2020 16th International Conference on Control, Automation, Robotics and Vision (ICARCV 2020)

Shenzhen, China
13 – 15 December 2020

Pages 1-706

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Content List of 2020 16th International Conference on Control, Automation, Robotics and Vision (ICARCV)

Technical Program for Sunday December 13, 2020

SuKN	Room 1
Plenary 1 (Plenary Session)	

09:00-10:00	SuKN.1

Research Trends in Developing Intelligent Unmanned Systems*.

Chen, Ben M.	Chinese University of Hong Kong

SuPP	Room 1
Plenary Panel in Control (Plenary Session)	

10:30-12:30	SuPP.1

Control Theory and Applications: The Presence and the Future*.

Fu, Minyue	University of Newcastle
Jiang, Zhong-Ping	New York University
Petersen, Ian R.	Australian National University
Xie, Lihua	Nanyang Technological University
Zhang, Ji-Feng	Chinese Academy of Sciences

SuBT1	Room 1
Best Student Paper Award Finalist Presentations (Regular Session)	

13:30-13:50	SuBT1.1

Consensus-Based Formation Control and Obstacle Avoidance for Nonholonomic Multi-Robot System, N/A.

Koung, Daravuth	Ecole Centrale de Nantes, E-COBOT
Fantoni, Isabelle	CNRS
Kermorgant, Olivier	Ecole Centrale Nantes
Belouaer, Lamia	E-COBOT

13:50-14:10	SuBT1.2

End-To-End Joint Intention Estimation for Shared Control Personal Mobility Navigation, N/A.

Katuwandeniya, Kavindie	University of Technology Sydney
Valls Miro, Jaime	University of Technology Sydney
Dantanarayana, Lakshitha	University of Technology Sydney

14:10-14:30	SuBT1.3

Fault Detection for Nonstationary Process with Decomposition and Analytics of Gaussian and Non-Gaussian Subspaces, N/A.

Zhao, Yi	Zhejiang University
Zhao, Chunhui	Zhejiang University
Sun, Youxian	Zhejiang University

14:30-14:50	SuBT1.4

Robust Texture Features for Breast Density Classification in Mammograms, N/A.

Li, Haipeng	University of Canterbury
Mukundan, Ramakrishnan	University of Canterbury
Boyd, Shelley	St. George's Medical Center

14:50-15:10	SuBT1.5

An Information Driven Approach for Ego-Lane Detection Using Lidar and OpenStreetMap, N/A.

KASMI, ABDERRAHIM	Sherpa Engineering/ Institut Pascal - Clermont Auvergne University
Laconte, Johann	Université Clermont Auvergne, CNRS, SIGMA Clermont, Institut Pascal, F-63000 CLERMONT-FERRAND, FRANCE

AUFRERE, Romuald	Institut Pascal - Clermont Auvergne University
THEODOSE, Ruddy	Sherpa Engineering
DENIS, Dieumet	SHERPA ENGINEERING
Chapuis, Roland	Institut Pascal

SuBT2	Room 2
Electric Vehicles and Intelligent Transportation 1 (Invited Session)	

13:30-13:50	SuBT2.1

Switching Process Analysis and Drive Circuit Simulation of SiC MOSFET in Dynamic Wireless Charging for Electric Vehicles, pp. 32-37.

Li, Zongwen	Wuhan University of Technology
Long, Rong	Huazhong Agricultural University
Zhang, Liyan	Wuhan University of Technology
Chen, Qihong	Wuhan University of Technology

13:50-14:10	SuBT2.2

Analysis and Design of Four-Phase Interleaved Parallel Buck Converter Based on High-Power Charging System for Electric Vehicles, pp. 38-43.

Li, Haozhe	Wuhan University of Technology
Long, Rong	Huazhong Agricultural University
Zhang, Liyan	Wuhan University of Technology
Chen, Qihong	Wuhan University of Technology

14:10-14:30	SuBT2.3

Optimization of Magnetic Core Structure Based on DD Coils for Electric Vehicle Wireless Charging, pp. 44-49.

Ni, Xin	Wuhan University of Technology
Long, Rong	Huazhong Agricultural University
Zhang, Liyan	Wuhan University of Technology
Chen, Qihong	Wuhan University of Technology

14:30-14:50	SuBT2.4

Model Predictive Control Based on Spider Monkey Optimization Algorithm of Interleaved Parallel Bidirectional DC-DC Converter, pp. 50-55.

Lan, Yueyang	Wuhan University of Technology
Chen, Qihong	Wuhan University of Technology
Zhang, Liyan	Wuhan University of Technology
Long, Rong	Huazhong Agricultural University

14:50-15:10	SuBT2.5

Impact of Electric Vehicle Battery Parameters on the Large-Scale Electric Vehicle Charging Loads in Power Distribution Network (I), pp. 56-60.

Yang, Chen	Wuhan Electric Power Technical College
Tang, Jinrui	Wuhan University of Technology
Shen, Qing	Wuhan Electric Power Technical College

15:10-15:30	SuBT2.6

Double Closed Loop Controller with Current Sharing of Interleaved DC/DC Converter for Dynamic Wireless Power Transfer System (I), pp. 61-66.

Chen, Wenjie	Zhejiang University
Liu, Zhitao	Zhejiang University
Su, Hongye	Zhejiang University
Zhang, Liyan	Wuhan University of Technology

SuBT3	Room 3
Multi-Agent Systems (Regular Session)	

13:30-13:50	SuBT3.1

UWB System Based UAV Swarm Testbed, pp. 67-72.

weihua, zhao	Sky Magic Ptd. Ltd

Chiew, Soon Hooi	Sky Magic Ptd. Ltd

13:50-14:10	SuBT3.2

Mean Field LQ Games with a Finite Number of Agents, pp. 73-78.

Wang, Bingchang	Shandong University
Zhang, Huanshui	Shandong University
Fu, Minyue	University of Newcastle

14:10-14:30	SuBT3.3

Hybrid Multi-Robot System for Drilling and Blasting Automation, pp. 79-84.

Nguyen, Dac Dang Khoa	University of Technology Sydney
Lai, Yujun	University of Technology Sydney (UTS)
Sutjipto, Sheila	University of Technology, Sydney
Paul, Gavin	UTS

14:30-14:50	SuBT3.4

Voronoi-Based Geometric Distributed Fleet Control of a Multi-Robot System, pp. 85-91.

Bertrand, Sylvain	ONERA
SARRAS, Ioannis	ONERA-The French Aerospace Lab
Eudes, Alexandre	ONERA
Marzat, Julien	ONERA - the French Aerospace Lab

14:50-15:10	SuBT3.5

Consensus-Based Formation Control and Obstacle Avoidance for Nonholonomic Multi-Robot System, pp. 92-97.

Koung, Daravuth	Ecole Centrale De Nantes, E-COBOT
Fantoni, Isabelle	CNRS
Kermorgant, Olivier	Ecole Centrale Nantes
Belouaer, Lamia	E-COBOT

15:10-15:30	SuBT3.6

Underwater Robot Formation Control Based on Leader-Follower Model, pp. 98-103.

Fang, Renjie	Harbin Institute of Technology (Shenzhen)
Wang, Xin	Harbin Institue of Technology (Shenzhen)
Xiao, Zhenlong	Harbin Institute of Technology (Shenzhen)
Lan, Rongfu	Harbin Institute of Technology, Shenzhen
Liu, Xiaodi	Harbin Institute of Technology, Shenzhen
Cai, Xiaotian	Harbin Institute of Technology (Shenzhen)

SuBT4	Room 4
Intelligent Transportation Systems (Regular Session)	

13:30-13:50	SuBT4.1

Traffic Signal Transition Time Prediction Based on Aerial Captures During Peak Hours (I), pp. 104-110.

Luo, Ruikang	Nanyang Technological University
Su, Rong	Nanyang Technological University

13:50-14:10	SuBT4.2

Domain Adaptation for Degraded Remote Scene Classification (I), pp. 111-117.

Chen, Hailin	Nanyang Technological University
Yang, Jianfei	Nanyang Technological University
Xu, Yuecong	Nanyang Technological University
Shi, Ziji	Nanyang Technological University
Luo, Ruikang	Nanyang Technological University
Xie, Lihua	Nanyang Technological University
Su, Rong	Nanyang Technological University

14:10-14:30	SuBT4.3

A Two-Stage Improving Scheme on Intelligent Aircraft Trajectory Optimization (I), pp. 118-123.

Wang, Hui	Beijing Jiaotong University
Li, Feng	Beijing Jiaotong University
Chen, Xiaojing	Beijing Jiaotong University
Tian, Le	Beijing Jiaotong University
Song, Dongdong	Beijing Jiaotong University

14:30-14:50	SuBT4.4

Real-Time Queue Length Estimation with Trajectory Reconstruction Using Surveillance Data (I), pp. 124-129.

Sheng, Zihao	Shanghai Jiao Tong University
Xue, Shibei	Shanghai Jiao Tong University
Xu, Yunwen	Shanghai Jiao Tong University
Li, Dewei	Shanghai Jiao Tong University

14:50-15:10	SuBT4.5

Research on Allocation and Dispatching Strategies of Rescue Vehicles in Emergency Situation on the Freeway (I), pp. 130-135.

Wang, Ping	Chang'an University
Yang, Jingwen	Chang'an University
Jin, Yinli	Chang'an University
Wang, Jun	Toll Collection Center for Shaanxi Freeway

15:10-15:30	SuBT4.6

Improved Deep Learning Method to Fast Detect Vehicles Driving on a Long Span Cable-Stayed Bridge (I), pp. 136-141.

