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15th IEEE International Conference on

Networking, Sensing and Control (ICNSC 2018)

March 27-29, 2018, Zhuhai, China

Conference Program

Tuesday March 27				
Registration				
8:30	8:45	Opening		
8:45	9:30	Keynote Speech 1		
9:30	10:15	Keynote Speech 2		
10:15	10:35	Coffee Break		
10:35	11:20	Keynote Speech 3		
11:20	12:05	Keynote Speech 4		
12:05	12:35	Keynote Speech 5		
12:45		Lunch		
14:00	15:40	Session 1A	Session 1B	Session 1C
15:40	16:10	Coffee Break		
16:10	17:50	Session 2A	Session 2B	Session 2C
19:00		Welcome Reception		
Wednesday March 28				
Registration				
8:30	10:10	Session 3A	Session 3B	Session 3C
10:10	10:40	Coffee Break		
10:40	12:20	Session 4A	Session 4B	Session 4C
12:30		Lunch		
14:00	15:40	Session 5A	Session 5B / Session 5C	Session 1D
15:40	16:10	Coffee Break		
16:10	17:50	Session 6A	Session 6B / Session 6C	Session 2D
19:00		Banquet		
Thursday March 29				
Registration				
8:30	10:10	Session 7A	Session 7B	Session 7C
10:10	10:40	Coffee Break		
10:40	12:20	Session 8A	Session 8B	Session 8C
12:00		Lunch		
14:00		Industry Tour		
17:30		Conference Closing		

Session 1A   Networking

Time: 14:00-15:40   Location: VIP Meeting Room

Chair: Zhiwu Li   Co-Chair: Shuang-Hua Yang

1   Peng Wu, Feng Chu, Yunfei Fang and Cheng-Hu Yang. Optimal lane reservation via new optimization model and heuristic algorithm

6   Jing Bi, Libo Zhang, Haitao Yuan and Mengchu Zhou. Hybrid Task Prediction Based on Wavelet Decomposition and ARIMA Model in Cloud Data Center

12   Zheng-Guo Sun, Hongyi Yu and Yi-Jun Zhu. Robust Linear Precoding for MU-MISO VLC Systems with Oudated Channel State Information

17   Hua Yan, Noura Al-Hoqani, Shuang-Hua Yang. In-network Multi-sensors Query Aggregation Algorithm for Wireless Sensor Networks Database

23   Qian Zhou and Xiaolin Qin. Preserving Source Location Privacy against the Global Attacker Hiding in FOG

29   Li Li, Tong Wang, Lijuan Yang, Hongquan Liang, Chuanxin Gu. Modeling of sound speed in UWASN

Session 1B   Cyberspace Security based on Artificial Intelligence and Big Data

Time: 14:00-15:40   Location: Zhuhai Meeting Room

Chair: Yixiong Feng   Co-Chair: Guanghua Yang

35   Lutao zheng, Guanjun Liu, Wenjing Luan, Zhengchuan Li, Yuwei Zhang, Chungang Yan, Changjun Jiang. A New Credit Card Fraud Detecting Method Based on Behavior Certificate

41   Shiyang Xuan, Guanjun Liu, Zhenchuan Li, Lutao Zheng, Shuo Wang and Changjun Jiang. Random Forest for Credit Card Fraud Detection

47   Yuwei Zhang, Guanjun Liu, Wenjing Luan, Chungang Yan and Changjun Jiang. An Approach to Class Imbalance Problem Based on Stacking and Inverse Random Under Sampling Methods

53   Pengwei Wang, Caihui Zhao and Zhaohui Zhang. An Ant Colony Algorithm based Approach for Cost-Effective Data Hosting with High Availability in Multi-Cloud Environments

Session 1C   Best Paper Session Ⅰ

Time: 14:00-15:40   Location: Jiuzhou Meeting Room

Chair: Zofia Lukszo   Co-Chair: Xin Luo

59   Xiaoyu Shi, Mingsheng Shang,Wenhong Tian,Abbas Khushnood,Shuai Wang,Tianshu Wu . Autonomic Performance Management of Cloud Server based on Adaptive Control Method

65   Liang Qi, Wenjing Luan and Yi-Sheng Huang. Traffic Incident Message Dissemination for Reducing Traffic Congestion

71   Mohammadhossein Ghahramani, Mengchu Zhou and Chi Tin Hon. Spatio-Temporal Analysis of Mobile Phone Data for Interaction Recognition

77   Kai Zhang, Qi Kang, Xuesong Wang and Mengchu Zhou,SiSi Li. A Visual Domain

Session 2A   Cyber-Physical Production System Ⅰ
Time: 16:10-17:50   Location: VIP Meeting Room
Chair: Theodoros A. Tsiftsis   Co-Chair: Ze Ji

