

2016 12th World Congress on Intelligent Control and Automation (WCICA 2016)

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5:20PM *Fault Monitoring and Diagnosis of Tobacco Ultrahigh-Speed Cellophane Sealing Machine with Multi-Condition Characteristic*
Wei Wang, Chunhui Zhao, Yuliang Li, Xiaochun Yu and Weidong Lou 798

5:35PM *Design and Maintenance of InSAR Configuration for Digital Elevation Measurement under J2 Perturbation*
Yanchao He and Ming Xu 804

MonN2-4 Pattern Recognition, Image Processing, Machine Learning, Chair: Hefang Zhang and Xuezhi Xiang, Room: Conference Room 5 (Fold Brocade Hall)

3:50PM	<i>Estimating Fetal Brain Motion with Total-Variation-Based Magnetic Resonance Image Registration</i>	809
	Luming Chen, Hefang Zhang, Shibin Wu, Shaode Yu and Yaoqin Xie	
4:05PM	<i>Motion Detection Based on RGB-D Data and Scene Flow Clustering</i>	814
	Xuezhi Xiang, Wangwang Xu, Erwei Bai, Zike Yan and Lei Zhang	
4:20PM	<i>Vehicle Detection and Tracking for Gas Station Surveillance Based on AdaBoosting and Optical Flow</i>	818
	Xuezhi Xiang, Wenlong Bao, Hanwei Tang, Jiajia Li and Yimeng Wei	
4:35PM	<i>A Hybrid Particle Swarm Optimization Algorithm for Coastline SAR Image Automatic Detection</i>	822
	Jianchao Fan, Ke Cao, Jianhua Zhao, Dawei Jiang and Xiaoliang Tang	
4:50PM	<i>ID Localization and Recognition for Railway Oil Tank Wagon in the Industrial Scene</i>	826
	Xuezhi Xiang, Fei Yang, Meng Wang, Wenlong Bao and Yujiao Sheng	
5:05PM	<i>A New Gait Recognition Method Using Kinect via Deterministic Learning</i>	830
	Fenglin Liu, Ying Wang, Qinghui Wang, Long Zhang and Wei Zeng	
5:20PM	<i>A Time Synchronization Method for Inertial Sensor and Visual Sensor</i>	836
	Ying Tian and Ming Fang	
5:35PM	<i>A Parallel Strategy for Stabilization Algorithm of Panoramic Camera Based on Multi-CCD</i>	840
	Zhengwei Ren, Ming Fang, Shuzhe Si, Feiran Fu and Yue Gong	

MonN2-5 Neural Networks and Control, Chair: Yancai Xu and Biao Luo, Room: Conference Room 6 (Yangshuo Hall)

3:50PM	<i>Adaptive Dynamic Programming for Residential Energy Scheduling with Solar Energy</i>	845
	Yancai Xu, Derong Liu, Qinglai Wei and Biao Luo	
4:05PM	<i>Adaptive Velocity-free Consensus of Networked Euler-Lagrange Systems with Delayed Communication</i>	851
	Lijiao Wang, Bin Meng and Yong Hu	
4:20PM	<i>Self-Learning Optimal Guaranteed Cost Control of Input-Affine Continuous-Time Nonlinear Systems Under Uncertain Environment</i>	857
	Ding Wang, Haibo He, Derong Liu, Chao Li and Huidong Wang	
4:35PM	<i>Improved Optimization Algorithm for Human Brain Structural Connectivity with Functional Connectivity Using Dynamic Mean-Field Model</i>	863
	Xue Chen and Yanjiang Wang	
4:50PM	<i>The Impact of Data Normalization on Tropical Cyclone Track Forecast in South China Sea</i>	869
	Lei Zhu and Jian Jin	
5:05PM	<i>State Estimation for Discrete Neural Networks with Randomly Occurring Uncertainties and Missing Measurements</i>	875
	Nan Hou, Hongli Dong, Xianye Bu and Fan Yang	
5:20PM	<i>A New Class of Finite Time Nonlinear Consensus Protocol with Short Convergence Time for Networks of Dynamic Agent</i>	881
	Xiaobo Wang, Juelong Li, Jianchun Xing, Ronghao Wang and Donghao Fu	
5:35PM	<i>Simulink Comparison of Varying-Parameter Convergent-Differential Neural-Network and Gradient Neural Network for Solving Online Linear Time-Varying Equations</i>	887
	Zhijun Zhang, Siwei Li and Xiaoyan Zhang	

MonN2-6 Smart Grids, Chair: Guang Shi and Shibin Wu, Room: Conference Room 7 (Lingui Hall)

3:50PM	<i>Prediction of Energy Consumption in Office Buildings Based on Echo State Network</i>	895
	Guang Shi, Derong Liu and Qinglai Wei	
4:05PM	<i>A Polynomial Fractional-order Charge-controlled Memristor Model</i>	900
	Lijie Diao, Gangquan Si, Jianwei Zhu and Zhiqiang Ding	
4:20PM	<i>Steady-State Analysis of Electric Spring for Smart Grid</i>	905
	Xile Wei, Yang Liu, Zhen Zhang and Jiang Wang	

4:35PM	<i>A Simple and Fast Image Cloning Algorithm</i> Yehu Shen, Lei Wei, Qiming Xu and Zhenyun Peng	910
4:50PM	<i>Signal Correlation Measure in Multi-Echo ST_2^*-w MR Images</i> Shaode Yu, Shibin Wu, Zhicheng Zhang and Yaoqin Xie	915
5:05PM	<i>Data Interactive Interface Technology for Isomer-ized Electric Power Simulation Software Based on CIM</i> Zhaoyong Meng, Boxi Zhou, Xiao Rong, Wenzhen Huang, Wei Hu and Yongliang Liu	920
5:20PM	<i>Linear Prediction of One-Sided Autocorrelation Sequence for Noisy Acoustics Recognition of Excavation Equipments</i> Sanwei Yang, Jiuwen Cao, Jianzhong Wang and Ruirong Wang	924
5:35PM	<i>A Novel Self-Organizing Cerebellar Instrumental Learning Algorithm Based on CPN</i> Jing Chen, Bing Li, Li Li and Zongshuai Li	929

MonN2-7 Biomedical Systems and Biosystems Automation, Chair: Jinling Liang and Zhong-Ping Jiang, Room: Pearl Hall

3:50PM	<i>LPVG Analysis of the EEG activity in Alzheimer's disease patients</i> Lihui Cai, Jiang Wang, Yuzhen Cao, Bin Deng and Chen Yang	934
4:05PM	<i>Mortality prediction for ICU patients using just-in-time learning and extreme learning machine</i> Yangyang Ding, Xuejian Li and Youqing Wang	939
4:20PM	<i>The Effect of Inhibitory Feedback on Temporal Regularity in Neural Networks</i> Chen Jin, Jiang Wang, Bin Deng, Yingmei Qin and Chunxiao Han	945
4:35PM	<i>Bogdanov-Takens Bifurcation for a Predator-Prey System with Holling Type IV Function</i> Jinling Wang and Jinling Liang	950
4:50PM	<i>A classification-based fault detection method for Continuous glucose monitoring (CGM)</i> Guangjian Song, Chunhui Zhao and Youxian Sun	956
5:05PM	<i>A Nonlinear Auto-Regressive Volterra Model Based on FPGA</i> Bin Deng, Hongji Li, Fei Su, Jiang Wang, Chen Liu and Yingmei Qin	962
5:20PM	<i>Functional Connectivity Estimation with General Linear Model</i> Jiang Wang, Hexi Zhou, Guosheng Yi and Dingtian Shi	967
5:35PM	<i>Human Simulated Intelligent Control on Magneto-rheological Vibration Isolation System for Subway Floating Slab Track with Moving Load</i> Rui Li, Hongli Zhou, Xi Li, Ze Zhang and Xiaojie Wang	971

MonN2-8 Intelligent Transportation Systems, Chair: Gang Xiong and Q.M. Jonathan Wu, Room: Jadeite Hall

3:50PM	<i>A Comparison study for Traffic Flow Data Compression</i> Shuo Feng, Yi Zhang and Li Li	977
4:05PM	<i>Cooperative Fusion for Road obstacles Detection using Laser Scanner and Camera</i> Shashibushan Yenkanchi and Q.M. Jonathan Wu	983
4:20PM	<i>Travel Time Prediction with Immune Genetic Algorithm and Support Vector Regression</i> Pan Gao, Jianming Hu, Hao Zhou and Yi Zhang	987
4:35PM	<i>Geometry Constraints-based Visual Rail Track Extraction</i> Zhongli Wang, Baigen Cai, Chunxiao Jia and Yinling Wang	993
4:50PM	<i>A Kind of Adaptive Dynamic Transit Signal Priority Control Method</i> Xisong Dong, Gang Xiong, Wenwen Kang and Fenghua Zhu	999
5:05PM	<i>An Algorithm for Freeway Traffic State Detection Considering Speed Difference Characteristic</i> Min Zhao, Xi Chen, Dihua Sun and Tong Zhou	1005
5:20PM	<i>Urban Traffic State Analysis Based on the Macroscopic Fundamental Diagrams of the Variability of Vehicle Densities</i> Shuqing Liu and Jianmin Xu	1010

5:35PM *Rolling Bearing Fault Diagnosis: A Data-based Method Using EEMD, Information Entropy and One-Versus-One SVM*
Wei-Li Qin, Wen-Jin Zhang and Chen Lu 1016

MonN2-9 Big Data Analysis, Compressed Sampling and Visualization, Chair: Wenjia Wang and Yuelong Su, Room: Amber Hall

3:50PM *Dynamic Ensemble Selection Methods for Heterogeneous Data Mining*
Chris Ballard and Wenjia Wang 1021

4:05PM *Dynamic Information Extraction for the Big Data*
Xue-bo Jin and Chao Dou 1027

4:20PM *Fast Clustering based on State Learning Machine*
Yu Kou, QingXiang Wu, Xue Li and Sanliang Hong 1031

4:35PM *Data Preprocessing and Fitting Algorithm Based on Marine Data Sampled by Multiple Underwater Gliders*
Zhenzhen Xu, Mingfei Jia, Lu Li, Shuo Yu, Jiancheng Yu and Shijie Liu 1036

4:50PM *HTME: A Data Streams Processing Strategy based on Hoeffding Tree in MapReduce Environment*
Xin Song, Jing Gao, Jin'an Ma, Shaokai Niu and Huiyuan He 1042

5:05PM *Design of Adaptive Feature Extraction Algorithm Based on Fuzzy Classifier in Hyperspectral Imagery Classification for Big Data Analysis*
Juan Rochac, Nian Zhang and Pradeep Behera 1046

5:20PM *Revealing New York Taxi Drivers' Operation Patterns Focusing on the Revenue Aspect*
Yongqi Dong, Zuo Zhang, Rui Fu and Xie Na 1052

5:35PM *Data Mining Applications for Finding Golden Batch Benchmarks and Optimizing Batch Process Control*
Yuelong Su and Fengqin Yu 1058

MonN2-10 Intelligent Optimization and Applications, Chair: Huixian Huang and Anmin Zhu, Room: Business Center

3:50PM *A Self-Adaptive Mutation Cuckoo Search Algorithm*
Huixian Huang and Pengfei Hu 1064

4:05PM *Neighborhood Search with Memory and Global Exchange for Three-Agent Job Shop Scheduling*
Deming Lei and Ziyi Ai 1069

4:20PM *Self-Adaptive Differential Evolution Algorithm for the Optimization Design of Pressure Vessel*
Huixian Huang and Pengfei Hu 1074

4:35PM *Optimization Algorithm of Serial Manipulator Structure Based on Posture Manipulability*
Shiyuan Jia, Yinghong Jia and Shijie Xu 1080

4:50PM *An Improved Cuckoo Search Algorithm for Resource-Constrained Project Scheduling Problem with Generalized Precedence Relations*
Yidong Jin, Hui Nie, Pengfei Duan and Huihua Yang 1086

5:05PM *Mixing Control of Animating Virtual Human for Maintenance Simulation*
Zhiqi Guo, Chuan Lv, Dong Zhou, Xu Peng and Zili Wang 1091