Zhang, Shuying	Chang'an University
Wang, Ping	Chang'an University
Yang, Gan	Chang'an University
Han, Wanshui	Chang'an University
Yang, Jingwen	Chang'an University

SuBT5	Room 5
Cooperation and Security in Network-Connected Systems (Invited Session)	
Organizer: Zhang, Ya	Southeast University
Organizer: Feng, Zhi	Nanyang Technological University

13:30-13:50	SuBT5.1

Formation Tracking Control with Adaptive Neural Networks Estimation (I), pp. 142-147.

huang, rong	Southeast University
Chen, Yangyang	Southeast University

13:50-14:10	SuBT5.2

A Switched System Approach against Time-Delay Attacks in Cyber-Physical Systems (I), pp. 148-153.

Tongxiang, Li	Zhejiang University of Technology
Chen, Bo	Zhejiang University of Technology
Yu, Li	Zhejiang University of Technology

14:10-14:30	SuBT5.3

Delay Margin for Containment Control of Second-Order Multi-Agent Systems Over Directed Graphs (I), pp. 154-159.

Ma, Xueyan	Northeastern University
Ma, Dan	Northeastern University

14:30-14:50	SuBT5.4

Consensus Kalman Filtering for Sensor Networks Based on FDI Attack Detection (I), pp. 160-165.

Hao, Jiali	Southeast University
Zhang, Ya	Southeast University

14:50-15:10	SuBT5.5

A Novel Method Combining Leader-Following Control and Reinforcement Learning for Pursuit Evasion Games of Multi-Agent Systems (I), pp. 166-171.

Zhu, Zheyang	Jiangnan University
Liu, Cheng-Lin	Jiangnan University

15:10-15:30	SuBT5.6

Task-Space Cooperative Tracking of Manipulators Via a Unified Inner/Outer-Loop Distributed Design (I), pp. 172-177.

Feng, Zhi	Nanyang Technological University
Hu, Guoqiang	Nanyang Technological University
Jeffrey, Soon	Delat

SuBT6	Room 6
Mobile Robot Navigation, Vision and AI (Invited Session)	

Organizer: Wang, Han	Nanyang Technological University

13:30-13:50	SuBT6.1

Unsupervised 3D Primitive Shape Detection Using Mathematical Models (I), pp. 178-183.

PING, GUIJU	Nanyang Technological University
Abolfazli Esfahani, Mahdi	Nanyang Technological University
Wang, Han	Nanyang Technological University

13:50-14:10	SuBT6.2

LaCNet: Real-Time End-To-End Arbitrary-Shaped Lane and Curb Detection with Instance Segmentation Network (I), pp. 184-189.

zhou, hui	Nanyang Technological University
Wang, Han	Nanyang Technological University
Zhang, Handuo	Nanyang Technological University
Karunasekera, Hasith	Nanyang Tech. Univ

14:10-14:30	SuBT6.3

Unsupervised Scene Categorization, Path Segmentation and Landmark Extraction While Traveling Path (I), pp. 190-195.

Abolfazli Esfahani, Mahdi	Nanyang Technological University
Wang, Han	Nanyang Technological University
Wu, Keyu	Nanyang Technological University
YUAN, SHENGHAI	Nanyang Tech. Univ

14:30-14:50	SuBT6.4

Model Predictive Path Integral Control Framework for Partially Observable Navigation: A Quadrotor Case Study (I), pp. 196-203.

S. Mohamed, Ihab	Inria Sophia Antipolis - Méditerranée, Université Côte D'Azur
Allibert, Guillaume	Universite Cote d'Azur, CNRS, I3S
Martinet, Philippe	INRIA

14:50-15:10	SuBT6.5

Near-Parallel Binocular-Like Camera Pair for Multi-Drone Detection and 3D Localization (I), pp. 204-210.

Srigrarom, Sutthiphong	National University of Singapore
Yi, Jiahe	Nanyang Technological University

15:10-15:30	SuBT6.6

A State-Of-Charge Estimation Method Based on Bidirectional LSTM Networks for Lithium-Ion Batteries, pp. 211-216.

Zhang, Zhen	Zhejiang University
Xu, Ming	NingboTech University
Ma, Long-hua	Zhejiang University
Yu, Bin Chao	Zhejiang Zheneng Natural Gas Operation Co

SuCT1	Room 1
Best Paper Award Finalist Presentations (Regular Session)	

16:00-16:20	SuCT1.1

Symbolic Self-Triggered Control of Continuous-Time Non-Deterministic Systems without Stability Assumptions for 2-LTL Specifications, N/A.

Pruekprasert, Sasinee	National Institute of Informatics
Eberhart, Clovis	National Institute of Informatics
Dubut, Jeremy	National Institute of Informatics

16:20-16:40	SuCT1.2

A Data Driven Approach for Leak Detection with Smart Sensors (I), N/A.

Liang, Bin	University of Technology Sydney
VERMA, SUNNY	University of Technology Sydney
Xu, Jie	University of Technology Sydney
Liang, Shuming	University of Technology Sydney
Li, Zhidong	UTS
Wang, Yang	University of Technology Sydney
Chen, Fang	University of Technology Sydney

16:40-17:00	SuCT1.3

Enhancing Adaptive Event-Triggered Protocols for Multi-Agent Consensus with External Disturbances (I), N/A.

Li, Xianwei	Shanghai Jiao Tong University
Tang, Yang	East China University of Science and Technology
Zhu, Bing	Beihang University
Li, Shaoyuan	Shanghai Jiao Tong University

17:20-17:20	SuCT1.4

Hybrid Feature Network Driven by Attention and Graph Features for Multiple Sclerosis Lesion Segmentation from MR Images, N/A.

Chen, Zhanlan	Northwestern Polytechnical University
Wang, Xiuying	The University of Sydney
Zheng, Jiangbin	Northwestern Polytechnical University

17:20-17:40	SuCT1.5

Multi-Robot Collaborative Reasoning for Unique Person Recognition in Complex Environments (I), N/A.

Yang, Chule	Academy of Military Science
Yue, Yufeng	Nanyang Technological University
Wen, Mingxing	Nanyang Technological University

Zhang, Jun	Nanyang Technological University

SuCT2 Room 2
Electric Vehicles and Intelligent Transportation 2 (Regular Session)

16:00-16:20	SuCT2.1

Research on Anti-Interference Algorithm for Cab Signal Demodulation Based on Deep Learning, pp. 248-254.

LIU, Shuxian	Beijing Jiaotong University
YANG, Shiwu	Beijing Jiaotong University
Liu, Chang	Beijing Jiaotong University
LIU, tao	Shenzhen Changlong Railway Electronic Engineering Company Co, Lt
Xiong, Qihui	BeijingJiaoTong University

16:20-16:40	SuCT2.2

Hybrid, Discrete-Time Distributed Parameter Mathematical Model for Road Traffic with Control, pp. 255-259.

Orlowski, Przemyslaw	West Pomeranian University of Technology in Szczecin

16:40-17:00	SuCT2.3

Graph-Based Approach for Crowdsourced Mapping: Evaluation through Field Experiments, pp. 260-265.

Stoven-Dubois, Alexis	VEDECOM
Dziri, Aziz	VEDECOM
Leroy, Bertrand	VEDECOM
Chapuis, Roland	Institut Pascal

17:20-17:20	SuCT2.4

Road Curb Detection Using Traversable Ground Segmentation: Application to Autonomous Shuttle Vehicle Navigation, pp. 266-272.

Guerrero Mata, Jose Alfredo	CEMAGREF (IRSTEA)
Chapuis, Roland	Institut Pascal
AUFRERE, Romuald	Institut Pascal - Clermont Auvergne University
Malaterre, Laurent	Institut Pascal
Marmoiton, Francois	Institut Pascal

17:20-17:40	SuCT2.5

Using Traffic Signs As Landmarks in Object-Oriented EKF-SLAM, pp. 273-280.

HRUSTIC, Emir	ISAE-SUPAERO
Vivet, Damien	ISAE-SUPAERO

17:40-18:00	SuCT2.6

A Collaborative Relative Localization Method for Vehicles Using Vision and LiDAR Sensors, pp. 281-286.

Li, Yanhao	Shanghai Jiao Tong University
LI, HAO	Shanghai Jiao Tong University

SuCT3 Room
Learning and Statistical Methods (Regular Session)

16:00-16:20	SuCT3.1

A Robust Decomposition-Ensemble Method for Wind Speed Forecasting, pp. 287-290.

Zhang, Bingquan	CRRC Wind Power (Shandong) Co., Ltd
Yang, Yang	Nanjing University of Posts and Telecommunications
Zhao, Dengli	CRRC Wind Power (Shandong) Co., Ltd
Wu, Jinran	Queensland University of Technology

16:20-16:40	SuCT3.2

Efficient Asynchronous Vertical Federated Learning Via

Gradient Prediction and Double-End Sparse Compression, pp. 291-296.

Li, Ming	Zhejiang University
Yiwei, Chen	Zhejiang University
Wang, Yiqin	Zhejiang University
Pan, Yu	Zhejiang University

16:40-17:00	SuCT3.3

Towards Enforcing Social Distancing Regulations with Occlusion-Aware Crowd Detection, pp. 297-302.

Cong, Cong	University of News South Wales
Yang, Zhichao	University of News South Wales
Song, Yang	University of New South Wales
Pagnucco, Maurice	University of News South Wales

17:20-17:20	SuCT3.4

A Progressive Weighted Average Weight Optimisation Ensemble Technique for Fruit and Vegetable Classification, pp. 303-308.

