, Wenwen Zhang and Yanfeng Wang

- **10:00 – 12:00, Sept. 27**

Session on Bio-Inspired Algorithms - III

Location: Building No. 6, 1st floor, Conference Room No. 1 (6 号楼 1 楼 1 号会议室)

Session Chair: Guanzhou Lu, Juanjuan He

Paper ID 36: Hybrid Tabu Search for the TSP: A Comparative Study

Authors: Dan Xu, Thomas Weise, Yuezhong Wu, Jörg Lässig and Raymond Chiong

Paper ID 83: Parallel Hybrid Genetic Algorithm for Maximum Clique Problem on OpenCL

Authors: Li Li, Zhang Kai, Yang Siman and He Juanjuan

Paper ID 31: Cell-like fuzzy P system and its application of coordination control in micro-grid

Authors: Ke Chen, Jun Wang and Ming Li

Paper ID 85: A Uniform Solution for Vertex Cover Problem by Using Time-Free Tissue P Systems

Authors: Yunyun Niu, Zhigao Wang and Jianhua Xiao

Paper ID 89: An Agglomerate Chameleon Algorithm Based on the Tissue-like P System

Authors: Yuzhen Zhao, Xiyu Liu and Wenping Wang

- **10:00 – 12:00, Sept. 27**

Session on Bio-inspired Methods for Real-world Scheduling Problems

Location: Building No. 6, 1st floor, Conference Room No. 2 (6 号楼 1 楼 2 号会议室)

Session Chair: Xinye Cai, Xiangxiang Zeng

Paper ID 13: MOEA/D for Energy-aware Scheduling on Heterogeneous Computing Systems

Authors: Gaoshan Deng, Zimin Li and Xiangxiang Zeng

Paper ID 54: Cloud avoidance scheduling algorithm for agile optical satellites

Authors: Lei He, Xiaolu Liu, Lining Xing and Yingwu Chen

Paper ID 69: A multi-objective simulated annealing for bus driver rostering

Authors: Kunkun Peng, Yindong Shen and Jingpeng Li

Paper ID 79: Bio-inspired Algorithms Applied in Multi-Objective Vehicle Routing Problem: Frameworks and Applications

Authors: Yuan Wang, Li-Ning Xing, Yong-Ming He and Lei He

Paper ID 86: Maximal synchronization of feeder buses to metro using particle swarm optimization

Yindong Shen and Siqi Wang

Paper ID 94: A Two-Phase External Archive Guided Multiobjective Evolutionary Algorithm for the Software Next Release Problem

Authors: Ning Zhang, Yuhua Huang and Xinye Cai

- **10:00 – 12:00, Sept. 27**

Session on Emergent Technologies and Systems

Location: Building No. 6, 1st floor, Conference Room No. 7 (6 号楼 1 楼 7 号会议室)

Session Chair: Ziyu Li, Yanfeng Wang

Paper ID 6: An Algorithm Simulated Sticker Model for MIS

Authors: Wude Yuan, Kang Zhou, Hu Di, and Geshuang Qi

Paper ID 8: Non-time Synchronization and Localization Based On Seawater Movement

Authors: Jianbin Xue, Yiming Chen, Puyan Chen, Yu Ji and Supan Wei

Paper ID 19: The Study on Dynamic Conditional Correlation-GARCH Model and Its Application

Authors: Ziyu Li and Atsuyuki Naka

Paper ID 33: Connections of multi memristors

Authors: Junwei Sun, Guangzhao Cui and Yanfeng Wang

Paper ID 82: SAMD: A System for Abnormal Messages Detection oriented Microblog Message Stream

Authors: Guozhong Dong, Wu Yang, Wei Wang, Shen Guowei and Yu Miao

End of the Programme