5:20PM *Planning Optimal Trajectory for Histogram-enabled Mapping and Navigation by an Efficient PSO Algorithm*
Chaomin Luo, Anmin Zhu, Hongwei Mo and Wenbing Zhao 1099

5:35PM *Optimization Control Method of VAV Air Conditioning System*
Xiaocheng Zhang, Ronghao Wang and Jianchun Xing 1105

Tuesday, June 14, 1:30PM-3:30PM

Special Session: TueN1-1 Modeling, Identification and Control of Distributed Parameter Systems (DPS), Chair: Wei He and Deqing Huang, Room: Conference Room 2 (Li River Hall)

- 1:30PM *Vibration Suppression of an Axially Moving System by Adaptive Boundary Control*
Yu Liu, Kun Sun, Zhijia Zhao and Yilin Wu 1111
- 1:45PM *Robust H_∞ Guaranteed Cost Control for Uncertain Linear Stochastic Partial Differential Systems with Time-Varying Delay*
Xisheng Dai, Sange Mei, Haiying Yuan and Yongxin Qin 1117
- 2:00PM *Luenberger Observer Design for State Estimation of a Linear Parabolic Distributed Parameter System with Discrete Measurement Sensors*
Jun-Wei Wang, Ya-Qiang Liu and Chang-Yin Sun 1123
- 2:15PM *Boundary Control Design for a Flexible Robotic Manipulator Modeled as a Timoshenko Beam*
Xiuyu He, Wei He, Wei You and Changyin Sun 1129
- 2:30PM *Boundary Control based on an Infinite Dimensional System of a Marine Riser with Constraint*
Shuang Zhang and Xiuyu He 1135
- 2:45PM *Modeling and Vibration Control of Flexible Wings With Output Constraint*
Wei He, Tong Lv, Yunan Chen, Xiuyu He and Changyin Sun 1141
- 3:00PM *Identification of Unknown Modes for Air-Conditioning Based on Hybrid Clustering Algorithm*
Pengcheng Zhao, Donghui Li, Zhongyan Feng, Lele Yao and Guanlong Jia 1147
- 3:15PM *Online Identification of Resonance Using Extremum Seeking Control*
Fanxing Kong, Songlin Chen, Siyuan Chen, Libin Wang and Xin Huo 1152

Special Session: TueN1-2 Quantum Control and Quantum Cybernetics, Chair: Daoyi Dong and Jing Zhang, Room: Conference Room 3 (Beautiful Peak Hall)

- 1:30PM *Boundary Analysis in Block Schemes for Control of Some Multi-Level Quantum Systems*
Yang Ling, Dewen Cao, Yaoxiong Wang, Feng Shuang and Fang Gao 1158
- 1:45PM *Stochastic Distributed Consensus with Quantized Data and Input Noise*
Yu Lu, Xiaofeng Liao and Huiwei Wang 1164
- 2:00PM *Feedback Tracking Control of a Class of Non-Markovian Quantum Systems*
Shibei Xue and Ian R. Petersen 1170
- 2:15PM *Novel Adaptive Dynamic Surface Control of Nonlinear systems*
Shuguang Liu, Yangwang Fang, Xianglun Zhang and Qiang Tang 1174
- 2:30PM *Learning a control field for simultaneous state transformation in CO molecules*
Chao Wang, Wei Zhang, Chuan-cun Shu and Daoyi Dong 1180
- 2:45PM *Faithful teleportation via multi-particle quantum states in a network with many agents*
Min Jiang, Xu Huang, Lipeng Xue and Yanhua Liu 1185
- 3:00PM *Lyapunov-based control of a double quantum-dot qubit*
Shuang Cong and Ming-yong Gao 1190
- 3:15PM *Enhancing Optical Kerr Nonlinearity By Gain-loss Balanced Feedback Loop*
Changlong Zhu, Chenshuo Sun, Zhongpeng Liu, Nan Yang and Jing Zhang 1196

Special Session: TueN1-3 Application Oriented Image Analysis in Robot Vision and Machine Vision, Chair: Sheng-Lan Liu and Xu Yang, Room: Conference Room 4 (Elephant Trunk Hill Hall)

- 1:30PM *Uncorrelated Feature Selection via Intra-group Competition and Inter-group Cooperation*
Mingyu Fan, Xiangmin Yuan, Wenlong Zhu, Guanhua Tian and Xilian Zhang 1201
- 1:45PM *Introducing Projective Transformations into Lunar Image Correspondence for Positioning Large Distance Rover*
Chuankai Liu, Baofeng Wang, Xu Yang and Geshe Tang 1206

2:00PM	<i>Local Co-occurrence Pattern for Color and Texture Image Retrieval</i> Li Li, Lin Feng, Shenglan Liu and Yang Liu	1212
2:15PM	<i>Robust High-precision Control of a Piezoelectric-actuated Nano-positioner with Hysteresis Compensation</i> Lina Xuan and Peng Yan	1218
2:30PM	<i>Kernelized Cross-Modal Hashing for Multimedia Retrieval</i> Shoubiao Tan, Lingyu Hu, Anqi Wang-Xu, Jun Tang and Zhaohong Jia	1224
2:45PM	<i>The Intelligent Robot Arm Based on Sense of Sight</i> Zhenyu Wu, Libin Liu, Yuchen An, Jiping Wu and Hongxu Shao	1229
3:00PM	<i>Transfer classification for distinct manifestations with shared information</i> Lu Qi, Peijie Yin, XiaYuan Huang, Ken Chen and Hong Qiao	1234
3:15PM	<i>Grasp Type Understanding -- Classification, Localization and Clustering</i> Yinlin Li, Yuren Zhang, Hong Qiao, Ken Chen and Xuanyang Xi	1240

TueN1-4 System Modeling and Parameter Estimation, Chair: Yongchun Fang and Sergey An. Gayvoronskiy, Room: Conference Room 5 (Fold Brocade Hall)

1:30PM	<i>Time and Frequency Domain Analysis to Plant Electrical Signal of Swallow palm and Anthurium under Controlled LED Environment</i> Liguo Tian, Qinghao Meng, Yushuang Li, Meng Li, Xiaolin Wang and Yu Han	1246
1:45PM	<i>Dynamics Analysis of an Offshore Ship-mounted Crane Subject to Sea Wave Disturbances</i> Yuzhe Qian and Yongchun Fang	1251
2:00PM	<i>Mathematical Model of the Control System of a Tethered Descent Underwater Vehicle</i> Sergey An. Gayvoronskiy, Tatiana Ezangina and Ivan Khozhaev	1257
2:15PM	<i>Compact Modelling of Organic Rankine Cycle for Waste Heat Recovery</i> Kailong Liu, Kang Li and Jianhua Zhang	1263
2:30PM	<i>Eye-Gaze Tracking System Based on Particle Swarm Optimization and BP Neural Network</i> Liling Yu, Jiangchun Xu and Shengwang Huang	1269
2:45PM	<i>Improved Neural Network Models for Coordinated Controller Design of Supercritical Coal-fired Power Generating Unit</i> Yanna Xi, Yinsong Wang and Kaibing Song	1274
3:00PM	<i>Maximum Likelihood Least Squares Iterative Identification Algorithm for Hammerstein Output Error Moving Average Systems</i> Junhong Li, Weixing Zheng, Yi Yang, Qing Zhang and Chen Li	1280
3:15PM	<i>Lateral Stability Controller Design for Electrical Vehicle Based on Active Rear Wheel Steering</i> Hongyan Guo, Ningfeng Hao and Hong Chen	1285

TueN1-5 Fault Diagnosis and Safe Operation, Chair: Zhijun Li and Xiaogang Deng, Room: Conference Room 6 (Yangshuo Hall)

1:30PM	<i>Local Entropy Principal Component Analysis and Its Application for Multimode Process Monitoring</i> Na Zhong and Xiaogang Deng	1291
1:45PM	<i>A Diagnosis Scheme for Intermittent Faults in Active Suspension Systems of High Speed Trains</i> Rongyi Yan, Xiao He and Donghua Zhou	1297
2:00PM	<i>An Expert System Reasoning Machine Based on the Combination of Fault Tree and Generalized Regression Neural Network</i> Lu Yang, Jian Wang, Guigang Zhang and Zhaoping Ding	1303
2:15PM	<i>Fault Detection for Multi-Rate Sampling Systems Based on Dynamic Principal Component Analysis</i> Zhijun Li, Lele Liang, Cunwu Han, Fumin Guo and Dehui Sun	1307
2:30PM	<i>PEM Fuel Cell Health State Assessment using A Geometrical Approach and Mahalanobis Distance</i> Yajie Wang, Hongmei Liu, Chen Lu and Bo Zhou	1312

2:45PM	<i>Fault Diagnosis for Centrifugal Pumps Based on Complementary Ensemble Empirical Mode Decomposition, Sample Entropy and Random Forest</i>	1317
	Yang Wang, Chen Lu, Hongmei Liu and Yajie Wang	
3:00PM	<i>Performance assessment for aileron actuators based on MF-DFA and SOM neural network</i>	1321
	Hongmei Liu, Lianfeng Li, Chen Lu, Wanlin Zhao and Xuan Wang	
3:15PM	<i>Fault Diagnosis Technology of Rolling Bearing Based on LMD and BP Neural Network</i>	1327
	Li-Pin Zhang, Hong-Mei Liu and Chen Lu	

TueN1-6 System Simulation, Chair: Jie Chen and Perry Li, Room: Conference Room 7 (Lingui Hall)

1:30PM	<i>The Brittleness Problem of Power System with Different Wind Power Penetration Based on Cellular Automata Theory</i>	1332
	Jian Guo, Xu Zhang, Jia Du, Haishan Guo, Yi Jiang and Xuesong Yan	
1:45PM	<i>Battery State of Charge Estimation Hardware-in-loop System Design Based on xPC Target</i>	1338
	Yan Ma, Bingsi Li, Xiuwen Zhou and Hong Chen	
2:00PM	<i>An Improved Lattice Reduction Aided Detection Scheme in MIMO Systems</i>	1344
	Fang Ye, Chunxia Su and Yu Xia	
2:15PM	<i>Minimum Interfering Power Based on Interference Matrix Reconstruction for IA</i>	1349
	Xueying Diao, Yibing Li and Dandan Liu	
2:30PM	<i>A Lattice Reduction Aided Parallel Detector Based on Quantization Error Correction</i>	1354
	Fang Ye, Han Yu and Yu Xia	
2:45PM	<i>Coordination Control of a 3 DOF Distributed Human Assistive Load Lifting System with Force Amplification</i>	1359
	Shi Hu and Perry Li	
3:00PM	<i>Active Disturbance Rejection Sliding Mode Altitude and Attitude Control of a Quadrotor with Uncertainties</i>	1366
	Hongbo Lu, Xinshan Zhu, Chao Ren, Shugen Ma and Wenjie Wang	
3:15PM	<i>Uncertain Information Fusion for Gearbox Fault Diagnosis Based on BP Neural Network and DS Evidence Theory</i>	1372
	Jie Chen, Yibing Li and Fang Ye	

TueN1-7 Measurement Methods and Intelligent Instrumentation, Chair: Like Yan and Zhi-Hua Li, Room: Pearl Hall