Hameed, Khurram	Edith Cowan University
Chai, Douglas	Edith Cowan University
Rassau, Alex	Edith Cowan University

17:20-17:40	SuCT3.5

Real-Time Multiple Object Tracking with Discriminative Features, pp. 309-314.

weng, zhenyu	Peking University Shenzhen Graduate School
zhu, yuesheng	Peking University Shenzhen Graduate School
Lin, Zhiping	School of Electrical &ElectronicEng., NanyangTechnologicalUnivers
li, haizhou	National University of Singapore

17:40-18:00	SuCT3.6

Commonsense Knowledge Adversarial Set That Challenges ELECTRA, pp. 315-320.

Lin, Gongqi	NTU-Alibaba JRI
Miao, Yuan	Victoria University
Yang, Xiaoyong	Alibaba-Group
Ou, Wenwu	Alibaba-Group
Cui, Lizhen	Shandong University
Guo, Wei	Shandong University
Miao, ChunYan	Nanyang Technological University

SuCT4 Room 4
Mobile Robotics (Regular Session)

16:00-16:20	SuCT4.1

NDT-PSO, a New NDT Based SLAM Approach Using Particle Swarm Optimization, pp. 321-326.

sara, bouraine	Center for Development of Advanced Technologies (CDTA)
Bougouffa, Abdelhak	Université Paris-Saclay
ouahiba, azouaoui	Center for Development of Advanced Technologies (CDTA)

16:20-16:40	SuCT4.2

Customer Behavior Analytics Using an Autonomous Robotics-Based System, pp. 327-332.

Petrovsky, Alexander	Skolkovo Institute of Scince and Technology
Kalinov, Ivan	Skolkovo Institute of Science and Technology
Karpyshev, Pavel	Skoltech
Kurenkov, Mikhail	Skolkovo Institute of Science and Technology
Ilin, Valery	Skolkovo Institute of Science and Technology

| Ramzhaev, Vladimir | Skoltech |
| Tsetserukou, Dzmitry | Skolkovo Institute of Science and Technology |

| 16:40-17:00 | SuCT4.3 |

Bidirectional Homotopy-Guided RRT for Path Planning, pp. 333-338.

Lin, Zhen	ZheJiang University
Li, Yanjun	Zhejiang University City College
xiang, ji	Zhejiang University, Yuquan Campus
Gui, Ling	Zhejiang University City College; Zhejiang University
Suo, Feiyang	Zhejiang University City College; Zhejiang University

| 17:20-17:20 | SuCT4.4 |

Modeling and Identification of Coupled Translational and Rotational Motion of Underactuated Indoor Miniature Autonomous Blimps, pp. 339-344.

Tao, Qiuyang	Georgia Institute of Technology
Hou, Mengxue	Georgia Institute of Technology
Zhang, Fumin	Georgia Institute of Technology

| 17:20-17:40 | SuCT4.5 |

Towards a Development of Robotics Tower Crane System, pp. 345-350.

Andonovski, Bojan	Nanyang Technological University
Li, Jianqiang	Nanyang Technological University
Jeyaraj, Sherine	Nanyang Technological University
Ang, Zi Quan	Nanyang Technological University
Kumhom, Pinit	King Mongkut's University of Technology Thonburi
Ang, Wei Tech	Nanyang Technological University

| 17:40-18:00 | SuCT4.6 |

Multi-Robots Trajectory Planning for Farm Field Coverage, pp. 351-356.

Cariou, Christophe	INRAE
Laneurit, Jean	INRAE
Roux, Jean-Christophe	Inrae
Lenain, Roland	INRAE

| **SuCT5** | Room 5 |
| **Intelligent Perception and Control for Autonomous Systems/robots 1** (Invited Session) | |

| Organizer: Wang, Danwei | Nanyang Technological University |
| Organizer: Laugier, Christian | INRIA |

| 16:00-16:20 | SuCT5.1 |

LPG-SLAM: A Light-Weight Probabilistic Graph-Based SLAM (I), N/A.

| MELBOUCI, kathia | INRIA |
| NASHASHIBI, FAWZI | INRIA |

| 16:20-16:40 | SuCT5.2 |

VAGAN: Vehicle-Aware Generative Adversarial Networks for Vehicle Detection in Rain (I), pp. 363-368.

Wang, Jian-Gang	Institute for Infocomm Research
WAN, Kong Wah	Institute for Infocomm Research
Yau, Wei Yun	Institute for Infocomm Research
Pang, Chun Ho	Institute for Infocomm Research
Lai, Fon Lin	Institute for Infocomm Research

| 16:40-17:00 | SuCT5.3 |

Multi-Robot Collaborative Reasoning for Unique Person Recognition in Complex Environments (I), pp. 369-374.

Yang, Chule	Academy of Military Science
Yue, Yufeng	Nanyang Technological University
Wen, Mingxing	Nanyang Technological University
Wang, Yuanzhe	Nanyang Technological University
Deng, Baosong	Academy of Military Science

| 17:20-17:20 | SuCT5.4 |

Human-Robot Teaming and Coordination in Day and Night Environments (I), pp. 375-380.

Yue, Yufeng	Nanyang Technological University
Liu, Xiangyu	Nanyang Technological University
Wang, Yuanzhe	Nanyang Technological University
Zhang, Jun	Nanyang Technological University
Wang, Danwei	Nanyang Technological University

| 17:20-17:40 | SuCT5.5 |

RSAN: A Retinex Based Self Adaptive Stereo Matching Network for Day and Night Scenes (I), pp. 381-386.

Zhang, Haoyuan	Nanyang Technological University
Chau, Lap-Pui	Nanyang Technological University
Wang, Danwei	Nanyang Technological University

| 17:40-18:00 | SuCT5.6 |

HILPS: Human-In-Loop Policy Search for Mobile Robot Navigation (I), pp. 387-392.

Wen, Mingxing	Nanyang Technological University
Yue, Yufeng	Nanyang Technological University
WU, ZHENYU	Nanyang Technological University
MIHANKHAH, Ehsan	Nanyang Technological University
Wang, Danwei	Nanyang Technological University

| **SuCT6** | Room 6 |
| **Intelligent Perception and Control for Autonomous Systems/robots 1Intelligent Perception and Control for Autonomous Systems/robots 2** (Invited Session) | |

| Organizer: Zhang, Ya | Southeast University |
| Organizer: Feng, Zhi | Nanyang Technological University |

| 16:00-16:20 | SuCT6.1 |

Safe Geometric Speed Planning Approach for Autonomous Driving through Occluded Intersections (I), pp. 393-399.

Poncelet, Renaud	Inria
Verroust-Blondet, Anne	Inria
NASHASHIBI, FAWZI	INRIA

| 16:20-16:40 | SuCT6.2 |

LiDAR Observations by Motion Compensation and Scan Accumulation (I), pp. 400-405.

Lima, Antoine	Université De Technologie De Compiègne
Welte, Anthony	Université De Technologie De Compiègne, Sorbonne Universités
Xu, Philippe	Université De Technologie De Compiègne

Bonnifait, Philippe	Université De Technologie De Compiègne, Sorbonne Universités

16:40-17:00	SuCT6.3

Multi-Sensor-Based Predictive Control for Autonomous Parking in Presence of Pedestrians (I), pp. 406-413.

Pérez-Morales, David	École Centrale De Nantes, LS2N
Kermorgant, Olivier	Ecole Centrale Nantes
Dominguez, Salvador	Ecole Centrale Nantes
Martinet, Philippe	INRIA

17:20-17:20	SuCT6.4

Recognize Moving Objects Around an Autonomous Vehicle Considering a Deep-Learning Detector Model and Dynamic Bayesian Occupancy (I), pp. 414-420.

Gómez Hernandez, Andrés Eduardo	Inria
Erkent, Ozgur	Inria
Laugier, Christian	INRIA

17:20-17:40	SuCT6.5

Instance Segmentation with Unsupervised Adaptation to Different Domains for Autonomous Vehicles (I), pp. 421-427.

Diaz-Zapata, Manuel Alejandro	Inria
Erkent, Ozgur	Inria
Laugier, Christian	INRIA

17:40-18:00	SuCT6.6

Behavioral Decision-Making for Urban Autonomous Driving in the Presence of Pedestrians Using Deep Recurrent Q-Network (I), pp. 428-433.

Deshpande, Niranjan	Inria
Vaufreydaz, Dominique	Univ. Grenoble Alpes, CNRS, Inria, Grenoble INP, LIG, 38000 Gren
Spalanzani, Anne	Inria - Grenoble Alpes University

MoKN	Room 1
Plenary 2 (Plenary Session)	

08:30-09:30	MoKN.1

The Intermittent Joy of Intermittent Feedback*.

Dixon, Warren E.	University of Florida

MoAT1	Room 1
Medical Image Analysis 1 (Regular Session)	

10:00-10:20	MoAT1.1

Near-Infrared-To-Visible Vein Imaging Via Convolutional Neural Networks and Reinforcement Learning, pp. 434-441.

Leli, Vito Michele	Skolkovo Institute of Science and Technology
Rubashevskii, Aleksandr	Skolkovo Institute of Science and Technology
Sarachakov, Aleksandr	Skolkovo Institute of Science and Technology
Rogov, Oleg	Skolkovo Institute of Science and Technology
Dylov, Dmitry V.	Skolkovo Institute of Science and Technology

10:20-10:40	MoAT1.2

Quantifying Tissue-Stiffening Behaviour of the Cervix in Shear-Wave Elastography, pp. 442-447.