Session 2B   Machine Learning for Predictive algorithms on Industrial Applications
Time: 16:10-17:50   Location: Zhuhai Meeting Room
Chair: De Benedetti Massimiliano   Co-Chairs: Wei Qin, Sisi Li

Session 2C   Best Paper Session Ⅱ
Time: 16:10-17:50   Location: Jiuzhou Meeting Room
Chair: Xin Luo   Co-Chair: Zofia Lukszo

Session 3A   Workshop: Digital Twin in Industry
    Time: 8:30-10:10   Location: VIP Meeting Room
    Chair: Fei Tao   Co-Chair: Tianliang Hu

Session 3B   Workshop: Industrial Wearable System: The Human-Centric Empowering Technology in Industry 4.0
    Time: 8:30-10:10   Location: Zhuhai Meeting Room
    Chair: Hao Luo   Co-Chair: Xiang T. R. Kong

Session 3C   Workshop: Operations Optimization and Performance Analysis of Advanced Manufacturing Systems
    Time: 8:30-10:10   Location: Jiuzhou Meeting Room
    Chair: Junqiang Wang   Co-Chair: Xiaolei Xie

decision based on constraint net and game theory

235 Cui-Lin Zhang. A coordination mechanism for scheduling game on parallel machines with flexible maintenance

Session 4A   High Dimensional and Sparse Network Analysis
Time: 10:40-12:20   Location: VIP Meeting Room
Chair: Xin Luo   Co-Chair: Mohamed Khalgui

241 Jia Chen, Tongge Xu and Zhang Xiong. An Efficient Latent-Factor-based Approach to Social Realtionship Recommendation

247 Qingxiu Qu and Xin Luo. Performance of Symmetric Non-negative Matrix Factorization-based Community Detector with Learning Depth Variations

254 Xi Cheng and Xin Luo. Elastic Net-regularized Latent Factor Model for Recommender Systems

261 Jia Chen and Xin Luo. Randomized Latent Factor Model for High-dimensional and Sparse Matrices from Industrial Applications

268 Ye Yuan and Xin Luo. Performance of Nonnegative Latent Factor Models with β-distance Functions in Recommender Systems

275 Di Wu, Mingsheng Shang, Guoyin Wang, Li Li. A Self-Training Semi-Supervised Classification Algorithm Based on Density Peaks of Data and Differential Evolution

Session 4B   Sensing
Time: 10:40-12:20   Location: Zhuhai Meeting Room
Chair: Yunni Xia   Co-Chair: Zhi Wei

281 Sungbok Kim. Mobile Robot Traveling Simulation Using Optical Mice in the Presence of Installation Restrictions

287 Tao Wu, Yonghao Zhao, Lifeng Liu, Huaxiong Li, Weihong Xu and Chunlin Chen. A Novel Hierarchical Regression Approach for Human Facial Age Estimation Based on Deep Forest

293 Xiao-Yu Wei, Dong-Song Yan, Yu-Xia Yang, Man-Jing Li, Yong-Jun Xie, Ying-Xin Yan. Dsign Of Cleaning Vehicle Monitoring System

297 Pingping Yang, Xianzhong Zhou, Haichen Guo and Yunpeng Zhou. Research on Self-turning Minimum Variance Control Algorithm in Non-minimum Phase System

Session 4C   Modeling, Control, and Scheduling of Discrete Event Dynamic Systems
Time: 10:40-12:20   Location: Jiuzhou Meeting Room
Chair: Bo Huang   Co-Chair: Chao-Bo Yan

302 Haibin Zhu, Tyler Kennedy, Hua Ma, Hongyu Zhang, Bo Lei and Youssou Gningue. A Simulation System for Flexible Transit Services based on E-CARGO

308 Bo Huang, Zhicheng Cai, Mengchu Zhou and Jiangen Hao. Scheduling of FMS based on Binary Decision Diagram and Petri Net

314 Li Li, Chunxiang Qian and Yuntian Zhu. Computational Modeling of Biomineral Carbonate Precipitation in Porous Sand Column at Micro Scale

Session 5A   **Cyber-Physical Production System Ⅱ**
Tmie: 14:00-15:40   Location: VIP Meeting Room
Chair: Wenjun Xu   Co-Chair: Matthias Thürer

Session 5B   **Sustainable Smart Manufacturing**
Time: 14:00-15:40   Location: Zhuhai Meeting Room
Chair: Yingfeng Zhang   Co-Chair: Yang Liu