1:30PM	<i>Edge Preservation Ratio for Image Sharpness Assessment</i>	1377
	Luming Chen, Fan Jiang, Hefang Zhang, Shibin Wu, Shaode Yu and Yaoqin Xie	
1:45PM	<i>The Development and Prospect of Surface Defect Detection Based on Vision Measurement Method</i>	1382
	Lunxi Yuan, Zhengtao Zhang and Xian Tao	
2:00PM	<i>Rapid Detection of Chinese Liquors Using a Portable E-nose Based on C-SVM</i>	1388
	Pei-Feng Qi, Qing-Hao Meng, Ya-Qi Jing, Ming Zeng and Shu-Gen Ma	
2:15PM	<i>Charting the Landscape of Enterprise Architecture Complexity Cybernetics</i>	1393
	Jiong Fu, Aimin Luo, Xueshan Luo and Junxian Liu	
2:30PM	<i>A Slope Detection Method Based on 3D LiDAR Suitable for Quadruped Robots</i>	1398
	Xiangrui Meng, Zhiqiang Cao, Leijie Zhang, Shuo Wang and Chao Zhou	
2:45PM	<i>A Modified Joint Trilateral Filter Based Depth Map Refinement Method</i>	1403
	Xuezhi Xiang, Zike Yan, Changjun Nan, Wangwang Xu and Zhang Lei	
3:00PM	<i>Boosting-Based One-Class SVM for Recognizing True-Fake Chinese Liquors Using Electronic Noses</i>	1408
	Zhi-Hua Li, Qing-Hao Meng, Pei-Feng Qi, Yu Zhou and Shu-Gen Ma	
3:15PM	<i>Triple-step Nonlinear Control Design for Road Vehicles After a Tire Blow-out on the Highway</i>	1414
	Fei Wang, Ningfeng Hao, Linhuan Song and Hong Chen	

TueN1-8 Sensors, Sensor Networks, Sensing and Signal Processing, Chair: Pei-Feng Qi and Xiaoyuan Luo, Room: Jadeite Hall

- 1:30PM *Phase-Compensator Design Using Convex-Programming Scheme*
Tian-Bo Deng 1420
- 1:45PM *Incremental Kalman Filter for Consensus Estimate of Wireless Sensor Networks*
Xiaolei Li, Xiaoyuan Luo and Shaobao Li 1424
- 2:00PM *A Bio-inspired Data Processing Method for Classification of Chinese Liquors Using Electronic Nose*
Ya-Qi Jing, Qing-Hao Meng, Pei-Feng Qi, Xue-mei Jia and Shu-Gen Ma 1430
- 2:15PM *SAR Imaging Algorithm for the Burden Surface in BF Based on wk Algorithm*
Huan Wang, Xianzhong Chen and Qingwen Hou 1436
- 2:30PM *Left-Coprime-Factorization-Based Measurement Fusion Wiener Estimators for Multi-Sensor Systems with Correlated Noises*
Yuan Gao, Jun Wang, Chenjian Ran, Yinlong Huo and Yinfeng Dou 1442
- 2:45PM *Prolonging the Network Lifetime Based on LPA-star Algorithm and Fuzzy Logic in Wireless Sensor Network*
Ahmed Alkadhawee and Songfeng Lu 1448
- 3:00PM *Smooth State Feedback Stabilization for A Class of Planar Switched Nonlinear Systems under Arbitrary Switching*
Xiangze Lin, Shuaiting Huang, Chunjiang Qian and Shihua Li 1454
- 3:15PM *Regression Forest for Interference Assessment in Real Ultra Short-Wave Communication Jamming System*
Lei Zhang, Tinghan Xiao, Jia Hao and Xuezhi Xiang 1459

TueN1-9 Mobile Robots, Chair: Juntao Xue and Fei Chao, Room: Amber Hall

- 1:30PM *A Novel Approach to a Mobile Robot via Multiple Human Body Postures*
Dajun Zhou, Fei Chao, Zuyuan Zhu, Chih-Min Lin and Changle Zhou 1463
- 1:45PM *A Robot Pose Estimation Approach Based on Key Feature Registration*
Wenbo Yuan, Tianzhu Wang, Zhiqiang Cao and Min Tan 1469
- 2:00PM *Fusing Sound and Dead Reckoning for Multi-robot Cooperative Localization*
Yu-Han Cheng, Qing-Hao Meng, Ying-Jie Liu, Ming Zeng, Le Xue and Shu-Gen Ma 1474
- 2:15PM *Mobile Robot Autonomous Path Planning Based on Fuzzy Logic and Filter Smoothing in Dynamic Environment*
Yupei Yan and Yangmin Li 1479
- 2:30PM *Route Planning System of Smart vehicles based on Monocular Vision*
Yang Zhao, Juntao Xue and Shaopeng Xu 1485
- 2:45PM *Tracking Feedback System of Golf Robotic Caddie Based on the Binocular Vision*
Yuejuan Tang, Jing Xu and Ming Fang 1491
- 3:00PM *Multi-robot Odor Source Search Based on Cuckoo Search Algorithm in Ventilated Indoor Environment*
Wenjie Wang, Mengli Cao, Shugen Ma, Chao Ren, Xinsan Zhu and Hongbo Lu 1496
- 3:15PM *Trajectory control of lower limb exoskeleton robot with variable forgetting factor*
Fei Wang, Pengfei Shi, Shining Li, Shusen Zhao and Wanjia Liu 1502

TueN1-10 Service Robots and Intelligent Society, Chair: Pengfei Cao and Shuhua Liu, Room: Business Center

- 1:30PM *Cognitive Abilities of Indoor Cleaning Robots*
Shuhua Liu, Li Zheng, Siyu Wang, Runmin Li and Yu Zhao 1508
- 1:45PM *Real-time and Fast RGB-D based People Detection and Tracking for Service Robots*
Yue Sun, Lei Sun and Jingtai Liu 1514
- 2:00PM *Time-Optimal Path Tracking for Coordinated Dual-robot System Using Sequential Convex Programming*
Pengfei Cao, Yahui Gan, Jinjun Duan and Xianzhong Dai 1520

2:15PM	<i>An Emotion-Driven Attention Model for Service Robot</i> Ying Mei and Zhentao Liu	1526
2:30PM	<i>Jacobian Analysis for Lower Mobility Parallel Robots Based on Actuating Wrenches</i> Wanghui Bu, Jing Chen, Xianghua An and Chengju Liu	1532
2:45PM	<i>The Pitch-reciprocal Screw Relating a Twist and an Actuating Wrench</i> Wanghui Bu, Jing Chen, Xianghua An and Chengju Liu	1537
3:00PM	<i>Simultaneous calibration and mapping for mobile robot with non-holonomic constraint</i> Hengbo Tang, Yunhui Liu and Luyang Li	1543
3:15PM	<i>Teleoperation Control of An Exoskeleton Robot Using Brain Machine Interface and Visual Compressive Sensing</i> Zhijun Li, Wei He, Chenguang Yang, Shiyuan Qiu, Longbin Zhang and Chun-Yi Su	1550

Tuesday, June 14, 1:30PM-5:50PM

Plenary Poster Session: P2 Poster Session 2, Chair: Jun Chen and Haibin Sun, Room: Poster Area

P301	<i>Ear Recognition with Occlusion via Discrimination Dictionary and Occlusion Dictionary based Sparse Representation</i> Li Yuan, Fen Li and Wei Liu	1556
P302	<i>Passivity Control Based on Euler-Lagrangian Model for D-STATCOM With LCL Filter</i> Jinmu Lai, Xianggen Yin, Ertao Lei, Yu Chen and Xin Yin	1561
P303	<i>A Comprehensive Control Strategy Suitable for Reactive Power Compensation and Harmonic Elimination</i> Jian Dai, Minghao Wen, Ertao Lei, Yu Chen, Haihuan Wu and Xianggen Yin	1566
P304	<i>An Improved Probabilistic Principal Component Analysis Approach for Process Monitoring and Fault Diagnosis</i> Zhengdao Zhang, Bican Peng and Linbo Xie	1571
P305	<i>A Simulation Study on Air Traffic Control Strategies</i> Xiaobing Hu, Jianqin Liao and Ezequiel Di Paolo	1577
P306	<i>Experimental Method of Three-dimensional Velocity Field Measurement in Circular Pipe Based on PIV</i> Dandan Zheng, Guang Lu, Jiaodan Zhang and Mi Wang	1584
P307	<i>An Improved Load Shedding Model Based on Power Flow Tracing</i> Guoyan Chen, Yong Wang, Guojun Lu, Jin Hu, Dahai You, Feng Zhang and Zhe He	1590
P308	<i>An Economic Dispatch Model Based on Scenario Tree in Industrial Micro-grid with Solar Power and Storage</i> Jing Cai, Feng Gao, Xiaohong Guan, Kun Liu, Nana Yao and Xingrui Cheng	1594
P309	<i>Nonlinear Model Predictive Controller Design for Air System Control of a Gasoline Engine</i> You Li, Yunfeng Hu, Shuwen Wang and Hong Chen	1600
P310	<i>Charging and Discharging Control for Flywheel Battery Driven by Switched Reluctance Machine</i> Hongwei Fang, Dan Wang, Huimin Chu and Ting Jia	1606
P311	<i>Stereoscopic Image Generation Based on Region-wise Rendering for 2D to 3D conversion</i> Wei Liu, Dehua Zhang, Mingyue Cui and Yu Zhang	1612
P312	<i>A New Kind of Learning Algorithm with the Mechanism of Intrinsic Motivation</i> Xiaoping Zhang, Xiaogang Ruan, Yao Xiao and Jing Huang	1618
P313	<i>Distributed Optimization Strategy for Multi-region Power Scheduling Based on Alternating Direction Method of Multipliers</i> Chenlin Sun, Jiang Wu, Feng Gao and Xiaohong Guan	1622
P314	<i>Adaptive Output Feedback Dynamic Surface Control of Nonlinear Systems with Actuator Failures and Unmodeled Dynamics</i> Jun Mao, Tianping Zhang and Qikun Shen	1628

P315	<i>Reactive Power Compensation in Microgrids via Distributed Control Strategy</i> Xiong Hu, Hong Zhou, Zhi-Wei Liu, Zhi-Hong Guan and Ming Chi	1635
P316	<i>Combustion Timing Control of HCCI Engine Based on FNN-PID and Black-box Model</i> Taixiong Zheng, Song Pan, Yongfu Li, Bin Yang, Lichen Shi and Zuyao Li	1641
P317	<i>Output Feedback Tracking Control of A Class of Continuous Nonlinear Systems via Adaptive Dynamic Programming Approach</i> Yang Yang, Dong Yue and Jing Shi	1647
P318	<i>Analysis of Coupling Effects between Flight and Propulsion Systems for DPC aircraft</i> Jing Zhang, Xianfa Zeng and Lingyu Yang	1653
P319	<i>Rolling element bearing diagnostic based on EEMD and SVM</i> Nan Xie, Fei Ma and Beirong Zheng	1658
P320	<i>Imperialist Competitive Algorithm for Design Optimization of Crane Metallic Structure</i> Xiaoning Fan and Zhiyong Cui	1663
P321	<i>A Programmable Electrical Stimulator for Suppressing Pathological Tremor</i> Wei Xin, Yongsheng Gao, Shengxin Wang and Jie Zhao	1669
P322	<i>Exponential Stability of Impulsive Differential Systems with Variable Delays</i> Huamin Wang, Shukai Duan, Tingwen Huang and Lidan Wang	1675
P323	<i>Modeling of Spacecraft with Flexible Solar Panel Considering Thermally Induced Motion</i> Lijun Li and Liang Tang	1681
P324	<i>A Novel Spatial Approach for Classification of High-Resolution Image Scene</i> Yuxia Sheng and Xiaoyong Bian	1686
P325	<i>Event-Based Consensus of First-Order Discrete Time Multi-Agent Systems</i> Wei Zhu and Zhongyuan Tian	1692
P326	<i>Location Recommendation Algorithm Based on Temporal and Geographical Similarity in Location-based Social Networks</i> Zhengwu Yuan and Haiguang Li	1697
P327	<i>Design of Fractional Order Smith Predictor Controller for Non-Square System</i> Shuai Lei, Zhicheng Zhao and Jinggang Zhang	1703
P328	<i>An Improved ORB, Gravity-ORB for Target Detection on Mobile Devices</i> Zhuqing Hu and Yongshi Jiang	1708
P329	<i>Multi-model switching control of hypersonic vehicle with variable-geometry scramjet inlet based on adaptive neural network</i> Jingqi Gao, Liqian Dou and Peihua Su	1714
P330	<i>Selective Ensemble Kernel Partial Least Squares Method based on Dual Layer Genetic Algorithm Optimization with Its Application</i> Jian Tang, Tianyou Chai, Zhiwei Wu, Zhuo Liu and Wen Yu	1720
P331	<i>Design and 2D Finite Element Analysis for a Novel Magnetic Gear Integrated Brushless Permanent Machine</i> Lifei Zhang and Qingqing Ding	1726
P332	<i>Integrated Fault Detection and Control for 2-D Roesser Systems</i> Ren Yingying, Da-Wei Ding and Li Mo	1731
P333	<i>A Neural-Network-Based Model of Hysteresis in Magnetostrictive Actuators</i> Yu Shen, Lianwei Ma, Jinrong Li, Xinlong Zhao, Xiuyu Zhang and Hui Zheng	1737
P334	<i>Application of Weighted Evidence Theory in the Space-Earth Fault Diagnosis Result Fusion of Spacecraft</i> Wenjing Liu and Baoyi Teng	1742
P335	<i>Design of H_infinity Optimal PID Controller Based on Multi-Agent Particle Swarm Optimization Algorithm</i> Binquan Wang, Lingcheng Kong and Guoqi Ma	1749