Ge, Weirong	Central Clinical School, University of Sydney
Brooker, Graham	Australian Centre for Field Robotics
Hyett, Jon	Central Clinical School, University of Sydney

10:40-11:00	MoAT1.3

Unsupervised Positron Emission Tomography Tumor Segmentation Via GAN Based Adversarial Auto-Encoder, pp. 448-453.

wu, xinheng	The University of Sydney
Bi, Lei	The University of Sydney
Fulham, Michael	Royal Prince Alfred Hospital
Kim, Jinman	The University of Sydney

11:00-11:20	MoAT1.4

Robust Texture Features for Breast Density Classification in Mammograms, pp. 454-459.

Li, Haipeng	University of Canterbury
Mukundan, Ramakrishnan	University of Canterbury
Boyd, Shelley	St. George's Medical Center

11:20-11:40	MoAT1.5

Deep Learning and Late Fusion Technique in Medical X-Ray Image Classification, pp. 460-465.

Alebiosu, David	Monash University, Malaysia
Dharmaratne, Anuja	Monash University Malaysia
Muhammad, Fermi Pasha	Monash University

11:40-12:00	MoAT1.6

A Bifocal Classification and Fusion Network for Multimodal Image Analysis in Histopathology, pp. 466-471.

Bao, Guoqing	The University of Sydney
Graeber, Manuel	The University of Sydney
Wang, Xiuying	The University of Sydney

MoAT2	Room 2
Networked Control Systems 1 (Regular Session)	

10:00-10:20	MoAT2.1

Adaptive Control for a Class of Uncertain Nonlinear Systems Subject to Saturated Input Quantization, pp. 472-477.

Xing, Lantao	Nanyang Technological University
Wen, Changyun	Nanyang Tech. Univ
Liu, Zhitao	Zhejiang University
Cai, Jianping	Zhangzhou Normal University
Zhang, Meng	Xi'an Jiaotong University

10:20-10:40	MoAT2.2

On Reductions among Observation Properties of Discrete Event Systems, pp. 478-482.

Gong, Chaohui	University of Shanghai for Science and Technology
Zhang, Hanran	University of Shanghai for Science and Technology
Guo, Zhong	Zhejiang Research Center on Smart Rail Transportation, PowerChin
Yan, Zihai	Zhejiang Research Center on Smart Rail Transportation, PowerChin
Wang, Weilin	PowerChina Huadong Engineering Corporation Limited

10:40-11:00	MoAT2.3

Event-Triggered Remote Dynamic Control for Network Control Systems, pp. 483-488.

Li, Haoyun	Anhui University
FAN, Yuan	Anhui University
Pan Gaofeng, Pan Gaofeng	Anhui University
Song, Cheng	Nanjing University of Science and Technology

11:00-11:20	MoAT2.4

On Stability of Multi-Agent Systems on Time Scales under Denial-Of-Service Attacks, pp. 489-496.

Girejko, Ewa	Bialystok University of Technology
Malinowska, Agnieszka B.	University of Aveiro

11:20-11:40	MoAT2.5

Multi-Objective Optimization of Two Control Strategies for Congestion Avoiding in Computer Network, pp. 497-504.

Grzyb, Slawomir	Atos Global Delivery Center Poland
Orlowski, Przemyslaw	West Pomeranian University of Technology in Szczecin

11:40-12:00	MoAT2.6

Multi-Sensor H-Infinity Filter Design for Networked Control Systems with Unknown Communication Delays, pp. 505-510.

Nartey, George	Zhengzhou University
Zhang, Duanjin	Zhengzhou University

MoAT3	Room 3
Robot Sensing (Regular Session)	

10:00-10:20	MoAT3.1

Development of a Millinewton FBG-Based Distal Force Sensor for Intravascular Interventions, pp. 511-515.

Akinyemi, Toluwanimi	Shenzhen Institutes of Advanced Technology, Chinese Academy of S
Omisore, Olatunji	Shenzhen Institutes of Advanced Technology, Chinese Academy of S
Wenke, Duan	Shenzhen Institutes of Advanced Technology, Chinese Academy of S
Gan, LU	Shenzhen Institutes of Advanced Technology, Chinese Academy of S

Du, Wenjin	Shenzhen Institutes of Advanced Technology, Chinese Academy of S
Alhanderish, Yousef	Shenzhen Institutes of Advanced Technology, Chinese Academy of S
Lei, Wang	Shenzhen Institutes of Advanced Technology, Chinese Academy of S

| 10:20-10:40 | MoAT3.2 |

Visual-IMU State Estimation with GPS and OpenStreetMap for Vehicles on a Smartphone, pp. 516-521.

He, Guohan	Shanghai Jiaotong University
Cao, Qi xin	Shanghai Jiao Tong University
Zhu, Xiao xiao	Shanghai Jiao Tong University
Miao, Haoyuan	Shanghai Jiaotong University

| 10:40-11:00 | MoAT3.3 |

An Information Driven Approach for Ego-Lane Detection Using Lidar and OpenStreetMap, pp. 522-528.

KASMI, ABDERRAHIM	Sherpa Engineering/ Institut Pascal - Clermont Auvergne Universi
Laconte, Johann	Université Clermont Auvergne, CNRS, SIGMA Clermont, Institut Pas
AUFRERE, Romuald	Institut Pascal - Clermont Auvergne University
THEODOSE, Ruddy	Sherpa Engineering
DENIS, Dieumet	SHERPA ENGINEERING
Chapuis, Roland	Institut Pascal

| 11:00-11:20 | MoAT3.4 |

6D Object Pose Estimation with Color/Geometry Attention Fusion, pp. 529-535.

| Yuan, Honglin | Utrecht University |
| Veltkamp, Remco C. | Utrecht University |

| 11:20-11:40 | MoAT3.5 |

3D Point-To-Keypoint Voting Network for 6D Pose Estimation, pp. 536-541.

Hua, Weitong	Zhejiang University
Guo, Jiaxin	Zhejiang University
WANG, yue	Zhejiang University
Xiong, Rong	Zhejiang University

| 11:40-12:00 | MoAT3.6 |

Fish Keypoints Detection for Ecology Monitoring Based on Underwater Visual Intelligence, pp. 542-547.

Suo, Feiyang	Zhejiang University City College; Zhejiang University
huang, kangwei	Zhejiang University City Collage
Gui, Ling	Zhejiang University City College; Zhejiang University
Li, Yanjun	Zhejiang University City College
xiang, ji	Zhejiang University, Yuquan Campus

| **MoAT4** | Room 4 |
| **Nonlinear Systems** (Regular Session) | |

| 10:00-10:20 | MoAT4.1 |

Symbolic Self-Triggered Control of Continuous-Time Non-Deterministic Systems without Stability Assumptions for 2-LTL Specifications, pp. 548-554.

Pruekprasert, Sasinee	National Institute of Informatics
Eberhart, Clovis	National Institute of Informatics
Dubut, Jeremy	National Institute of Informatics

| 10:20-10:40 | MoAT4.2 |

A Parameter Tuning Method for Fractional Order PD Controllers, pp. 555-560.

OZYETKIN, MUNEVVER MINE	Aydin Adnan Menderes University
Bekiroglu, Korkut	SUNY Polytechnic Institute
Srinivasan, Seshadhri	Berekeley Education Alliance for Research in Singapore

| 10:40-11:00 | MoAT4.3 |

Decoupled Load Swing Control of an Overhead Crane Using Arduino Controller, pp. 561-566.

Garcia, F. Javier	Universidad De Valladolid ESQ4718001C
Gonzalez, Luis R.	Universidad De Valladolid
Poncela, Alfonso V.	Universidad De Valladolid
Moya, Eduardo	ITAP - Universidad De Valladolid

| 11:00-11:20 | MoAT4.4 |

Practical Stability of Positive Switched Nonlinear Time-Varying Systems, pp. 567-571.

| Li, Ruonan | Shandong Normal University |
| Zhao, Ping | Shandong Normal University |

| 11:20-11:40 | MoAT4.5 |

Modeling and Hovering Control of 5-DoF Tilt-Birotor Robot, pp. 572-577.

Hu, Anyuan	School of Automation, Nanjing University of Science and Technolog
Zhao, Xizhen	Nanjing University of Science and Technology
Xu, Dabo	Nanjing University of Science and Technology

| 11:40-12:00 | MoAT4.6 |

Robustness of Neural-Network-Based Nonlinear Iterative Learning Control, pp. 578-583.

| Patan, Krzysztof | University of Zielona Gora |
| Patan, Maciej | University of Zielona Gora |

| **MoAT5** | Room 5 |
| **Distributed Sensing, Learning and Coordination of Multi-Agent Systems** (Invited Session) | |

| Organizer: Li, Xianwei | Shanghai Jiao Tong University |
| Organizer: Tang, Yang | East China University of Science and Technology |

| 10:00-10:20 | MoAT5.1 |

Control Barrier Function Based Nonlinear Controller for Automatic Carrier Landing (I), pp. 584-589.

Zhou, Haitong	The Seventh Research Division, School of Automation Science And
Zheng, Zewei	Beihang University
Guan, Zhiyuan	Beihang University
Ma, Yunpeng	Beihang University

| 10:20-10:40 | MoAT5.2 |

Consensus of Second-Order Matrix-Weighted Multi-Agent Networks (I), pp. 590-595.