Session 5C   **Control Ⅰ**
Time: 14:00-15:40   Location: Jiuzhou Meeting Room
Chair: Weimin Wu   Co-Chair: Hui Fu

Control Systems

401   Sungbok Kim. Multirotor Configurations of an Unmanned Mini Aircraft

407   Haoyue Liu, Mengchu Zhou ,Xiaoyu Sean Lu,Cynthia Yao. Weighted Gini Index Feature Selection Method for Imbalanced Data

413   Shen-Ping Xiao, Hong-Hai Lian, Hong-Bing Zeng and Gang Chen,Xiao-Hu Zhang. Robust Delay-Dependent Passivity Analysis for Neural Networks with Interval Time-Varying Delay

419   Jiacun Wang, Jiarui Tian and Ruoyun Sun. Emergency Healthcare Resource Requirement Analysis: A Stochastic Timed Petri Net Approach

425   Hui Fu and Kaiyu Chen. Macroscopic traffic modeling of heterogeneous road networks using coloured Petri nets

Session 6A   **Networking Satellites and Unmanned Ground Vehicles with Innovative Sensors and Sustainable Software for Smart, Clean, and Healthy Urban Environments**
Time: 16:10-17:50   Location: VIP Meeting Room
Chair: Ni-Bin Chang   Co-Chair: Hichem Arioui

431   Peng Wu. Optimal bus lane reservation with uncertain impact

436   Chengsheng Pan, Xiaoshuang Chen, Yunming Wang and Bo Chen. A Method of Key Links Identification in Command and Control Network Based on Bridging Coefficient

441   Qingli Liu and Yao Li. Satellite Resource Description and Search Based on hybrid Granularity

446   Liming Duan, Ruifeng Guo, Fenghai Wang, Rongli Gai and Ray Y Zhong. Linking Events-based Communication mechanism in Multi-agent Systems

451   Jia-Wei Lu, Ni-Bin Chang, Feng Zhu, Jing Hai, Li Liao. Smart and Green Urban Solid Waste Collection System for Differentiated Collection with Integarted Sensor Networks

Session 6B   **Smart Systems in Urban Environment**
Time: 16:10-17:50   Location: Zhuhai Meeting Room
Chair: Yi-Sheng Huang   Co-Chair: Mian Yan

456   Ting Zhang, Xintong Yang, Qingxin Chen, Liping Bai and Wenge Chen. Modified ACO for Home Health Care Scheduling and Routing Problem in Chinese Communities

462   Yaying Zhang and Yulong He. An Advanced Interactive-Voting Based Map Matching Algorithm for Low-sampling-rate GPS data

469   Shining Song, Dongsong Yan and Yongjun Xie. Design of control system based on hand gesture recognition

473   Liang Qi, MengChu Zhou. Analysis of Urban Traffic Jam Formation Based on Extended Cell Transmission Model

479   Hua Han, Mengchu Zhou, Yujin Zhang and Yifan Hu. Weight Determination in Multi-feature Fusion for Pedestrian Re-Identification

Session 6C   **Control Ⅱ**
Time: 16:10-17:50   Location: Jiuzhou Meeting Room
Chair: Naiqi Wu   Co-Chair: Wenfeng Li

485   Shanshan Yuan. General Limited Diffusion of Small-Sample Information and Application in Healthcare

490   Mingcong Deng, Shuobing Yang, Kohsuke Furukawa, Shin Wakitani. Experimental Study on a Spiral Heat Exchange Process using DCS Device

496   Pingbao Yin, Wenfeng Li and Ying Duan. Combinatorial Inertial Guidance System for an Automated Guided Vehicle

502   Dong Chen, Shiqi Li, Junfeng Wang and Yi Feng, Yang Liu. A Multi-objective Trajectory Planning Scheme for Parallel Assembly Mechanism with B-spline Curves

508   Turki Turki. An Empirical Study of Machine Learning Algorithms for Cancer Identification

Session 7A   **Sustainable Smart Logistics and Transportation Networks**
Time: 8:30-10:10   Location: VIP Meeting Room
Chair: Peng Wu   Co-Chair: Suxiu Xu

513   Mohammadhossein Ghahramani, Mengchu Zhou, Chi Tin Hon and Gang Wang. Retention Analysis based on a Logistic Regression Model: A Case Study

519   Duxian Nie, Ting Qu，Meilin Wang, George Q. Huang, Congdong Li. Research on Operation Model of Process Cluster Supply Chain

523   Aarav Vijay Sahu, Esther H. Park Lee and Zofia Lukszo. Exploring the potential of the vehicle-to-grid service in a sustainable smart city