P336	<i>Controllability of Discrete-Time Switched Fractional Order Systems</i> Artur Babiarez, Tomasz Grzejszczak, Adrian Legowski and Michal Niezabitowski	1754
P337	<i>Using smartphones to estimate vehicle emission under urban traffic level-of-service</i> Liguo Zhang, Mengning Ou, Xu Fu and Xupu Yan	1758
P338	<i>Variable Structure Single Neuron Adaptive PSD Control of Automotive Electronic Throttle</i> Taixiong Zheng, Hao Xu, Yongfu Li, Yang Bin, Lichen Shi and Weimin Han	1764
P339	<i>A Robust Alogrithm for Deadline-Constrained Task Scheduling in Small Satellite Clusters</i> Jin Wu, Lixiang Liu and Xiaohui Hu	1769
P340	<i>A Modified Hopfield Neural Network for Solving TSP Problem</i> Rong Li, Junfei Qiao and Wenjing Li	1775

Tuesday, June 14, 3:50PM-5:50PM

Special Session: TueN2-1 Modeling, Control and Optimization of Electrical Traction System in High-speed Railway, Chair: Wenbo Du and Zheng Zheng, Room: Conference Room 2 (Li River Hall)

3:50PM	<i>Decoupling Predictive Current Control for Traction Line-side Converter in High-speed Railway</i> Chuan Xiang, Zhigang Liu, Shulong Yao and Guinan Zhang	1781
4:05PM	<i>H infinity Control of Line-Side Converter in Electric Multiple Unit</i> Shulong Yao, Zhigang Liu, Xiang Chuan and Guinan Zhang	1786
4:20PM	<i>Cascaded H-bridge Harmonic Generator Used for Impedance-Frequency Assessment of Traction Power Supply System</i> Qiujiang Liu, Mingli Wu, Kejian Song and Jing Li	1791
4:35PM	<i>Measurement and Simulation on Low-frequency Oscillation in the Traction Network of Xuzhou North Railway Hub</i> Jing Li, Mingli Wu and Qiujiang Liu	1797
4:50PM	<i>Energy-saving Operation Optimization of Middle-Low-Speed Maglev Train Based on Genetic Algorithm</i> Yanjuan Jiao, Shikai Liu, Haokai Huang, XIAO Ma and Shaoke Liu	1803
5:05PM	<i>Discharge Model and Control Strategy for E-bicycle Mixed Intersections</i> Yu-Liang Liu and Yisheng Lv	1808
5:20PM	<i>Real-Time Vehicle Counting Method Based on Image Sequences with Laser Line</i> Yun Ye and Xingang Wang	1814
5:35PM	<i>Distributed Robust Attack Detection and Reconstruction for a Class of Uncertain Nonlinear Interconnected CPSs</i> Wei Ao, Yongduan Song and Changyun Wen	1819

Special Session: TueN2-2 Application Oriented Image Analysis in Robot Vision and Machine Vision, Chair: Sheng-Lan Liu and Zhenyu Wu, Room: Conference Room 3 (Beautiful Peak Hall)

3:50PM	<i>A Graph Matching Based Key Point Correspondence Method for Lunar Surface Images</i> Yuren Zhang, Xu Yang, Hong Qiao, Zhiyong Liu, Chuankai Liu and Baofeng Wang	1825
4:05PM	<i>A Modified Algorithm of Radar Simulator Echo Images Generation</i> Ye Li and Hong-xiang Ren	1831
4:20PM	<i>Color Binary Correlation descriptor for Image Retrieval</i> Jun Wu, Shenglan Liu and Lin Feng	1837
4:35PM	<i>Optimal Label Vector for Convolutional Neural Network</i> Lin Feng, Muxin Sun, Shenglan Liu and Jun Wu	1842
4:50PM	<i>Design of Vibrating Wire Sensor Signal Acquisition Board based on STM32</i> Zhenyu Wu, Shenglan Liu, Meng Du, Qiang Li, Chengda Han and Jiping Wu	1846
5:05PM	<i>Robust Hashing Learning via Multi-View Subspace Learning</i> Yang Liu, Shenglan Liu and Lin Feng	1850

- 5:20PM *Fast Rejecting Mismatches Using Pair-wise Similarity*
Deheng Qian, Xu Yang, Yuren Zhang and Hong Qiao 1856
- 5:35PM *Short-term Demand Forecasting for Distributed Water Supply Networks: A Multi-scale Approach*
Ziwei Ren and Shaoyuan Li 1860

**Special Session: TueN2-3 Control and Filtering for Distributed Networked Systems,
Chair: Qing-Long Han and Yu-Long Wang, Room: Conference Room 4 (Elephant Trunk Hill Hall)**

- 3:50PM *Matrix Quadratic Convex Combination for Stability of Linear Systems with Time-Varying Delay via New Augmented Lyapunov Functional*
Feisheng Yang, Jing He and Lei Li 1866
- 4:05PM *Optimal Estimation for Networked Multi-sensor Systems with Communication Constraints*
Jiajia Jin, Wen-An Zhang and Hongxia Wang 1871
- 4:20PM *A novel 3D binary-state angle network and its reliability evaluate*
Chia-Ling Huang, Wei-Chang Yeh, Haw-Sheng Wu, Chyh-Ming Lai and Yu-Xian Huang 1876
- 4:35PM *Distributed l2-l_infinite State Estimation for Periodic Systems with Multiplicative Noises*
Renquan Lu, Jun-Yi Li, Hui Peng and Yong Xu 1881
- 4:50PM *An Approach of Designing and Developing Human View of C4ISR Architecture*
Li Ma, Aimin Luo and Jiong Fu 1887
- 5:05PM *Finite-Time Consensus Problem of Multi-Agent Systems over Switching Jointly Connected Topologies*
Fenglan Sun, Rui Wang, Yongfu Li and Feng Liu 1892
- 5:20PM *Distributed Consensus-based Filter for Linear Systems with Random Transmission Delays and Packet Dropouts*
Chunyan Han and Wei Wang 1897
- 5:35PM *The Design of Automatic Frequency and Load Modulation of Marine PMS Based on ControlLogix*
Yongran Zheng, Ming Bai, Zuanliang Chen and Hupeng Huang 1903

TueN2-4 Control Systems, Chair: Lei Guo and Shuping Ma, Room: Conference Room 5 (Fold Brocade Hall)

- 3:50PM *Terminal Sliding Mode Control with Active Disturbance Reject for Spacecraft Trajectory Tracking*
Keping Liu, Yingmei Cao, Taihua Wang and Yuanchun Li 1908
- 4:05PM *Minimum Entropy Tracking Control for non-Gaussian Systems Using Proportional-Integral Strategy*
Bo Tian, Yan Wang and Lei Guo 1914
- 4:20PM *Unknown Input Observer Design for One-Sided Lipschitz Nonlinear Continuous-Time Singular Markovian Jump Systems*
Jiaming Tian and Shuping Ma 1920
- 4:35PM *Vibration Suppression of a Flexible Marine Riser by Output Feedback Boundary Control*
Kexing Huang, Zhijia Zhao, Yu Liu and Fang Guo 1926
- 4:50PM *Real-time Tuning of Cavity Filters by Learning from Human Experience: A Vector Field Approach*
Zhiyang Wang, Shaokun Jin, Jingfeng Yang, Xinyu Wu and Yongsheng Ou 1931
- 5:05PM *Contouring Error Computation and Cross-coupled Control for Biaxial Servo System*
Yongqi Shao, Yunjiang Lou and Ran Shi 1937
- 5:20PM *Nonlinear Power and Rate Control for Wireless Networks*
Cunwu Han, Xueting Zhang, Lei Liu, Song Bi, Zhonghua Pang and Dehui Sun 1943
- 5:35PM *The Synchronous Control of Multi-motor Drive Control System with Floating Compensation*
Qiang Wang and Fang He 1949

TueN2-5 System Modeling and Networked Control Systems, Chair: Xiaomei Zhang and Min Yang, Room: Conference Room 6 (Yangshuo Hall)

- 3:50PM *Consensus-Based Asynchronous H_infty Filtering over A Sensor Network with Switching Topology*
Xiaomei Zhang, Hong Zhu and Shaobo Zheng 1955

4:05PM	<i>Global Synchronization of Delayed Reaction-Diffusion Neural Networks via Impulsive Control</i> Wu-Hua Chen, Shixian Luo and Wei-Xing Zheng	1961
4:20PM	<i>Iterative Learning Control of a Minimal Half-Center Oscillator</i> Shanshan Li, Guoshan Zhang and Jiang Wang	1967
4:35PM	<i>Model Identification and Controller Design on Piezoelectric Ceramics Actuator</i> Yanmei Liu, Jun Shen, Zhen Chen and Yukun Wu	1971
4:50PM	<i>Comparative Study of Two 2-RPU+SPR Parallel Manipulators</i> Qiang Yan, Bin Li, Yangmin Li and Xinhua Zhao	1975
5:05PM	<i>Fault Diagnosis for a Hydraulic Servo System Using Wavelet Packet and Neural Network</i> Hongmei Liu, Da Li, Chen Lu and Dawei Liu	1981
5:20PM	<i>Coordinated and Stable Control of a Hybrid Energy Storage System for Wave Generation System</i> Hongwei Fang, Song Lin, Huimin Chu, Ting Jia and Yitong Liu	1986
5:35PM	<i>Constrained Entropy-Based Temperature Control of Waste Heat Systems</i> Jianhua Zhang, Mifeng Ren and Hong Yue	1992

TueN2-6 Computational Intelligence and Applications, Chair: Zhigang Zeng and Zhiqiang Cao, Room: Conference Room 7 (Lingui Hall)

3:50PM	<i>A Novel Approach for Short-Term Electric Load Forecasting</i> Xiaoqin Wu, Zhixi Shen and Yongduan Song	1999
4:05PM	<i>Power Load Forecasting Based on Support Vector Machine and Particle Swarm Optimization</i> Guanghua Ren, Shiping Wen, Zheng Yan, Rui Hu, Zhigang Zeng and Yuting Cao	2003
4:20PM	<i>Estimation of Single-Phase Grid Voltage Parameters: an Adaptive Observer-Based Approach</i> Zhiyong Dai, Wei Lin, Hui Lin and Chunjiang Qian	2009
4:35PM	<i>Data-Driven Demand Forecasting Method for Fused Magnesium Furnaces</i> Jie Yang and Tianyou Chai	2015
4:50PM	<i>Motion-Sensor Behavior Analysis for Continuous Authentication on Smartphones</i> Chao Shen, Yunpeng Li, Tianwen Yu, Sheng Yuan, Xiao Yi and Xiaohong Guan	2023
5:05PM	<i>Model-free Robust Optimal Feedback Mechanisms of Biological Motor Control</i> Tao Bian and Zhong-Ping Jiang	2029
5:20PM	<i>Event-triggered control based on adaptive dynamic programming for continuous-time nonlinear systems with completely unknown dynamics</i> Jing Shi, Dong Yue, Yang Yang and Songlin Hu	2035
5:35PM	<i>Real-time Depth-based Tracking Using a Binocular Camera</i> Leijie Zhang, Zhiqiang Cao, Xiangrui Meng, Chao Zhou and Shuo Wang	2041