Wang, Chongzhi	Shanghai Jiao Tong University
Pan, Lulu	Shanghai Jiao Tong University
Li, Dewei	Shanghai Jiao Tong University
Shao, Haibin	Shanghai Jiao Tong University
Xi, Yugeng	Shanghai Jiao Tong University

| 10:40-11:00 | MoAT5.3 |

Enhancing Adaptive Event-Triggered Protocols for Multi-Agent Consensus with External Disturbances (I), pp. 596-601.

| Li, Xianwei | Shanghai Jiao Tong University |
| Tang, Yang | East China University of Science and Technology |

Zhu, Bing	Beihang University
Li, Shaoyuan	Shanghai Jiao Tong University

11:00-11:20	MoAT5.4

Enclose a Target with Multiple Nonholonomic Agents (I), pp. 602-607.

Zhu, Lin	Shanghai University
Wei, Jieqiang	KTH Royal Institute of Technology
Ren, Xiaoqiang	KTH
Wang, Xiaofan	Shanghai Jiao Tong University

11:20-11:40	MoAT5.5

Containment Control of Second-Order Multi-Agent Systems Via Asynchronous Sampled-Data Control (I), pp. 608-613.

Chen, Hongjian	University of Electronic Science and Technology of China
Chen, Lulu	University of Electronic Science and Technology of China
Shao, Jinliang	University of Electronic Science and Technology of China

MoAT6	Room 6

Modelling, Fault Diagnosis and Control of Complex System (Invited Session)

Organizer: Huang, Jun	Soochow University
Organizer: Shi, Yuanhao	North University of China
Organizer: Xu, Zhezhuang	School of Electrical Engineering and Automation, Fuzhou University
Organizer: Zhu, Shanying	Shanghai Jiao Tong University

10:00-10:20	MoAT6.1

Robust Model Predictive Control for Markovian Jump Systems with All Unstable Modes (I), pp. 614-619.

Zhang, Bin	University of Shanghai for Science and Technology
Song, Yan	University of Shanghai for Science and Technology

10:20-10:40	MoAT6.2

Research on Gray Prediction of Heated Surface Combining Empirical Mode Decomposition and Long Short-Term Memory Network (I), pp. 620-624.

Li, Mengwei	North University of China
Shi, Yuanhao	North University of China
Cui, Fangshu	North University of China
Wen, Jie	North University of China
Zeng, Jianchao	Taiyuan University of Science and Technology

10:40-11:00	MoAT6.3

Dynamic Event-Triggered Control for Discrete-Time Markov Jump Systems (I), pp. 625-630.

Zhang, Yueyuan	Soochow University
Chen, Yiyang	Soochow University

11:00-11:20	MoAT6.4

Application of Non-Local Mean Algorithm in Non-Contact Interactive Control System (I), pp. 631-635.

Cao, Ziqi	Soochow University
Lu, Fan	Soochow University
Yu, Lei	Soochow University

11:20-11:40	MoAT6.5

Further Research on Optimal Interval Observer Design for Switched Systems (I), pp. 636-641.

Zhang, Haoran	Soochow University
Huang, Jun	Soochow University
Che, Haochi	Soochow University
Zhang, Yueyuan	Soochow University

11:40-12:00	MoAT6.6

Fault Detection for Nonstationary Process with Decomposition and Analytics of Gaussian and Non-Gaussian Subspaces, pp. 642-647.

Zhao, Yi	Zhejiang University
Zhao, Chunhui	Zhejiang University
Sun, Youxian	Zhejiang University

MoBT1	Room 1

Medical Image Analysis 2 (Regular Session)

13:00-13:20	MoBT1.1

Extracting Fetal Heart Rate from Abdominal ECGs Based on Fast Multivariate Empirical Mode Decomposition, pp. 648-653.

Zhang, Jiayue	Zhejiang University
Xu, Xiaozhou	Zhejiang University
Chen, Qiming	Zhejiang University
Xie, Lei	Zhejiang University
Su, Hongye	Zhejiang University

13:20-13:40	MoBT1.2

An Improved Micro-Calcification Detection Algorithm Using a Novel Multifractal Texture Descriptor and CNN, pp. 654-659.

Li, Haipeng	University of Canterbury
Mukundan, Ramakrishnan	University of Canterbury
Boyd, Shelley	St. George's Medical Center

13:40-14:00	MoBT1.3

Multi-Atlas Based Hip Bone Segmentation from Routine Clinical Hip MRIs of Osteoarthritis Patients, pp. 660-665.

Harischandra, Najini	Monash University
Dharmaratne, Anuja	Monash University Malaysia
Cicuttini, Flavia	Monash University
Wang, Yuanyuan	Monash University

14:00-14:20	MoBT1.4

Multi-Level Topological Analysis Framework for Multifocal Diseases, pp. 666-671.

Xin, Bowen	The University of Sydney
Zhang, Lin	School of Computer Science, University of Sydney
Huang, Jing	Department of Radiology, Xuanwu Hospital
Lu, Jie	Department of Radiology, Xuanwu Hospital
Wang, Xiuying	The University of Sydney

14:20-14:40	MoBT1.5

CT Images Segmentation Method of Rectal Tumor Based on Modified U-Net, pp. 672-677.

标, 郑	南京理工大学
Cai, Chenxiao	Nanjing University of Science and Technology
Ma, Lei	China University of Mining and Technology

14:40-15:00	MoBT1.6

Hybrid Feature Network Driven by Attention and Graph Features for Multiple Sclerosis Lesion Segmentation from MR Images, pp. 678-683.

Chen, Zhanlan	Northwestern Polytechnical University
Wang, Xiuying	The University of Sydney
Zheng, Jiangbin	Northwestern Polytechnical University

MoBT2	Room 2

Adaptive Control (Regular Session)

13:00-13:20	MoBT2.1

Pilot Misoperation Control Based on L1 Adaptation and INDI Methods, pp. 684-688.

Wang, Jin	Shanghai Jiao Tong University
Huang, Dan	Shanghai Jiao Tong University
Song, Lei	Shanghai Jiao Tong University
Ding, Lu	Shanghai Jiao Tong University
Fu, Shan	Shanghai Jiao Tong University

13:20-13:40	MoBT2.2

Adaptive Secure Control of Uncertain Second-Order Nonlinear Cyber-Physical System against Intermittent DoS Attacks, pp. 689-694.

yu, mengze	Beihang University
Wang, Wei	Beihang University
Wen, Changyun	Nanyang Tech. Univ

13:40-14:00	MoBT2.3

Optimal Control for Continuous-Time Scalar Nonlinear Systems with Known Dynamics, pp. 695-700.

Tymoshchuk, Pavlo	Silesian University of Technology

14:00-14:20	MoBT2.4

Interpolating Control Based Trajectory Tracking, pp. 701-706.

Boucek, Zdenek	University of West Bohemia
Flídr, Miroslav	University of West Bohemia

14:20-14:40	MoBT2.5

Formation Control of Time-Varying Multi-Agent System Based on BP Neural Network, pp. 707-712.

Wang, Jiaqi	Zhejiang Sci-Tech University
Gao, Jinfeng	Zhejiang Sci-Tech University
Zhang, Xujie	Faculty of Mechanical Engineering and Automation, Zhejiang Sci-T
He, Jiajun	Faculty of Mechanical Engineering and Automation, Zhejiang Sci-T

14:40-15:00	MoBT2.6

GA Cascaded P-PD Control on Ball and Beam System with Two-Stage Objective Function, pp. 713-718.

Tsoi, Kit Pui	University of Auckland
Patel, Nitish	Univ. of Auckland
Swain, Akshya	The University of Auckland
Xu, Huang	University of Auckland

MoBT3	Room 3
Image/video Analysis (Regular Session)	

13:00-13:20	MoBT3.1

Self-Supervised Visual Feature Learning and Classification Framework: Based on Contrastive Learning, pp. 719-725.

Wang, Zhibo	University of Central Florida
Zhang, Xiaoyu	University of Central Florida
Yan, Shen	Michigan State University
Da Vitoria Lobo, Niels	University of Central Florida

13:20-13:40	MoBT3.2

Loss Constrains Added Squeeze and Excitation Blocks for Pruning Deep Neural Networks, pp. 726-731.

Wang, Yiqin	Zhejiang University
Li, Ming	Zhejiang University
Su, Hongye	Institute of Cyber-Systems and Control, ZhejiangUniversity
Xie, Lei	Zhejiang University
Li, Xiaochen	Institute of Cyber-Systems and Control, Zhejiang University
Xu, Weihua	Zhejiang Univ

Xu, Xiaozhou	Zhejiang University

13:40-14:00	MoBT3.3

Towards Drowsiness Driving Detection Based on Multi-Feature Fusion and LSTM Networks, pp. 732-736.

HongLin, Hong	Harbin Institute of Technology
Wang, Xin	Harbin Institue of Technology (Shenzhen)

14:00-14:20	MoBT3.4

Deep Convolutional Network for Steganalysis of HUGO, WOW, and UNIWARD Algorithms, pp. 737-740.

Lichy, Krzysztof	Lodz University of Technology
Lipinski, Piotr	Lodz University of Technology
Grzelak, Michal	Lodz University of Technology

14:20-14:40	MoBT3.5

Extracting Temporal Features by Key Points Transfer for Effective Action Recognition, pp. 741-746.

Liao, Chenxi	North University of China
Xu, Yuecong	Nanyang Technological University

14:40-15:00	MoBT3.6

Depthwise Multiception Convolution for Reducing Network Parameters without Sacrificing Accuracy, pp. 747-752.

Bao, Guoqing	The University of Sydney
Graeber, Manuel	The University of Sydney
Wang, Xiuying	The University of Sydney

MoBT4	Room 4
Human-Machine System (Regular Session)	

13:00-13:20	MoBT4.1

End-To-End Joint Intention Estimation for Shared Control Personal Mobility Navigation, pp. 753-758.