529   Yunfei Fang, Xiaoyuan Wang, Peng Wu, Feng Chu, Zhen Zhou. Model and solution for lane reserv`ation problem with optimally grouping tasks

Session 7B   **Sensing and Control Technology in Urban Rail Transit Safety Operations**
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Chair: Jiangling Guo   Co-Chair: Yongjun Xie

535   Wenbin Tang, Yuhong Long, Yongjun Xie, Haijian Li, Changbo Tang and Zixuan Zhang. A Channel Rail Gauge Detection System of Modern Tram

540   Zixuan Zhang, Yongjun Xie, Wenbin Tang, Jieqiong Yang, Chaoran Hong and Jianjian Xia. Study on the Geometric Parameters Error Correction Algorithm of Modern Tram Groove Rail

546   Changbo Tang, Xuemei Li, Yongjun Xie, Haijian Li, Xinling Li and Wenbin Tang. Design and Research on Damage Block of Slot Track for Modern Tram

550   Jieqiong Yang, Yongjun Xie, Wenbin Tang, Zixuan Zhang, Yucheng Guo and Bo Ma. Research on Precise Positioning System of Tram Track Reference Points

556   Xinling Li, Chang-Bo Tang, Yong-Jun Xie, Xiao-Yu Wei, Zhi-Chao Huang and Yan-De Huang. Design and Verification of Ultrasonic Probe of Slot track for Modern Tram

561 Yu-Fan Wen, Yong-Jun Xie, Rui-Feng Cai, Zi-Quan Liang, Yang Su and Lei Huang. Study on the Environmental Safety Monitoring System for Modern Tram

Session 7C　**Modeling, Control, Scheduling and optimization of discrete event systems　Ⅰ**
Time: 8:30-10:10　　　　　　　　　Location: Jiuzhou Meeting Room
Chair: Yan Qiao　　　　　　　　　Co-Chair: Hui Fu

567 Ming Liu, Rongfan Liu, Shijin Wang, Feng Chu and Chengbin Chu. Container Truck Scheduling Problem under Empty Container Return Policy

573 Min Zhou, Bo Wang, Tian-Tian Li and Junzo Watada. Multi-objective unit commitment under hybrid uncertainties: A data-driven approach

578 Yan Ye, Jing-Feng Li,Richard Y. K. FUNG, Kai-Bin Li and Hui Fu. Optimizing Truck Scheduling in a Cross-docking System with Preemption and Unloading/loading Sequence Constraint

584 Zhongkai Cai, Zizhen Zhang and Huang He. Solving the Last Mile Delivery Problem using Iterated Local Search Approach

590 Caifei Xiong, Qi Kang, Zeyu Zhao, MengChu Zhou. An Opposition-based Particle Swarm Optimization Algorithm for Noisy Environments

Session 8A　**Modeling and data mining of social manufacturing networks**
Time: 10:40-12:20　　　　　　　　Location: VIP Meeting Room
Chair: Jiewu Leng　　　　　　　　Co-Chair: Fuqiang Zhang

596 Zhang Fuqiang, He Bin, Hui Jizhuang, Zhu Bin,Zhang Jinlong, Liu Yongjian, Cheng Gao. Smart management for steel-structure bridge industrialization construction

601 Fu Leijie, Bai Yv, Zhenyuan Zhong. Constructing a Vertical Knowledge Graph for Non-traditional Machining Industry

606 Yan Wang and Xian-Gang Cao. Modeling of big production data storage of fully mechanized mining equipment based on workflow-driven deep coupling network

Session 8B　**Smart Energy**
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Chair: Xiqiao Lin　　　　　　　　Co-Chair: Anna Pinnarelli

611 Qingren Jin, Min Guo, Weidong Chen . Research on the Design Method of Railway Traction Power Supply Cable under Harmonic Restraint

616 Lin Xiqiao,Wu Wanlu, Zeng Bo, Yan Xu, Han Shuai, Qin Lijuan. Analysis of large-scale electricity load profile using clustering method

621 Esther H. Park Lee, Zofia Lukszo and Paulien Herder. Aggregated fuel cell vehicles in electricity markets with high wind penetration

627 G. Brusco, A. Burgio, L. Mendicino, D. Menniti, M. Motta, A. Pinnarelli, N. Sorrentino. A Compact Nanogrid with a Behavior-Tree Control for Islanded Applications and Remote Areas

Session 8C　**Modeling, Control, Scheduling and optimization of discrete event systems　Ⅱ**
Time: 10:40-12:20　　　　　　　　Location: Jiuzhou Meeting Room

Chair: Chunrong Pan   Co-Chair: Yan Qiao