TueN2-7 Pattern Recognition, Image Processing, Machine Learning, Chair: Yunxuan Li and Xue-Mei Jia, Room: Pearl Hall

3:50PM	<i>Road Marking Detection Based on Structured Learning</i> Liang Xiao, Chuanxiang Li, Dawei Zhao, Tongtong Chen and Bin Dai	2047
4:05PM	<i>Coordinated Control Strategy of Wind/Battery Energy Storage System hybrid Power Output based on Adaptive Dynamic Programming</i> Xiangjun Li, Jingqiong Zhang, Yuting He and Dongbin Zhao	2052
4:20PM	<i>Accurate and Efficient Scene Recognition with Compact BoW and Ensemble ELM</i> Jiuwen Cao, Xiaoping Lai, Tao Chen and Jiayuan Fan	2058
4:35PM	<i>Automated Blood Vessel Segmentation in Fundus Image Based on Integral Channel Features and Random Forests</i> Zhun Fan, Yibiao Rong, Jiewei Lu, Jiajie Mo, Fang Li, Xinye Cai and Tiejun Yang	2063
4:50PM	<i>Combining PSO-KECA with ELM in an Electronic Nose for Classification of Chinese Liquors</i> Xue-Mei Jia, Qing-Hao Meng, Ya-Qi Jing, Pei-Feng Qi, Ming Zeng and Shu-Gen Ma	2069

5:05PM	<i>Salient Object Detection based on Boundary Contrast with Regularized Manifold Ranking</i> Yongkang Luo, Peng Wang, Wanyi Li, Xiaopeng Shang and Hong Qiao	2074
5:20PM	<i>An Online Learning Target Tracking Method Based on Extreme Learning Machine</i> Liyan Xie, Yuanlong Yu and Zhiyong Huang	2080
5:35PM	<i>Saliency Detection via the Spatial Layout of Image</i> Wen Wang, Tiejong Cao, Yunfei Zheng, Feibin Li and Xushan Chen	2086

TueN2-8 Fuzzy Systems and Neural Networks, Chair: Lu Liu and Chenguang Yang, Room: Jadeite Hall

3:50PM	<i>Transient Tracking Performance Guaranteed Global NN Control of Robot Manipulator</i> Chenguang Yang, Yiming Jiang, Zhijun Li, Wei He and Chun-Yi Su	2092
4:05PM	<i>H Infinity State Estimation for Neutral-type Neural Networks with Continuously Distributed Delays</i> Guoquan Liu, Chaomin Luo, Xianxi Luo and Wenbing Zhao	2098
4:20PM	<i>An Approach to Finite-Time Controller Design for a Class of T-S Fuzzy Systems</i> Yue Li, Lu Liu and Gang Feng	2103
4:35PM	<i>Interval Type-2 Fuzzy-Model-Based Control Design for Systems Subject to Actuator Saturation under Imperfect Premise Matching</i> Yuandi Li and Hak-Keung Lam	2109
4:50PM	<i>A comparative study of STA on large scale global optimization</i> Xiaojun Zhou, Chunhua Yang and Weihua Gui	2115
5:05PM	<i>Closed-Loop Teaching-Learning-Based Optimization Algorithm for Global Optimization</i> Shuaiyin Zheng and Ziwu Ren	2120
5:20PM	<i>A Surrogate-Assisted Hybrid Optimization Algorithms for Computational Expensive Problems</i> Qianqian Kong, Xiaojuan He and Chaoli Sun	2126
5:35PM	<i>User Characteristics Based Information Diffusion Model for Analysis of Hot Social Events</i> Yanjun Liu, Yongsheng Ding, Kuangrong Hao and Biao Huang	2131

TueN2-9 Intelligent Automation Systems, Chair: Singsong Xu and Weichuan Liu, Room: Amber Hall

3:50PM	<i>Design and Analysis of a Compact Compliant Microgripper With Bidirectional Linear Actuation</i> Sijie Yang and Qingsong Xu	2137
4:05PM	<i>Design and Analysis of a Micro-Gripper with Constant Force Mechanism</i> Yilin Liu and Qingsong Xu	2142
4:20PM	<i>An Active Disturbance Rejection Controller with Hysteresis Compensation for Piezoelectric Actuators</i> Weichuan Liu, Long Cheng, Zeng-Guang Hou and Min Tan	2148
4:35PM	<i>Hysteresis Model Identification of Piezoelectric Ceramic Actuators</i> Zhen Chen and Yanmei Liu	2154
4:50PM	<i>Stability Analysis of the Car-following Model Considering the Effects of Lateral Gap and Visual Angle</i> Yongfu Li, Li Zhang and Bo Zhang	2158
5:05PM	<i>Scaled Group Consensus of Delayed Second-order Multi-agent Systems</i> Xiangjun Li, Chenglin Liu and Fei Liu	2163
5:20PM	<i>Reversible Authentication Scheme Based on Prediction-Error Expansion with Compound Symbolic Chaos</i> Guangyong Gao, Zongmin Cui, Caixue Zhou, Shimao Yao and Liya Xu	2169
5:35PM	<i>An Incentive-based Supplier Selection Mechanism to Support Green Supply Chains</i> Fang Yu, Lei Xue and Changyin Sun	2175

TueN2-10 Intelligent Robots and Brain-like Intelligence, Chair: Hong Qiao and Yifei Zhao, Room: Business Center

3:50PM	<i>A grid method for robot path recognition based on RFID technology</i> Kaikai Zhao, Yimin Zhou, Zhibin Song and Yinzhou Shi	2181
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4:05PM	<i>Optimal Balancing Control of Bipedal Robots Using Reinforcement Learning</i> Fang Peng, Lijia Ding, Zhijun Li, Chenguang Yang and Chunyi Su	2186
4:20PM	<i>Optimization-based Compliance Control Strategy of Redundant Robot for ORU replacements</i> Li Jiang, Xijian Huo, Yiwei Liu and Hong Liu	2192
4:35PM	<i>A multi-FPGA embedded system for the emulation of modular small-world network with real time dynamics</i> Shuangming Yang, Jiang Wang, Aiqing Zhao, Bin Deng and Haitao Yu	2198
4:50PM	<i>A Dynamical Compliant Grasping Strategy for Dexterous Robotic Hands with Cushioning Mechanism</i> Xiaoqing Li, Hong Qiao, Chao Ma, Rui Li and Konggeng Zeng	2204
5:05PM	<i>Task-Specific Pre-Learning to Improve the Convergence of Reinforcement Learning Based on a Deep Neural Network</i> Yuan Yang, Xiaoan Li and Lu Zhang	2209
5:20PM	<i>Causality Analysis during Shared Intentionality</i> Huihui Zhuo, Sanqing Hu, Mark H Myers, Jianhai Zhang, Wanzeng Kong, Yu Cao and Robert Kozma	2215
5:35PM	<i>Paragraph Vector Based Retrieval Model for Similar Cases Recommendation</i> Yifei Zhao, Jing Wang, Fei-Yue Wang, Xiaobo Shi and Yisheng Lv	2220

Wednesday, June 15, 1:30PM-3:30PM

Special Session: WedN1-1 Autonomous Control of Unmanned Aircraft Systems, Chair: Yifeng Niu and Xiangli Nie, Room: Conference Room 2 (Li River Hall)

1:30PM	<i>Identification and Control of a Hovering Tiltrotor UAV</i> Chao Chen, Lincheng Shen, Daibing Zhang and Jiyang Zhang	2226
1:45PM	<i>A New Manifold Distance Measure for Visual Object Categorization</i> Fengfu Li, Xiayuan Huang, Hong Qiao and Bo Zhang	2232
2:00PM	<i>Quadcopter autonomous control system based on image recognition</i> He Luo, Yanqiu Niu, Zhengzheng Liang and Xiang Fang	2237
2:15PM	<i>LPV Eigenstructure Assignment Approach for BTT Missile Attitude Control</i> Guangren Duan and Yanmei Hu	2241
2:30PM	<i>A Novel Location Method for an Inconspicuous Target Based on Affine Invariability Mapping</i> Dawei Sun, Shicheng Wang, Dongfang Yang, Yongfei Li and Yubin Wu	2247
2:45PM	<i>An Improved Artificial Bee Colony- BP Neural Network Algorithm in the Short-term Wind Speed Prediction</i> Guanlong Jia, Donghui Li, Lele Yao and Pengcheng Zhao	2252
3:00PM	<i>Active Control Strategies for Outdoor Near-Surface Wind Field Simulation in a Multiple-Fan Wind Tunnel</i> Jia-Ying Wang, Qing-Hao Meng, Bing Luo, Ming Zeng and Shu-Gen Ma	2256
3:15PM	<i>Robust Attack Position of Multi-UCAV Based on Ant Colony Algorithm</i> Xinqin Cao, Xueqiang Gu, Jing Chen and Xiaoqiang Sun	2262

Special Session: WedN1-2 Computational Intelligence Based Data-driven Modeling, Optimization and Control, Chair: Dongbin Zhao and Chengdong Li, Room: Conference Room 3 (Beautiful Peak Hall)

1:30PM	<i>Observer Based Policy Iteration Algorithm for Fault Tolerant Control of Nonlinear Systems with Actuator Faults</i> Bo Zhao, Derong Liu, Yuanchun Li and Guang Shi	2267
1:45PM	<i>Fault Tolerant Control for Reconfigurable Manipulators Based on Adaptive Dynamic Programming with an Improved Performance Index Function</i> Hongbing Xia, Bo Zhao, Fan Zhou, Bo Dong, Guangjun Liu and Yuanchun Li	2273
2:00PM	<i>Disturbance-Observer Based fault Tolerance Control With On-Line Control Allocation</i> Jun Wang, Wei Li, Chunbin Qin, Yi Zhou, Haishun Du and Hui Chen	2279

2:15PM	<i>Optimal Schedule Strategy of Battery Energy Storage Systems for Peak Load Shifting Based on Interior Point Method</i>	2285
	Yangtian Ning, Xiangjun Li, Xiufan Ma, Xuecui Jia and Dong Hui	
2:30PM	<i>Regularization and Feature Selection in Least Squares Temporal Difference with Gradient Correction</i>	2289
	Dazi Li, Luntong Li, Tianheng Song and Qibing Jin	
2:45PM	<i>Optimal Control Laws for Nonlinear Oscillator Systems with Saturating Actuators using Neural Networks Based on Policy Iteration</i>	2294
	Shi Xing and Ruizhuo Song	
3:00PM	<i>Data and Knowledge Driven Design of SIRMs Connected Fuzzy Inference System with Application to Thermal Comfort Prediction</i>	2298
	Li Wang, Jianhong Zhang, Chengdong Li, Dianwei Qian and Guiqing Zhang	
3:15PM	<i>Using Big Data from the Web to Train Chinese Traffic Word Representation Model in Vector Space</i>	2304
	Wei Li, Xudong Xie, Jianming Hu, Zuo Zhang and Yi Zhang	

**Special Session: WedN1-3 Modeling, Control and Optimization in Air Transportation system..... ,
Chair: Zhigang Liu and Mingli Wu, Room: Conference Room 4 (Elephant Trunk Hill Hall)**

1:30PM	<i>Formation Reconfiguration Based on Distributed Cooperative Coevolutionary for Multi-UAVs</i>	2308
	Xueyuan Li, Xuejun Zhang, Huaxian Liu and Xiangmin Guan	
1:45PM	<i>A Hybrid DE-SQP Method for Vertical Trajectory Optimization of Continuous Descent Approach</i>	2312
	Lu Lu, Xuejun Zhang and Xiangmin Guan	
2:00PM	<i>Analysis of the Weighted Chinese Air Transportation Multilayer Network</i>	2318
	Chen Hong and Boyuan Liang	
2:15PM	<i>Direct Parametric Control-oriented Model Transformations for a Hypersonic Vehicle</i>	2322
	Guangren Duan and Zhikai Zhang	
2:30PM	<i>A Method of SMS Spam Filtering Based on AdaBoost Algorithm</i>	2328
	Xipeng Zhang, Gang Xiong, Yuexiang Hu, Fenghua Zhu, Xisong Dong and Timo R. Nyberg	
2:45PM	<i>A Dynamic Peaking Model for Thermal Units Considering the Cost of Power Fluctuation Based on Statistical Results</i>	2333
	Long Zhang, Binqi Hu, Xianzhuang Liu and Wei Hu	
3:00PM	<i>Active Splitting Control Decision Scheme Design and Splitting Control Analysis in A Provincial Power Grid</i>	2338
	Yue Zhou, Qiangming Zhou, Hongqiao Yu, Qian Pu, Yifan Zhou, Wei Hu and Yujiao Chen	
3:15PM	<i>Robust Observer-based Fault Estimation and Tolerant Control Scheme for a Class of Discrete Piecewise Systems</i>	2343
	Guannan He, Yang Liu, Jing Zhang and Wensheng Yu	