Katuwandeniya, Kavindie	University of Technology Sydney
Valls Miro, Jaime	University of Technology Sydney
Dantanarayana, Lakshitha	University of Technology Sydney

13:20-13:40	MoBT4.2

SRG3: Speech-Driven Robot Gesture Generation with GAN, pp. 759-766.

YU, Chuang	ENSTA Paris
Tapus, Adriana	ENSTA ParisTech

13:40-14:00	MoBT4.3

Intuitive Virtual Reality Based Control of a Real-World Mobile Manipulator, pp. 767-772.

Le, Dinh Tung	University of Technology Sydney
Sutjipto, Sheila	University of Technology, Sydney
Lai, Yujun	University of Technology Sydney (UTS)
Paul, Gavin	UTS

14:00-14:20	MoBT4.4

Upper Extremity Load Reduction for Lower Limb Exoskeleton Trajectory Generation Using Ankle Torque Minimization, pp. 773-778.

Wong, Yik Ben	Hong Kong University of Science and Technology
CHEN, Yawen	Hong Kong University of Science and Technology
Tsang, Kam Fai Elvis	Hong Kong University of Science and Technology
Leung, Winnie	Hong Kong Univ. of Sci. & Tech
Shi, Ling	Hong Kong Univ. of Sci. and Tech

14:20-14:40	MoBT4.5

Robust Real-Time Face Tracking for People Wearing Face Masks, pp. 779-783.

Peng, Xinggan	Nanyang Technological University
Zhuang, Huiping	Nanyang Technological University
Huang, Guang-Bin	Nanyang Technological University
li, haizhou	National University of Singapore
Lin, Zhiping	School of Electrical &ElectronicEng., NanyangTechnologicalUnivers

| 14:40-15:00 | MoBT4.6 |

Nonovershooting Regulation of an Under-Sensed and Under-Actuated Linear Inverted Pendulum, pp. 784-788.

Chen, Chao	The Hong Kong University of Science and Technology
Zhao, Di	The Hong Kong University of Science and Technology
Qiu, Li	Hong Kong Univ. of Sci. & Tech

MoBT5 Room 5

Modeling, Control and Estimation in Unmanned Systems
(Invited Session)

Organizer: Hu, Jinwen	Northwestern Polytechnical University
Organizer: Hou, Xiaolei	Northwestern Polytechnical University
Organizer: Xu, Zhao	Northwestern Polytechnical University

| 13:00-13:20 | MoBT5.1 |

Strategy Generation Based on Reinforcement Learning with Deep Deterministic Policy Gradient for UCAV (I), pp. 789-794.

Ma, Yunhong	Northwestern Polytechnical University
Bai, Shuyao	Northwestern Polytechnical University
Zhao, Yifei	Northwestern Polytechnical University
Song, Chao	Northwestern Polytechnical University
Yang, Jie	Northwestern Polytechnical University

| 13:20-13:40 | MoBT5.2 |

Collaborative Task Allocation of Heterogeneous Multi-UAV Based on Improved CBGA Algorithm (I), pp. 795-800.

Ma, Yunhong	Northwestern Polytechnical University
Zhao, Yifei	Northwestern Polytechnical University
Bai, Shuyao	Northwestern Polytechnical University
Zhang, Yimin	Northwestern Polytechnical University
Yang, Jie	Northwestern Polytechnical University

| 13:40-14:00 | MoBT5.3 |

Hybrid FCM Learning Algorithm Based on Particle Swarm Optimization and Gradient Descent Algorithm (I), pp. 801-806.

Chen, Jun	Northwestern Polytechnical University
Zhang, Yue	Northwestern Polytechnical University
Gao, Xudong	Northwestern Polytechnical University

| 14:00-14:20 | MoBT5.4 |

Implement of a Multi-AGV Platform with Formation Control Algorithm (I), pp. 807-810.

| 樊, 卫华 | Nanjing University of Science and Technology |

| 14:20-14:40 | MoBT5.5 |

Path Planning of Mobile Robot Based on Improved Differential Evolution Algorithm (I), pp. 811-816.

Chen, Jun	Northwestern Polytechnical University
Liang, Jing	Northwestern Polytechnical University
Tong, Yan	Northwestern Polytechnical University

| 14:40-15:00 | MoBT5.6 |

Design and Verification of UAV Maneuver Decision Simulation System Based on DQN Network (I), pp. 817-823.

Chen, Yuyang	Northwestern Polytechnical University
Zhang, Jiandong	Northwestern Polytechnical University
Yang, Qiming	Northwestern Polytechnical University
Zhou, Yu	China Research and Development Academy of Machinery Equipment
Shi, Guoqing	Northwestern Polytechnical University
Wu, Yong	Northwestern Polytechnical University

MoBT6 Room 6

Secure Estimation and Control in Cyber-Physical Systems
(Invited Session)

| Organizer: Chen, Bo | Zhejiang University of Technology |
| Organizer: Dong, Shijian | Zhejiang University of Technology |

| 13:00-13:20 | MoBT6.1 |

Distributed State Estimation for State-Saturated Power Systems under Denial-Of-Service Attacks (I), pp. 824-829.

Chen, Wei	University of Shanghai for Science and Technology
Wang, Xueli	University of Shanghai for Science and Technology
Mao, Jingyang	University of Shanghai for Science and Technology
Ding, Derui	University of Shanghai for Science and Technology, Shanghai, Chi

| 13:20-13:40 | MoBT6.2 |

False Data Injection Attacks in Smart Grid Using Gaussian Mixture Model (I), pp. 830-837.

Wang, Zhiwen	College of Electrical and Information Engineering, Lanzhou Unive
Hu, Jiqiang	College of Electrical and Information Engineering, Lanzhou Unive
Sun, Hongtao	College of Engineering, Qufu Normal University

| 13:40-14:00 | MoBT6.3 |

Fault Detection Method Based on Multi-Scale Convolutiona Neural Network for Wind Turbine Gearbox (I), pp. 838-842.

Shen, Yijun	Zhejiang University of Technology
Wu, Qi	Zhejiang University of Technology
Huang, Dajian	Zhejiang University of Technology
Dong, Shijian	Zhejiang University of Technology

Chen, Bo	Zhejiang University of Technology

14:00-14:20	MoBT6.4

H∞ Fusion Detection of FDI Attacks for Nonlinear Cyber-Physical Systems (I), pp. 843-847.

Shen, Jiahui	Zhejiang University of Technology
Gao, Lingjie	Zhejiang University of Technology
Chen, Bo	Zhejiang University of Technology
Yu, Li	Zhejiang University of Technology
Chen, Qiuxia	Zhejiang Shuren University

14:20-14:40	MoBT6.5

To Embody or Not: A Cross Human-Robot and Human-Computer Interaction (HRI/HCI) Study on the Efficacy of Physical Embodiment, pp. 848-853.

Herath, Damith	University of Canberra
Binks, Nicole	University of Canberra
Grant, Janie Busby	University of Canberra

14:40-15:00	MoBT6.6

Path Planning for Robot Based Radial Advanced Manufacturing Using Print Space Sampling, pp. 854-859.

Munasinghe, Nuwan	University of Technology Sydney
Paul, Gavin	UTS

MoCT1	Room 1
Vision for Robots (Regular Session)	

15:30-15:50	MoCT1.1

Efficient Objects Identification for a KidSize Humanoid Soccer Robot: Using Feedforward Neural Networks with Image Segmentation, pp. 860-865.

Correia Jeronimo, Gilmar	Federal University of ABC
Tanaka Botelho, Wagner	Federal University of ABC
PIMENTEL, EDSON	Federal University of ABC
Cristina Maia dos Santos, Thaynara	Federal University of ABC

15:50-16:10	MoCT1.2

Parameter Optimization of Feature Matching-Based Object Recognition Algorithm by Using CMA-ES, pp. 866-873.

Hagihara, Daisuke	Hitachi, Ltd
Taiki, Yano	Hitachi, Ltd
Kimura, Nobutaka	Hitachi, Ltd

16:10-16:30	MoCT1.3

SurfaceNet: A Surface Focused Network for Pedestrian Detection and Segmentation in 3D Point Clouds, pp. 874-879.

zhang, yongcong	University
Chen, Minglin	University of Chinese Academy of Sciences
ao, sheng	Sun Yat-Sen University
Zhang, Xing	Sun Yat-Sen University
Guo, Yulan	Sun Yat-Sen University

16:30-16:50	MoCT1.4

An Improved Method for Rotation Estimation Using Photometric Spherical Moments, pp. 880-885.

Du, Yao	VIBOT ERL CNRS 6000, ImViA, Université De Bourgogne Franche-Comt
TAHRI, Omar	Université Bourgogne Franche-Comté
HADJ-ABDELKADER, Hicham	University of Evry - Paris Saclay

16:50-17:10	MoCT1.5

Comparison of Camera-Based and 3D LiDAR-Based Place Recognition across Weather Conditions, pp. 886-891.

Żywanowski, Kamil	Poznan University of Technology
Banaszczyk, Adam Andrzej	Poznan University of Technology
Nowicki, Michal, R.	Poznan University of Technology

17:10-17:30	MoCT1.6

Analytical Change Detection on the KITTI Dataset, pp. 892-897.

