The 15th International Conference on Bio-inspired Computing:

Theories and Applications (BIC-TA 2020)

October 23-25, 2020 - Qingdao, Shandong, China

Time: UTC+08 BJT

<u>Programme Outline</u>

Day 1. Tutorial		
Content	Subject	Speaker
Tutorial 1	**An Introduction of Membrane Computing**	**Dr. Bosheng Song** (Professor, Hunan Univeristy)
Tutorial 2	**General Introduction to Blockchain**	**Dr. Qinghua Lu** (Senior research scientist at CSIRO, Australia)
Tencent/Voov Meeting ID: 515 442 590 (腾讯会议，ID: 515 442 590)		

Day 2. Keynote Speech		
Content	Subject	Speaker
Keynote Speech 1	**DNA nanotechnology for molecular design and programming**	**Prof. Yan Hao** (Professor, Arizona State University)
Keynote Speech 2	**Ohm's law goes to metabolism**	**Prof. Guanyu Wang** (Southern University of Science and Technology)
Keynote Speech 3	**From viruses to cells: membrane systems modelling pandemics**	**Prof. Mario J. Perez-Jimenez** (University of Seville)
Keynote Speech 4	**The different key technology components of 6G and from implementation to standardization**	**Prof. Shahid Mumtaz** (Instituto de Telecomunicações)
Tencent/Voov Meeting ID: 418 191 132 (腾讯会议，418 191 132)		

Day 3. Sessions	
Content	**Tencent/Voov Meeting ID (腾讯会议 ID)**
Session Ⅰ	**724 613 873**
Session Ⅱ	**117 298 638**
Session Ⅲ	**941 373 685**
Session Ⅳ	**432 620 664**

Day 1— 23rd October (Tencent Meeting ID: 515 442 590)				
Time	Content	Subject	Speaker	Chair
9:00-10:00	Tutorial	An Introduction of Membrane Computing	Dr. Bosheng Song	Min Wang
10:00-10:15	Break			
10:15:11:00	Tutorial	An Introduction of Membrane Computing	Dr. Bosheng Song	Min Wang
15:00-16:00	Tutorial	General Introduction to Blockchain	Dr. Qinghua Lu	Zhai Xue
16:00-16:15	Break			
16:15-17:00	Tutorial	General Introduction to Blockchain	Dr. Qinghua Lu	Zhai Xue

Day 2— 24th October (Tencent Meeting ID: 418 191 132)				
Time	Content	Subject	Speaker	Chair
9:00-9:10	Opening Ceremony	Welcome Speech	Prof. Yao Jun Vice President of UPC	Prof. Shanchen Pang
9:10-10:10	Keynote Speech	DNA nanotechnology for molecular design and programming	Prof. Hao Yan	Prof. Linqiang Pan
10:10-10:30	Break			
10:30-11:30	Keynote Speech	Ohm's law goes to metabolism	Prof. Guanyu Wang	Prof. Linqiang Pan
14:30-15:30	Keynote Speech	From viruses to cells: membrane systems modelling pandemics	Prof. Mario J. Perez-Jimenez	Prof. Bosheng Song
15:30-15:50	Break			
15:50-16:50	Keynote Speech	The different key technology components of 6G and from implementation to standardization	Prof. Shahid Mumtaz	Prof. Bosheng Song

Day 3—25th October			
Session I (Tencent Meeting ID:724 613 873)			
Time	Subject	Speaker	Chair
8:30-8:45	Machine Learning Meets Big Data： An Overview of Diagnostic and Prognostic Prediction for Cancer	Baoshan Ma	Sibo Qiao
8:45-9:00	Motion Analysis for Dragon Boat Athlete Using Deep Neural Networks	Chuanzhi Xu	Sibo Qiao
9:00-9:15	Predicting Locus-specific DNA Methylation Based on Deep Neural Network	Baoshan Ma	Sibo Qiao
9:15-9:30	Memristor-Based Neural Network Circuit of Associative Memory with Multimodal Synergy	Juntao Han	Sibo Qiao
9:30-9:45	Lung segmentation via deep learning network and fully-connected conditional random fields	Yuqin Li	Sibo Qiao