WedN1-4 Linear Systems and Control, Chair: Jie Chen and Lin Tie, Room: Conference Room 5 (Fold Brocade Hall)

1:30PM	<i>On Delay-Range-Dependent Stability for Linear Systems with Time-Varying Delays</i>	2349
	Lian-sheng Zhang, Jie Chen and Qing-cai Guo	
1:45PM	<i>Sigmoid Function Array Based ZG Control for Bounded Input, Energy Saving and Output Tracking of Time-Invariant Linear System</i>	2355
	Yunong Zhang, Jinjin Wang, Deyang Zhang, Binbin Qiu and Yinyan Zhang	
2:00PM	<i>Mode-Dependent Average Dwell Time Approach to Stabilization of Switched Linear Systems: the Event-Triggered Approach</i>	2360
	Yijing Wang, Shulan Li and Zhiqiang Zuo	
2:15PM	<i>Robust Engine Speed Controller Design Based on Quantitative Feedback Theory</i>	2365
	Liang Lu, Yunfeng Hu, Jinlong Hong, Xun Gong and Hong Chen	
2:30PM	<i>On Weak Ensemble Controllability with Applications to a Chain of Integrators</i>	2370
	Lin Tie and Jr-Shin Li	

2:45PM	<i>Adaptive Robust Attitude Control for Flexible Spacecraft with Control Moment Gyroscopes</i> Lu Wang, Yu Guo, Wei Yao and Qingwei Chen	2376
3:00PM	<i>On Nested Predictor Feedback for Linear Systems with Both State and Input Delays</i> Bin Zhou and Qingsong Liu	2382
3:15PM	<i>On Extension of a Gradient-Based Co-Design Algorithm to Linear Descriptor Systems</i> Yebin Wang, Yuh-Shyang Wang and Scott Bortoff	2388

**WedN1-5 Computational Intelligence and Applications, Chair: Fuxiao Tan and Yanfang Shou,
Room: Conference Room 6 (Yangshuo Hall)**

1:30PM	<i>The Modeling of Big Traffic Data Processing Based on Cloud Computing</i> Dongbo Zhang, Yanfang Shou and Jianmin Xu	2394
1:45PM	<i>Soft Computing for Blast Furnace Gas System Pressure Based On an Improved Fuzzy Model</i> Wenlin Zhang, Qiang Lin, Jun Zhao and Wei Wang	2400
2:00PM	<i>Combining WASP and ASF Algorithms to Forecast a Japan Earthquake with Mj 7.2 or above</i> Yunong Zhang, Sitong Ding, Jianfeng Wen, Yaqiong Ding and Mingzhi Mao	2407
2:15PM	<i>Online Sparse Kernel Learning-Based Adaptive Dynamic Programming</i> Fuxiao Tan and Xinping Guan	2414
2:30PM	<i>Feedback-Control-Aided Image Stitching using Multi-UAV Platform</i> Chen Yu, Jianan Wang, Yan Ding, Jiayuan Shan and Ming Xin	2420
2:45PM	<i>A Novel Incremental Learning Scheme for Reinforcement Learning in Dynamic Environments</i> Zhi Wang, Chunlin Chen, Han-Xiong Li, Daoyi Dong and Tzyh-Jong Tarn	2426
3:00PM	<i>Bus Signal Priority Method Assessment Based on Multiple Attribute Group Decision</i> Wenchao Shen, Jianmin Xu, Ming Wei and Zhengyu Tang	2432
3:15PM	<i>The Adaptive Control Based on BP Neural Network Identification for Two-wheeled Robot</i> Hongguo Niu, Niu Wang and Nan Li	2437

**WedN1-6 Optimization for Decision Making Systems, Chair: Zelin Nie and Jiang Wu,
Room: Conference Room 7 (Lingui Hall)**

1:30PM	<i>Dynamic Locational Marginal Prices based Zonal Division in Large-Scale Regional Electricity Markets</i> Nana Yao, Jiang Wu, Kun Liu and Jing Cai	2443
1:45PM	<i>Contract for Difference (CfD) Energy Decomposition Model for Maximizing Social Benefit in Electricity Market</i> Zelin Nie, Feng Gao, Jiang Wu, Xiaohong Guan and Kun Liu	2449
2:00PM	<i>Cost Effectiveness Model and Optimization of Weapon System based on Cost as an Independent Variable</i> Lei Gu, Xiangming Xi, Kuangyu Liu and Shuning Wang	2455
2:15PM	<i>An USV Controlling Autonomy Level Algorithm Based on PROMMETHHEE</i> Yingru Dong, Qijie Zou, Rubo Zhang, Ling Kang and Changning Ren	2460
2:30PM	<i>An Optimal Design of Dynamic Wireless Automatic Charging System for Roadway-Powered Electric Vehicles</i> Bin Deng, Bingnan Jia, Zhen Zhang and Jiang Wang	2466
2:45PM	<i>A MBO Algorithm for a Flow Shop Problem with Sequence-Dependent Setup Times</i> Aymen Sioud and Caroline Gagne	2471
3:00PM	<i>Multi-event Maintenance Decision-making Model and Optimization Method Based on Opportunistic Maintenance Policy</i> Quanlei Wu, Chuan Lv, Dong Zhou, Yaoyao Wang and Dequan Yu	2475
3:15PM	<i>Signal Control Decision Model for Adjacent Intersection based on Coordination Rate</i> Yanfang Shou, Dongbo Zhang and Jianmin Xu	2481

WedN1-7 Control Theory, Chair: Xiaofeng Liao and Huimin Qian, Room: Pearl Hall

- 1:30PM *Examining Bounded Realness with Generalized Nyquist Loci in Multivariable Feedback Configurations*
Jun Zhou, Huimin Qian and Xinbiao Lu 2487
- 1:45PM *Characteristic Modeling and All-Coefficient Adaptive Control of a Quadrotor*
Huang Huang 2493
- 2:00PM *Modelling of the Vertical Raw Cement Mill Grinding Process Based on the Echo State Network*
Xiao-feng Lin and Meng-qiao Zhang 2498
- 2:15PM *FPGA-Based Active Disturbance Rejection Control for Antenna Servo Systems*
Zhiqiang Zuo, Yao Li and Yijing Wang 2503
- 2:30PM *Soft Measurement Method for Froth Layer Thickness Based on Multi Visual Features*
Degang Xu, Xiao Chen, Ailian Ma, Yongfang Xie, Chunhua Yang and Weihua Gui 2511
- 2:45PM *Fast Model Predictive Control Based on Multiscale System Theory*
Qin Mei, Fang Xu, Hong Chen, Zongli Li and Yunfeng Hu 2517
- 3:00PM *Event-Triggered Control for Stabilization of a Class of Nonlinear Systems Based on Extended State Observer*
Zhiqiang Zuo, Qiaoyu Luo, Dandan Li and Yijing Wang 2523
- 3:15PM *The Impact of Hybrid Quarantine Strategies and Delay Factor on Viral Prevalence in Computer Networks*
Chang Li and Xiaofeng Liao 2529

WedN1-8 Intelligent Robots and Brain-like Intelligence, Chair: Xinyu Dong and Zhengxing Wu, Room: Jadeite Hall

- 1:30PM *Parallel Control and Management System for Biomimetic Robotic Fish Based on ACP Approach*
Jincun Liu, Zhengxing Wu, Xiang Yang and Junzhi Yu 2535
- 1:45PM *Decentralized Control for Reconfigurable Manipulator with Harmonic Drive Transmission Based on Adaptive Super-Twisting Algorithm*
Bo Dong, Keping Liu, Guangjun Liu and Yuanchun Li 2541
- 2:00PM *H-infinity Fault Detection Observer Design for Networked Control Systems with Packet Dropout using Delta Operator*
Xinyu Dong and Duanjin Zhang 2547
- 2:15PM *Force Control Based Robotic Grinding System and Application*
Xiaohui Xie and Lining Sun 2552
- 2:30PM *Combining Point and Edge for Satellite Pose Tracking under Illumination Varying*
Yu Zou, Xueqian Wang, Tao Zhang and Jingyan Song 2556
- 2:45PM *An Introduction of Vision-Based Autonomous Robotic Fish Competition*
Xingwen Zheng, Wei Wang, Chen Wang, Ruifeng Fan and Guangming Xie 2561
- 3:00PM *Human-Computer Interaction in Immersive Virtual Maintenance*
Zhiqi Guo, Chuan Lv, Dong Zhou and Zili Wang 2567
- 3:15PM *Path Finding for a NAO Humanoid Robot by Fusing Visual and Proximity Sensors*
Xiaoqian Mao, Huidong He and Wei Li 2574

WedN1-9 Data-based System Performance Analysis, Chair: Dehua Zhang and Chengjiao Lv, Room: Amber Hall

- 1:30PM *Adaptive RBF Neural-Networks Control for Discrete Nonlinear Systems Based on Data*
Dehua Zhang, Wei Liu, Chunbin Qin and Hui Chen 2580
- 1:45PM *Transit Time Based Sector Capacity Evaluation*
Junxiang Huang 2586
- 2:00PM *A Data Frame Based Spatiotemporal Indexing Algorithm for Moving Objects*
Chengjiao Lv, Yongzhi Xu, Junping Song and Pin Lv 2592

2:15PM	<i>An ACE-Based Method for Evaluating the Impact of DC Interconnecting or AC Tie Line Fault</i> Chunming Wang, Qunshan Li, Zhicheng Liu, Wei Xiong, Xianzhuang Liu and Wei Hu	2598
2:30PM	<i>The Analysis of Watermarking Capacity of Packing Model and Bits Replacement Model</i> Hao Guo, Juntao Xue and Zhigang Jin	2603
2:45PM	<i>A Comparison of Background Subtraction Algorithms Evaluated with BMC Dataset</i> Gongyan Wang, Jing Xu and Ming Fang	2608
3:00PM	<i>Fault Diagnosis of Internal Combustion Engine Valve Clearance The Survey of The-state-of-the-art</i> Taixiong Zheng, Rui Tan, Yongfu Li, Bin Yang, Lichen Shi and Tonglin Zhou	2614
3:15PM	<i>Recursive least squares algorithm for parameter identification of multi-input output systems using the data filtering</i> Jiling Ding	2620

WedN1-10 Complex Networks, Chair: Dong Yue and Erhong Wang, Room: Business Center

1:30PM	<i>Superfamilies of Networks for Analyzing the Correlations of Different Flow Fields</i> Ming Zeng, Erhong Wang, Zaixin Yang, Qinghao Meng, Biao Sun and Jiaying Wang	2626
1:45PM	<i>Decentralized adaptive pinning control for cluster synchronization of complex networks in the presence of delay-coupled and noise</i> Da Lin, Dong Yue, Song-Lin Hu and Hui Ge	2632
2:00PM	<i>Power Allocation for Cognitive Relay Systems</i> Lina Fan, Jinkuan Wang and Jing Gao	2638
2:15PM	<i>Synchronization of Pinning Networks with Markovian Switching Topologies and Event-Triggered Communication</i> Xinghua Liu, Gaoxi Xiao, Wee Peng Tay, Guoqi Ma and Hongsheng Xi	2642
2:30PM	<i>Noise Resistance Ability Analysis of the Visibility Graph and the Limited Penetrable Visibility Graph</i> Ming Zeng, Wenxin Ma, Qinghao Meng, Biao Sun, Zhanxie Wu and Jing Lu	2648
2:45PM	<i>Multivariate Order Recurrence Network for Analyzing Cross-Correlation of the Wind Field and the Gas Concentration Field</i> Ming Zeng, Jing Lu, Zaixin Yang, Qinghao Meng, Biao Sun and Jiaying Wang	2654
3:00PM	<i>Community Structure Detection in Complex Networks for Characterizing Atmospheric Boundary-Layer Wind Speed Time Series</i> Ming Zeng, Mingyuan Zhao, Qinghao Meng and Jiaying Wang	2660
3:15PM	<i>Multivariate Directed Weighted Complex Network for Characterizing 3D Wind Speed Signals in Indoor and Outdoor Environments</i> Ming Zeng, Mingyuan Zhao, Qinghao Meng and Biao Sun	2666