Schauer, Johannes	Julius-Maximilians-Universität Würzburg
Nüchter, Andreas	Uni Würzburg

MoCT2	Room 2
Control Applications (Regular Session)	

15:30-15:50	MoCT2.1

Dynamic Fuzzy Membership Intervals with Two-Stage Objective Function for Ball and Beam System Based on GA Tuning, pp. 898-903.

Tsoi, Kit Pui	University of Auckland
Patel, Nitish	Univ. of Auckland
Swain, Akshya	The University of Auckland
Xu, Huang	University of Auckland

15:50-16:10	MoCT2.2

Fractional PI Controller for Integrating Plants, pp. 904-909.

Azid, Sheikh Izzal	The University of the South Pacific
Shankaran, Vivek Pawan	The University of the South Pacific
Mehta, Utkal	The University of the South Pacific, Suva

16:10-16:30	MoCT2.3

Minimax Optimization of a Fractional-Order Controller for the Furuta Pendulum Uncertain System with an Output Disturbance, pp. 910-916.

Cholodowicz, Ewelina	West Pomeranian University of Technology in Szczecin
Orlowski, Przemyslaw	West Pomeranian University of Technology in Szczecin

16:30-16:50	MoCT2.4

LPV Unknown Input Observer for Attitude of a Mass-Varying Quadcopter, pp. 917-924.

PHAM, The Hung	University of Évry Val D'Essonne
ICHALAL, Dalil	Université d'Evry Val D'Essonne
Mammar, Said	University of Evry, IBISC Lab

16:50-17:10	MoCT2.5

Control of a 2R Planar Horizontal Underactuated Manipulator, pp. 925-931.

Chen, Tan	University of Notre Dame
Goodwine, Bill	University of Notre Dame

17:10-17:30	MoCT2.6

Robust Iterative Learning Control for Ladder Circuits with Mixed Uncertainties, pp. 932-937.

Sulikowski, Bartlomiej	University of Zielona Gora, Inst. Control and Computation Eng
Galkowski, Krzysztof	Univ. of Zielona Gora
Rogers, Eric	Univ. of Southampton
Kummert, Anton	University of Wuppertal

MoCT3	Room 3
Object Recognition (Regular Session)	

15:30-15:50	MoCT3.1

PBDE: An Effective Method for Filtering False Positive Boxes in Object Detection, pp. 938-943.

Li, Zhishan	Zhejiang University

Jia, Baozhi	Reconova Technologies
Chen, Mingmu	Reconova Technologies
Xu, Shaokai	Reconova Technologies
He, Yifan	Reconova Technologies
Xie, Lei	Zhejiang University

15:50-16:10	MoCT3.2

Application of CNN-Based Method for Automatic Detection and Classification of the IC Packages, pp. 944-950.

Maliński, Kamil Marek	West Pomeranian University of Technology in Szczecin
Okarma, Krzysztof	West Pomeranian University of Technology in Szczecin

16:10-16:30	MoCT3.3

Batch-Normalization-Based Soft Filter Pruning for Deep Convolutional Neural Networks, pp. 951-956.

Xu, Xiaozhou	Zhejiang University
Chen, Qiming	Zhejiang University
Xie, Lei	Zhejiang University
Su, Hongye	Zhejiang University

16:30-16:50	MoCT3.4

An Efficient and Light-Weight Detector for Wine Bottle Defects, pp. 957-962.

Liu, Mingyuan	Zhejiang University
Ma, Long-hua	Zhejiang University
Yu, Bin Chao	Zhejiang Zheneng Natural Gas Operation Co

16:50-17:10	MoCT3.5

Data Augmentation with Generative Adversarial Networks for Grocery Product Image Recognition, pp. 963-968.

Wei, Yuchen	Discipline of ICT, School of TED, University of Tasmania
Xu, Shuxiang	Discipline of ICT, School of TED, University of Tasmania
Tran, Son	Discipline of ICT, School of TED, University of Tasmania
Kang, Byeong	Discipline of ICT, School of TED, University of Tasmania

17:10-17:30	MoCT3.6

A Latent Variables Augmentation Method Based on Adversarial Training for Image Categorization with Insufficient Training Samples, pp. 969-975.

Lin, Luyue	Guangdong University of Technology
Liu, Dacai	Guangdong University of Technology
Liu, Bo	Guangdong University of Technology
Xiao, Yanshan	Guangdong University of Technology

MoCT4	Room 4
Robotics and Robot Control (Regular Session)	

15:30-15:50	MoCT4.1

Real-Time Obstacle Avoidance in Robotic Manipulation Using Imitation Learning, pp. 976-981.

Huang, Jie	Maintenance Branch of State Grid Anhui Electric Power Company Li
Wei, Ge	University of Science and Technology of China
Cheng, Hualong	State Grid Anhui Electric Power Company Limited
Xi, Chun	Maintenance Branch of State Grid Anhui Electric Power Company Li
Zhu, Jun	Maintenance Branch of State Grid Anhui Electric Power

	Company Li
Zhang, Fei	University of Science and Technology of China
Shang, Weiwei	University of Science and Technology of China

15:50-16:10	MoCT4.2

An Efficient Real-Time NMPC for Quadrotor Position Control under Communication Time-Delay, pp. 982-989.

Barros Carlos, Barbara	Sapienza Università Di Roma
Sartor, Tommaso	University of Freiburg
Zanelli, Andrea	University of Freiburg
Frison, Gianluca	Technical University of Denmark
Burgard, Wolfram	University of Freiburg
Diehl, Moritz	Albert-Ludwigs-Universität Freiburg
Oriolo, Giuseppe	Sapienza Università Di Roma

16:10-16:30	MoCT4.3

Towards Semantic Scene Segmentation for Autonomous Agricultural Vehicles, pp. 990-995.

Mujkic, Esma	Technical University of Denmark
Hermann, Dan	AGCO A/S
Ravn, Ole	Technical University of Denmark
Bilde, Morten L.	AGCO A/S
Andersen, Nils A.	Tech. Univ. of Denmark

16:30-16:50	MoCT4.4

Design of a Master-Slave Robotic System for Intravascular Catheterization During Cardiac Interventions, pp. 996-1000.

Omisore, Olatunji	Shenzhen Institutes of Advanced Technology, Chinese Academy of S
Akinyemi, Toluwanimi	Shenzhen Institutes of Advanced Technology, Chinese Academy of S

16:50-17:10	MoCT4.5

Inverse Kinematics Determination and Trajectory Tracking Algorithm Development of a Robot with 7 Joints, pp. 1001-1007.

Kreft, Wojciech	AGH University of Science and Technology

17:10-17:30	MoCT4.6

An End-To-End Approach for Learning and Generating Complex Robot Motions from Demonstration, pp. 1008-1014.

Kordia, Ali	INESC-ID
Melo, Francisco S.	INESC-ID

MoCT5	Room 5
Synthesis of Discrete Event Systems for Correct-By-Construction Cyber Physical Systems (Invited Session)	
Organizer: Lin, Liyong	Nanyang Technological University

15:30-15:50	MoCT5.1

A Topological Approach for Computing Supremal Sublanguages (I), pp. 1015-1019.

Lin, Liyong	Nanyang Technological University
Zhu, Yuting	Nanyang Technological University
Su, Rong	Nanyang Technological University

15:50-16:10	MoCT5.2

Data Logging and Reconstruction of Discrete-Event System Behavior (I), pp. 1020-1026.

Reijnen, Ferdie	Eindhoven University of Technology
Van de Mortel-Fronczak,	Eindhoven University of

Joanna Maria	Technology
Rooda, J.E.	Eindhoven University of Technology

16:10-16:30	MoCT5.3

Supervisor Synthesis for Networked Discrete Event Systems with Delays against Non-FIFO Communication Channels (I), pp. 1027-1032.

Zhu, Yuting	Nanyang Technological University
Lin, Liyong	Nanyang Technological University
Tai, Ruochen	Nanyang Technological University
Su, Rong	Nanyang Technological University

16:30-16:50	MoCT5.4

Nonblocking Supervisory Control Synthesis of Timed Automata Using Abstractions and Forcible Events (I), pp. 1033-1040.

Rashidinejad, Aida	Eindhoven University of Technology
van der Graaf, Patrick	Eindhoven University of Technology
Reniers, Michel	TU/e

16:50-17:10	MoCT5.5

Optimal Control Approach for Rational Expectations Models with Longer Forward-Looking Time, pp. 1041-1048.

Ma, Tianfu	Shandong University
xu, juanjuan	Shandong University
Zhang, Huanshui	Shandong University
Basar, Tamer	Univ. of Illinois at Urbana-Champaign

17:10-17:30	MoCT5.6

Feasible Schedule under Faults in the Assembly System, pp. 1049-1054.

Majdzik, Pawel	University of Zielona Gora

MoCT6	Room 6
Intelligent Control of Complex Systems (Invited Session)	

Organizer: Li, Jinna	Liaoning Shihua University
Organizer: Wang, Chunyan	Beijing Institute of Technology
Organizer: Liu, Shuai	Shandong University

15:30-15:50	MoCT6.1

Intelligent Health Management of Fixed-Wing UAVs: A Deep-Learning-Based Approach (I), pp. 1055-1060.

Cui, Aiya	Beijing Institute of Technology
Zhang, Ying	China Aerospace Science and Technology Corporation
Zhang, Pengyu	Science and Technology on Space Physics Laboratory
Dong, Wei	Beijing Institute of Technology
Wang, Chunyan	Beijing Institute of Technology

15:50-16:10	MoCT6.2

Consensus Achievement of Multi-Agent Systems under Delayed State Information (I), pp. 1061-1065.