9:45-10:00	Pulse Analysis and Identification of Obese People Based on VGG-16 Net	Guoliang Yao	
10:00-10:20	Coffee Break		
10:20-10:35	Pulse Recognition of Cardiovascular Disease Patients Based on One-dimensional Convolutional Neural Network	Yi Jiao	Sibo Qiao
10:35-10:50	Intelligent Prediction and Optimization of Extraction Process Parameters for Paper-making Reconstituted Tobacco	Wei Gang	
10:50-11:05	Analysis of pregnancy pulse discrimination based on wrist pulse by 1DCNN	Nan Li	
Session Ⅱ (Tencent Meeting ID:117 298 638)			
14:30-14:45	Design of Blood Group Pairing Logic Circuit Based on DNA Strand Displacement	Chun Huang	Xue Zhai
14:45-15:00	Adaptive Total Variation Constraint Hypergraph Regularized NMF and Its Application on Single-cell RNA-Seq Data	Ya-Li Zhu	
15:00-15:15	The Predictive Model of Esophageal Squamous Cell Carcinoma Differentiation	Yuli Yang	
15:15-15:30	Reversible Spiking Neural P Systems with Anti-spikes	Suxia Jiang	
15:30-15:45	Three-variable chaotic oscillatory system based on DNA chemical reaction networks	Haoping Ji	
15:45-16:00	An Improved Spectral Clustering Based on Tissue-Like P System	Xiu Yin	
16:00-16:20	Coffee Break		
16:20-16:35	Cell-Like P Systems with Request Rules and Rules Production/Removal	Junrong Li	Xue Zhai
16:35-16:50	An editable k-nearest neighbor classifier based on tissue-like P systems	Juan Hu	
16:50-17:05	Study of Two-Class Motor Imagery EEG Based on DNA Strand Replacement	Jixiang Li	
17:05-17:20	Label-free fluorescence detection of carbohydrate antigen 15-3 via DNA AND logic gate based on graphene oxide	Wenxiao Hu	
17:20-17:35	A Novel Autonomous Molecular Mechanism Based on Spatially Localized DNA Computation	Yue Wang	
17:35-17:50	A Multi-objective Algorithm Based On M-MOEA/D Algorithm And Tissue-like P System For Solving Bi-objective Grain Dispatching And Transportation	Xinyue Hu	

Day 3—25th October			
Session Ⅲ (Tencent Meeting ID: 941 373 685)			
Time	Subject	Speaker	Chair
8:30-8:45	Mobility-aware Personalized Service Recommendation in Mobile Edge Computing	Hongxia Zhang	Pengfei Xie
8:45-9:00	Inference Acceleration Model of Branched Neural Network based on Distributed Deployment in Fog Computing	Weijin Jiang	
9:00-9:15	Short Text Similarity Calculation Based on Jaccard and Semantic Mixture	Shushu Wu	
9:15-9:30	Point Cloud Registration Using Evolutionary Algorithm	Gewei Zhang	
9:30-9:45	Perceptron Circuit Design of Second Order Damped System Based on Memristor	Xiao Xiao	
9:45-10:00	Hyperchaotic Encryption Algorithm Based on Joseph Traversal and Bit Plane Reconstruction	Xuncai Zhang	
10:00-10:20	Coffee Break		
10:20-10:35	An Improved Algorithm for Beetle Swarm Antennae Search Algorithm	Song Mingjie	Pengfei Xie
10:35-10:50	Chicken Swarm Optimization Algorithm Based on Hybrid Improvement Strategy	Chi Liu	
10:50-11:05	Incorporating the Confusion Effect into the Simulated Evolution of Crowded Selfish Herds	Wen-Chi Yang	
11:05-11:20	An Optimization Method of Course Scheduling Problem Based on Improved Genetic Algorithm	Yikun Zhang	
11:20-11:35	Dynamic Multi-task Allocation Method for Passenger Diffusion in Mobile Crowd Sensing	Weijin Jiang	
Session IV (Tencent Meeting ID: 432 620 664)			
14:30-14:45	Trimmed Data-Driven Evolutionary Optimization Using Selective Surrogate Ensembles	Yawen Shan	Fan Meng
14:45-15:00	Multi-attribute spectral clustering emergency detection based on word correlation features	Weijin Jiang	
15:00-15:15	Solving Urban Light Rail Route Planning Based on Probe Machine	Xiang Tian	
15:15-15:30	Covariance Matrix Adaptation Evolutionary Algorithm for Multi-task Optimization	Wei Li	
15:30-15:45	Density-based Population Initialization Strategy for Continuous Optimization	Peilan Xu	
15:45-16:00	Research and application of the standard formulation technology for three kinds of specialized raw materials	Shengling Zhou	
16:00-16:20	Coffee Break		
16:20-16:35	A Data-driven Model Analysis Method In Optimizing Raw Materials Standard For Glutinous Rice Products	Zhixin He	Fan Meng

16:35-16:50	Wingsuit Flying Search Enhanced by Spherical Evolution	Jiaru Yang
16:50-17:05	Energy-efficient data gathering scheme based on Compressive Sensing and Directional Walk Routing in lossy WSNs	Zhe Han
17:05-17:20	Heterogeneous Distributed Flow Shop Scheduling and Reentrant Hybrid Flow Shop Scheduling in Seamless Steel Tube Manufacturing	Xiuli Wu
17:20-17:35	A hybrid harmony search algorithm based on data analysis to solve multi-objective grain transportation problem	Hang Shu