Wednesday, June 15, 1:30PM-5:50PM

Plenary Poster Session: P3 Poster Session 3, Chair: Jun Wu and Zhuqing Hu, Room: Poster Area

P501	<i>Adaptive PD Approach For Semi-Active Suspension Control of High Speed Trains</i> Xiaochun Yuan, Yongduan Song and Zijun Jia	2672
P502	<i>Model Predictive Torque Control of PMSM Systems Based on Sliding Mode Control</i> Shuyuan Li, Qingfang Teng and Guofei Li	2677
P503	<i>Evaluation, Test and Research on Driver's Multi-task Mental Load Characteristics for Road Traffic Safety</i> Huiying Wen, Haiwei Wang, Min Liu and Wuning Lai	2682
P504	<i>Ray Trace Model of Solidification Shell Thickness Non-Destructive Testing for Automatic Continuous Casting</i> Qi Ouyang, Ximeng Chen, Song Peng, XingLan Zhang and ShuaiCheng Hou	2688
P505	<i>Advanced VSC and Intelligent Control Algorithms applied to SVM_DTC for Induction Motor Drive: A Comparative Study</i> Sadhana Jadhav and Kirankumar Jaladi	2694

P506	<i>Evaluation Model of Enterprise Business Model Reconstruction in Mobile Internet Era</i> Xiao Xue, Donghua Liu and Shufang Wang	2699
P507	<i>Traffic Detectors Deployment Modeling and Optimization under Urban Road Network</i> Hanjie Ye, Jianming Hu, Xudong Xie and Yi Zhang	2705
P508	<i>Simulation Design of Rolling Tube Machine Mandrel Support Device Hydraulic System</i> Shuang Zhao and Wei Yuan	2711
P509	<i>The Influence of Fundamental Frequency on Speaker Recognition System</i> Yi Zhang, Yanyi Xie and Kejia Wang	2715
P510	<i>Improved Delay-Range-Dependent Stability for Linear Systems with Time-Varying Delays Based on Affine Function</i> Liansheng Zhang and Qiang Liu	2720
P511	<i>Agile Satellite Scheduling Based on Hybrid Coding Genetic Algorithm</i> Xiyongzhi Geng, Jufang Li, Wenyuan Yang and Hongtao Gong	2727
P512	<i>An Improved Dehazing Method Based on the Transmission Compensation</i> Haitao Liu, Jin Guo and Chang-Yin Sun	2732
P513	<i>Distributed MPC of the Standalone Hybrid Wind and Solar Generation System Based on Neural Network Modeling</i> Mei Han, Xiaobing Kong and Xiangjie Liu	2738
P514	<i>Permutation Flow Shop Scheduling With Delay Time Under Time-Of-Use Electricity Tariffs</i> Xingrui Cheng, Feng Gao, Chaobo Yan, Xiaohong Guan, Kun Liu, Siyun Chen, Nana Yao and Jing Cai	2743
P515	<i>A Modified Hill Detouring Algorithm For Hinging Hyperplanes Minimization</i> Kuanguyu Liu, Zhiming Xu, Xiangming Xi and Shuning Wang	2749
P516	<i>Probabilities Modeling of Multi-Class Based on Relevance Vector Machine</i> Rui Li, Xiaodan Wang, Lei Lei and Zhengchong Zhao	2755
P517	<i>An Accelerometer Modeling Approach Based on Mixed-Kernel Support Vector Machine</i> Tao Yu, Baoyu Hao, Jianlin Wang, Liqiang Zhao and Qingxuan Wei	2760
P518	<i>Analysis for A Class of Discrete-Time Switched Systems via Approximate Bisimulations</i> Guoqi Ma and Xinghua Liu	2765
P519	<i>A Approach on UAV Ground Target Localization Based on Multi-sensor Fusion</i> Yifeng Niu, Zhiwei Zhong, Daibing Zhang, Xun Wang and Jianhong Liang	2771
P520	<i>A Real-time People Number Detection Algorithm of Scenic Spot Based On Density Center Clustering</i> Yaomin Wen, Junping Du, Meiyu Liang, Dan Fan and JangMyung Lee	2777
P521	<i>High-Performance Three-Phase High-Power Three-Level Rectifier Using DSP-Based Digital Control Technique</i> Zhi Zhang, Xueliang Liu, Ming Jiang and Yuan Yao	2783
P522	<i>Deep Neural Networks for Head Pose Classification</i> Yang Lu, Shujuan Yi, Nan Hou, Jingfu Zhu and Tiemin Ma	2787
P523	<i>DCCA Cross-correlation Analysis of 3D Wind Field Signals in Indoor and Outdoor Environments</i> Ming Zeng, Xiaonei Zhang, Jinghai Li and Qinghao Meng	2791
P524	<i>Multiscale Entropy Analysis of the 3D Near-surface Wind Field</i> Ming Zeng, Shan Zhang, Erhong Wang and Qinghao Meng	2797
P525	<i>Effects of Sampling Frequency on Magnitude and Sign Correlations in Small-Scale Wind Speed Fluctuations</i> Ming Zeng, Xiaonei Zhang, Jinghai Li and Qinghao Meng	2802
P526	<i>Multiscale Multifractal Analysis of Near-Surface Wind Speed Time Series</i> Ming Zeng, Xiaonei Zhang, Jinghai Li and Qinghao Meng	2808
P527	<i>Comparison of Complexity Between Indoor and Outdoor Wind Speed Time Series</i> Ming Zeng, Shan Zhang, Jing Lu, Qinghao Meng and Jiaying Wang	2814
P528	<i>Epileptic Seizure Detection of Electroencephalogram Based on Weighted-Permutation Entropy</i> Zhenxi Song, Jiang Wang, Lihui Cai, Bin Deng and Yingmei Qin	2819

P529	<i>Planning and Heuristics of Assistant Manipulator</i> Artur Babiarez, Tomasz Grzejszczak, Adrian Legowski, Michal Niezabitowski and Justyna Orwat	2824
P530	<i>A Method of Diagnosing Leakage of Boiler Steam and Water Pipe Based on Genetic Neural Network</i> Yan Wang, Xianglei Yin and Boying Wang	2829
P531	<i>Path Planning of Unmanned Aerial Vehicles for Farmland Information Monitoring Based on WSN</i> Jing Yang, Xiao Wang, Zetao Li, Ping Yang, Xuemei Luo, Kai Zhang, Shanshan Zhang and Lingfang Chen	2834
P532	<i>Fault Estimation and Robust Tolerant Control for a Class of Nonlinear Takagi-Sugeno Fuzzy Systems</i> Guannan He, Yang Liu, Jing Zhang and Wensheng Yu	2839
P533	<i>UGM-Based High-Accuracy Multi-Sensor Image Registration</i> Ce Xiong, Hao Fu and Meiping Shi	2845
P534	<i>Design of High Frequency and High Power Supply for Ohmic Heating Based on ARM</i> Shaogang Wang, Yin-Fa Yan, Fa-de Li and Zhanhua Song	2851
P535	<i>The Research And Comparison on the Combination Technology of Models Based on HLA Simulation</i> Guohua Zhu and Yang Dai	2857
P536	<i>A Filter Feature Selection Method Based LLRFC and Redundancy Analysis for Tumor Classification Using Gene Expression Data</i> Jiangeng Li, Xiaodan Li and Wei Zhang	2861
P537	<i>Fault Diagnosis Method Based on Probability Extended SDG and Fault Index</i> Yingjie Liu, Qinghao Meng, Ming Zeng and Shugen Ma	2868
P538	<i>Parameter Identification of Linear Time-Invariant Systems with Large Measurement Noises</i> Chyun-Chau Fuh, Hsun-Heng Tsai and Hung-Che Lin	2874
P539	<i>Fire Smoke Detection Based on Texture Features and Optical Flow Vector of Contour</i> Yakun Wang, Aiguo Wu, Jie Zhang, Meng Zhao, Wenshuai Li and Na Dong	2879
P540	<i>Estimation for Globally Exponentially Attractive Set of a Hyperchaotic Lorenz-Type Systems and Its Application</i> Xuezhen Liu	2884
P541	<i>Terminal sliding mode cascade control for tracking and synchronization of a dual-motor driving system</i> Minlin Wang, Xuemei Ren and Qiang Chen	2890
P542	<i>Parameter Estimation of Gaussian Mixture Model and Its Application in Multimode Process Monitoring</i> Junfeng Gao, Lingke Zhou and Baozhu Du	2896
P543	<i>Automatic Detection and Counting of Circular Shaped Overlapped Objects Using Circular Hough Transform and Contour Detection</i> Jianjun Ni, Zubair Khan, Shihao Wang, Kang Wang and Syed Kamran Haider	2902
P544	<i>Direct Torque Control for BLDCM Based on Optimized Sliding Mode Observer</i> Wenshuai Li, Aiguo Wu, Na Dong and Yakun Wang	2907
P545	<i>Density Difference-Based Variable Speed Limit Control for Expressways under Rainfall Conditions</i> Yuguang Chen, Jianming Lei, Wei Cheng, Linyong Su and Ying Liu	2913

Wednesday, June 15, 3:50PM-5:50PM

Special Session: WedN2-1 Operator Based Robust Nonlinear Control and Its Application, Chair: Mingcong Deng and Shengjun Wen, Room: Conference Room 2 (Li River Hall)

3:50PM	<i>Robust Dexterous Manipulation of a Soft Micro-Hand</i> Zhengxiang Ma, Aihui Wang and Mingcong Deng	2918
4:05PM	<i>Operator-Based Control Scheme for Nonlinear Feedback System</i> Ni Bu, Mingcong Deng, Ximei Liu and Chunpeng Han	2924
4:20PM	<i>Improved Artificial Bee Colony Algorithm Based Optimal Navigation Path for Mobile Robot</i> Shengjun Wen, Juan Xia, Rongxiang Gao and Dongyun Wang	2928

4:35PM	<i>Operator-based robust non-linear control for a two-link robot arm</i> Hideki Yoshida, Shin Wakitani, Shuhui Bi and Mingcong Deng	2934
4:50PM	<i>Operator-based Fault Tolerant Control for Uncertain Nonlinear Systems</i> Shuhui Bi, Lei Wang, Ming Zhang and Mingcong Deng	2940
5:05PM	<i>Immune Optimization Based Multi-Objective Six-DOF Trajectory Planning for Industrial Robot Manipulators</i> Tingting He, Yanan Zhang, Fengcai Sun and Xuhua Shi	2945
5:20PM	<i>Feedback Control Strategy in a Car-Following Model with Two Delays</i> Cong Zhai, Weiming Liu, Ling Huang and Feigang Tan	2951
5:35PM	<i>Varying Gain MPC for Consensus Tracking with Application to Formation Control of Omnidirectional Mobile Robots</i> Guanghao Zhang, Weiwei Qin, Qingqiang Qin, Bing He and Gang Liu	2957

Special Session: WedN2-2 Real-time Computing, Perception, Decision, and Interaction for Autonomous Robots and Robot Operating System, Chair: Shaowu Yang and Junhao Xiao, Room: Conference Room 3 (Beautiful Peak Hall)

3:50PM	<i>Multi-Agent Based Modeling and Simulation of Virtual Maintenance System</i> Yaoyao Wang, Chuan Lv, Dong Zhou, Dequan Yu and Xu Peng	2963
4:05PM	<i>Unordered Images Selection for Dense 3D Reconstruction Based on Distance Dependent Chinese Restaurant Process</i> Qinhu Ren, Qichao Wang, Jianhua Zhang and Shengyong Chen	2969
4:20PM	<i>Partial Blurred Object Segmentation for Non-uniform Motion Degraded Images</i> Shaobo Zhang, Sheng Liu, Yiyuan Jiang, Xiaoyan Wang and Zhenhua Wang	2974
4:35PM	<i>A Mixed Parameter Scheduling Algorithm of Node Operating System in CPS</i> Benhai Zhou, Miao Yu and Ting Liu	2980
4:50PM	<i>Multi-sensor Devices for UAV in Both Simulation Platform and Realistic Tests</i> Fuhua Wan, Qing Bu, Zhen Xie, Jianhua Zhang and Xi Yang	2986
5:05PM	<i>Improved Real-Time Odometry Estimation Method for Incremental RGB-D Mapping by Fusing IMU Data</i> Ruibin Guo, Dongxiang Zhou, Keju Peng, Weihong Fan and Yunhui Liu	2991
5:20PM	<i>A Hybrid Cloud Robot Framework based on Intelligent Space</i> Huanzhao Chen, Guohui Tian, Fei Lu and Guoliang Liu	2996
5:35PM	<i>Metric Online Monocular SLAM by Using a Known Reference</i> Yongfei Li, Shicheng Wang, Dongfang Yang and Dawei Sun	3002

Special Session: WedN2-3 Quantum Control and Quantum Cybernetics, Chair: Daoyi Dong and Wei Cui, Room: Conference Room 4 (Elephant Trunk Hill Hall)

3:50PM	<i>Quantum Process Tomography : A Joint Sparse Coding Method</i> Xiaohu Yuan, Huaping Liu, Rebin Wu and Chunwen Li	3007
4:05PM	<i>Quantum Filtering for Multiple Measurements Driven by Two Single-Photon States</i> Zhiyuan Dong, Guofeng Zhang and Nina Amini	3011
4:20PM	<i>How to Make Full Use of a Priori Knowledge of Quantum Information Processing</i> Peng Kang and Ming Zhang	3016
4:35PM	<i>Luenberger-Sliding Mode Observer Based Ammonia Concentration Estimation for Selective Catalyst Reduction System</i> Taixiong Zheng, Weimin Han, Yongfu Li, Bin Yang and Lichen Shi	3021
4:50PM	<i>Filtering based multi-innovation stochastic gradient identification algorithm for multivariable nonlinear equation-error autoregressive systems</i> Yawen Mao, Yanjun Liu and Feng Ding	3027
5:05PM	<i>Relationship between Driver's Feeling and Vehicle Operating Characteristics on Urban Road</i> Xin Chang, Jian Rong, Chenjing Zhou and Haijian Li	3033

5:20PM	<i>Filtering and Fusion of Consensus-based Multi-agent Systems with Imperfect Constraints</i> Yunze Cai, Hengyu Duan, Hua O. Wang and Weidong Zhang	3038
5:35PM	<i>On Model Identification and Precession Control of GyroWheel System</i> Libin Wang, Hui Zhao, Xin Huo, Yuyu Zhao and Xiaoming Zhang	3044

Special Session: WedN2-4 Application Oriented Image Analysis in Robot Vision and Machine Vision, Chair: Sheng-Lan Liu and Xu Yang, Room: Conference Room 5 (Fold Brocade Hall)

3:50PM	<i>3D Vision Based Fast Badminton Localization with Prediction and Error Elimination for Badminton Robot</i> Ziyu Chen, Rui Li, Chao Ma, Xiaoqing Li, Xu Wang and Konggeng Zeng	3050
4:05PM	<i>Discriminative Extreme Learning Machine to Content-based Image Retrieval with Relevance Feedback</i> Xiaodong Huang, Liang Sun, Huihui Guo and Shenglan Liu	3056
4:20PM	<i>Universal Robust Algorithm for Detection of Image Features</i> Konstantin Rummyantsev and Dmitry Petrov	3061
4:35PM	<i>New Region-based Image Fusion Scheme Using the Discrete Wavelet Frame Transform</i> Lianhai Wang, Junping Du, Suguo Zhu, Dan Fan and JangMyung Lee	3066
4:50PM	<i>Intelligent Object Localization System Based on Activity Theory in Home Environment</i> Yinghua Xue	3071
5:05PM	<i>Robust Speech Recognition Based on Speech Enhancement and Improved Perceptual Non-uniform Spectral Compression</i> Yi Zhang, Long Sun, Pei-peí Wang and Yuan Luo	3077
5:20PM	<i>Joint Geometry and Gray-Level Histogram Model for Lip-reading</i> Xinjun Ma and Hongjun Zhang	3083
5:35PM	<i>Aesthetic Quality Assessment of Photographic Images</i> Chunjin Song, Bingyin Zhou and Wei Guo	3088

WedN2-5 Computational Intelligence and Applications, Chair: Peng Yang and Yong Wang, Room: Conference Room 6 (Yangshuo Hall)

3:50PM	<i>Design and Implementation of Auditory System for Mobile Robot Based on Kinect Sensor</i> Shuopeng Wang, Peng Yang and Hao Sun	3094
4:05PM	<i>An Improved Word Segmentation Algorithm for Lip-reading</i> Xinjun Ma, Xiaohui Jiao and Hongjun Zhang	3099
4:20PM	<i>Encoding Words for Intelligent Evaluation of Injection-Production Wells Pattern Based on Enhanced Interval Approach</i> Di Yu, Furui Liu, Weijian Ren and Yumin Liu	3105
4:35PM	<i>A Framework of Stability Analysis for Multi-agent Systems on Arbitrary Topology Graph: A Class of Nonlinear Protocol</i> Yong Wang and Xiaodong Lou	3111
4:50PM	<i>A Discrete Particle Swarm Optimization Algorithm Applied in Constrained Static Weapon-Target Assignment Problem</i> Yili Zhou, Xiaobo Li, Yifan Zhu and Weiping Wang	3118
5:05PM	<i>Design of A Diamond Adsorption Detection System Based on Machine Learning Techniques</i> Fan Zhun, Youxiang Zuo, Fang Li and Shuangxi Wang	3124
5:20PM	<i>A Kent Chaos Artificial Bee Colony Algorithm Based Wavelet Thresholding Method for Signal Denoising</i> Xun Zhang, Juelong Li, Jianchun Xing, Ping Wang and Donghao Fu	3129
5:35PM	<i>A Intelligent Bone Lengthening Device Based on Genetic Algorithm</i> Xiaoyan Wu and Huixing Zhou	3135

WedN2-6 Pattern Recognition, Image Processing, Machine Learning, Chair: Bo Tang and Xiangyu Huang, Room: Conference Room 7 (Lingui Hall)

3:50PM	<i>The Simulation Method for Wide-angle Fish-eye Image with Distortion</i> Xiaoyan Mao and Xiangyu Huang	3139
4:05PM	<i>FSMJ: Feature Selection with Maximum Jensen-Shannon Divergence for Text Categorization</i> Bo Tang and Haibo He	3143
4:20PM	<i>GOBoost: G-mean Optimized Boosting Framework for Class Imbalance Learning</i> Yang Lu, Yiu-ming Cheung and Yuan Yan Tang	3149
4:35PM	<i>The Comparison of Different Visual Features on RGB-D Mapping</i> Yixing Li, Jian Wang, Chaoliang Zhong, Yucai Kong and Shirong Liu	3155
4:50PM	<i>A Novel AFM Imaging Method Based on Liquid Force-Distance Curve Analysis</i> Xiaozhe Yuan, Yongchun Fang and Xiao Ren	3161
5:05PM	<i>Image Recognition and Classification Based on REM with LBP Feature</i> Ying Jiang and Yanjiang Wang	3167
5:20PM	<i>Toward Improved P300 Speller Performance in Outdoor Environment Using Polarizer</i> Shenghong He, Qiyun Huang and Yuanqing Li	3172
5:35PM	<i>Estimation of Optical Flow from Sequential Image Method Applied for Object Tracking</i> Franco Rino Fidiniaina, Xuezhi Xiang and Hilari Javier	3176

WedN2-7 Sensors, Sensor Networks, Sensing and Signal Processing, Chair: Dili Deng and Xuemei Wang, Room: Pearl Hall

3:50PM	<i>Robust Measurement Fusion Kalman Filter for Multisensor Systems with Multiplicative Noises and Uncertain Noise Variances</i> Wenqiang Liu, Xuemei Wang and Zili Deng	3180
4:05PM	<i>Robust Guaranteed Cost Steady-State Kalman Estimators with Uncertain Noise Variances</i> Chunshan Yang, Zhibo Yang and Zili Deng	3187
4:20PM	<i>Modified Robust Covariance Intersection Fusion Steady-State Kalman Estimators with Uncertain Noise Variances</i> Xuemei Wang, Wenqiang Liu and Zili Deng	3194
4:35PM	<i>Guaranteed Cost Robust Modified Covariance Intersection Fusion Kalman Filter for Multi-Sensor System with Uncertain</i> Zhibo Yang, Chunshan Yang and Zili Deng	3201
4:50PM	<i>Blind Separation of Spatially Correlated Signals Mixed by MIMO FIR Systems</i> Yong Xiang, Dezhong Peng and Liu Yang	3208
5:05PM	<i>Multifractal Analysis of Short-Term Wind Speed Time Series with Different Sampling Frequencies</i> Ming Zeng, Xiaonei Zhang, Jinghai Li and Qinghao Meng	3213
5:20PM	<i>NHEED: An Energy-Efficient Multi-Hop Routing Protocol Based On HEED</i> Huaiyu Wang, Qingwei Liu and Mandan Liu	3219
5:35PM	<i>Human Daily Activity Recognition Based on Online Sequential Extreme Learning Machine</i> Yanan Song, Zhigang Liu and Jinkuan Wang	3226

WedN2-8 Industrial Robots and Intelligent Manufacturing, Chair: Bing Sun and Shouyan Chen, Room: Jadeite Hall

3:50PM	<i>A 6-DOF Articulated Robot Stiffness Research</i> Shouyan Chen, Tie Zhang and Ming Shao	3230
4:05PM	<i>Predictive Control Based Target Tracking Control for a Carangiform Robotic Fish</i> Siyuan Chen, Songlin Chen, Chang Liu, Baoqing Yang and Feitian Zhang	3236
4:20PM	<i>Compliance Control on 6-DOF Robot Modular Manipulator with Fuzzy Methodology</i> Hongxing Wei, Tianqi Gu, Bo Yang and Zhenzhou Shao	3242

4:35PM	<i>Three dimensional D*Lite path planning for Autonomous Underwater Vehicle under partly unknown environment</i>	Bing Sun and Daqi Zhu	3248
4:50PM	<i>Positional Accuracy Analysis of Welding Robot under Mechanism Clearance and Elastic Deformation</i>	Yijian Mao, Fengshui Jing, Zize Liang and Zaojun Fang	3253
5:05PM	<i>Trajectory Tracking of 3-DOF Spatial Robot Manipulator</i>	Kaige Wan, Aiguo Wu, Haiting Liu and Na Dong	3259
5:20PM	<i>Optimization of Tracking Control and ESO Vibration Suppression for Free-Floating Flexible Space Robot with Bounded Torque</i>	Zhenan Pang, Guoliang Zhang, Fan Yang, Zhilin Lin and Xiao Jia	3265
5:35PM	<i>Random Particles Boosted RRT for Complicated 3D Environments with Narrow Passages</i>	Chengzhi Luan and Zheng Fang	3271

WedN2-9 Unmanned Aerial Vehicles and Autonomous Systems.. , Chair: Zhaowei Ma and Yanjiang Wang, Room: Amber Hall

3:50PM	<i>Bio-inspired Model for Object Recognition Based on Histogram of Oriented Gradients</i>	Limiao Deng and Yanjiang Wang	3277
4:05PM	<i>Design of Virtual Resource Management Agent Based on Fuzzy Analytic Hierarchy Process</i>	Fei Lu, Guohui Tian, Guoliang Liu, Yuheng Wang and Huanzhao Chen	3283
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