Zhu, Yanli	School of Information Science and Engineering, Shandong Normal U
Wang, Zhenhua	School of Information Science and Engineering, Shandong Normal U
Liu, li	School of Information Science and Engineering, Shandong Normal U
Zhang, Huaxiang	School of Information Science and Engineering, Shandong Normal U

16:10-16:30	MoCT6.3

Data-Driven Tracking Control Approach for Linear Systems by On-Policy Q-Learning Approach (I), pp. 1066-1070.

Zhang, Yihan	Liaoning Shihua University, School of Information and Control Eng
Xiao, Zhenfei	Liaoning Shihua University
Li, Jinna	Liaoning Shihua University

16:30-16:50	MoCT6.4

Adaptive Affine Formation Maneuver Control of Second-Order Multi-Agent Systems with Disturbances (I), pp. 1071-1076.

Luo, Zhengxin	Beijing Institute of Technology
Zhang, Pengyu	Science and Technology on Space Physics Laboratory
Ding, Xiangjun	Beijing Institute of Technology
TANG, ZEZHI	Guangdong Bozhilin Robotics
Wang, Chunyan	Beijing Institute of Technology
Wang, Jianan	Beijing Institute of Technology

16:50-17:10	MoCT6.5

Higher-Order Polynomial Signal Tracking Control of Unknown Systems Using Off-Policy Integral Reinforcement Learning (I), pp. 1077-1081.

Cheng, Weiran	Liaoning Shihua University
Li, Jinna	Liaoning Shihua University

17:10-17:30	MoCT6.6

A Predictor-Like Controller for Linear Ito Stochastic Systems with Input Delays (I), pp. 1082-1087.

wang, hongxia	Zhejiang University of Technology
Fu, Minyue	University of Newcastle
lu, xiao	Shandong University of Science and Technology

TuPP	Room 1
Plenary Panel in Robotics and AI (Plenary Session)	

09:00-11:00	TuPP.1

Robotics and AI: The Presence and the Future*.

Egerstedt, Magnus	Georgia Institute of Technology
Liu, Yunhui	Chinese University of Hong Kong
Quek, Tong Boon	Ministry of Trade and Industry
Spanos, Costas	University of California, Berkeley
Wen, Yonggang	Nanyang Technological University

TuKN	Room 1
Plenary 3 (Plenary Session)	

11:30-12:30	TuKN.1

Towards Understandable Computer Vision*.

CHEN, Xilin	Chinese Academy of Sciences

TuBT1	Room 1
Intelligent Systems (Regular Session)	

13:30-13:50	TuBT1.1

An ANN Based Human Walking Distance Estimation with an Inertial Measurement Unit, pp. 1088-1092.

Huang, Loulin	Auckland University of Technology
Liu, Yu	Auckland University of Technology

13:50-14:10	TuBT1.2

Diagnostic of the State of the Cutting Tool of Metal-Cutting Machines Using Bidirectional Recurrent Neural Networks with a Long Short-Term Memory, pp. 1093-1097.

Kamil, Masalimov	Ufa State Aviation Technical University
Munasypov, Rustem	Ufa State Aviation Technical University

14:10-14:30	TuBT1.3

Parallelized Hardware Rough Set Processor Architecture in FPGA for Core Calculation in Big Datasets, pp. 1098-1103.

Kopczynski, Maciej	Bialystok University of Technology
Grześ, Tomasz	Politechnika Białostocka

14:30-14:50	TuBT1.4

Autonomous Curriculum Generation for Self-Learning Agents, pp. 1104-1111.

KURKCU, ANIL	Nanyang Technological University
CAMPOLO, Domenico	Nanyang Technological University
Tee, Keng Peng	Inst. for Infocomm Research, ASTAR

14:50-15:10	TuBT1.5

Gene Prediction by the Scale-Limited Gabor Wavelet Transform for Identifying the Protein Coding Regions, pp. 1112-1116.

Zheng, Qian	ZheJiang University
WenXiang Zhou, Zhou	Beijing University of Aeronautics and Astronautics
Chen, Tao	South West Jiao Tong University
Xie, Lei	Zhejiang University
Su, Hongye	Institute of Cyber-Systems and Control, ZhejiangUniversity

15:10-15:30	TuBT1.6

Binary Spectrum Feature for Improved Classifier Performance (I), pp. 1117-1122.

Ulapane, Nalika	The University of Melbourne
Thiyagarajan, Karthick	University of Technology Sydney
Kodagoda, Sarath	University of Technology, Sydney

TuBT2	Room 2
Modeling and Identification (Regular Session)	

13:30-13:50	TuBT2.1

Furuta Pendulum Real-Time System with Brushless DC Motor and Cascade Hybrid Control, pp. 1123-1130.

Cholodowicz, Ewelina	West Pomeranian University of Technology in Szczecin
Orlowski, Przemyslaw	West Pomeranian University of Technology in Szczecin

13:50-14:10	TuBT2.2

Black-Box Identification of a Robotic Flight Simulator, pp. 1131-1136.

Matheus, Aline da Conceição	Aeronautics Institute of Technology
Villani, Emília	ITA - Instituto Tecnológico De Aeronáutica
Oliveira, Wesley Rodrigues	Aeronautics Institute of Technology

14:10-14:30	TuBT2.3

Statistical and Physiologically Analysis of Using a Duffing-Van Der Pol Oscillator to Modeled Ictal Signals, pp. 1137-1142.

Szuflitowska, Beata	West Pomeranian University of Technology
Orlowski, Przemyslaw	West Pomeranian University of Technology in Szczecin

14:30-14:50	TuBT2.4

String Plucking and Touching Sensing Using Transmissive Optical Sensors for Guzheng, pp. 1143-1149.

Oszutowska-Mazurek, Dorota	Pomeranian Medical University
Mazurek, Przemyslaw	West Pomeranian University of Technology in Szczecin

14:50-15:10	TuBT2.5

Mid-Level Features for Categorization of Social Interactions in Public Spaces, pp. 1150-1155.

Zitouni, M. Sami	Khalifa University
SLUZEK, ANDRZEJ	Warsaw University of Life Sciences - SGGW

15:10-15:30	TuBT2.6

Transient Stability of Grid-Forming Inverters in Microgrids: Nonlinear Analysis, pp. 1156-1159.

Eskandari, Mohsen	University of New South Wales
Savkin, Andrey V.	Univ. of New South Wales

TuBT3	Room 3
Networked Control Systems 2 (Regular Session)	

13:30-13:50	TuBT3.1

A Geometrical Criterion for the Synchronization of Dynamic Networks with Input Saturation, pp. 1160-1164.

Ye, Juncen	Zhe-Jiang University
Haoyi, Que	Shenzhen Polytechnic
Ma, Long-hua	Zhejiang University
Su, Hongye	Institute of Cyber-Systems and Control, ZhejiangUniversity

13:50-14:10	TuBT3.2

A Residual Network for De Novo Peptide Sequencing with Attention Mechanism, pp. 1165-1170.

Liu, Zihang	Zhejiang University
Zhao, Chunhui	Zhejiang University

14:10-14:30	TuBT3.3

Speech Recognition System for a Service Robot - a Performance Evaluation, pp. 1171-1176.

Alibegović, Besim	University of Tuzla
Prljaca, Naser	University of Tuzla
Kimmel, Melanie	Technische Universität München
Schultalbers, Matthias	IAV GmbH

14:30-14:50	TuBT3.4

Fault-Tolerant Architecture for Real-Time Control of Distributed Medical Devices, pp. 1177-1181.

Reis, Tiago	Maxdata Software, SA
Correia, Alexandre	Maxdata Software, SA - Carregado, Portugal
Sousa, Paulo	Maxdata Software, SA - Carregado, Portugal
Cecílio, José	FCiências.ID - VAT PT514187808

14:50-15:10	TuBT3.5

Sparse Causal Residual Neural Network for Linear and Nonlinear Concurrent Causal Inference and Root Cause Diagnosis, pp. 1182-1187.

Chen, Jiawei	Zhejiang University
Zhao, Chunhui	Zhejiang University
Sun, Youxian	Zhejiang University

15:10-15:30	TuBT3.6

Leveraging Dynamic Occupancy Grids for 3D Object Detection in Point Clouds (I), pp. 1188-1193.

Sierra-Gonzalez, David	Inria Grenoble Rhone-Alpes
paigwar, Anshul	INRIA
Erkent, Ozgur	Inria
Dibangoye, Jilles	INSA-Lyon, Inria
Laugier, Christian	INRIA

TuBT4	Room 4
Sensor Networks (Regular Session)	

13:30-13:50	TuBT4.1

Short-Term Time Series Forecasting of Concrete Sewer Pipe Surface Temperature, pp. 1194-1199.

Thiyagarajan, Karthick	University of Technology Sydney
Kodagoda, Sarath	University of Technology, Sydney
Ulapane, Nalika	The University of Melbourne

13:50-14:10	TuBT4.2

Iterative Learning Control for Distributed Parameter Systems Using Sensor-Actuator Network, pp. 1200-1205.

Patan, Maciej	University of Zielona Gora
Klimkowicz, Kamil	University of Zielona Góra
Patan, Krzysztof	University of Zielona Gora

14:10-14:30	TuBT4.3

Optimum Partition of Sensing Field with Given Probability on Event Locations, pp. 1206-1209.

Gong, Chaohui	University of Shanghai for Science and Technology
Guo, Zhong	Zhejiang Research Center on Smart Rail Transportation, PowerChin
Yan, Zihai	Zhejiang Research Center on Smart Rail Transportation, PowerChin
Yu, Miao	Zhejiang Research Center on Smart Rail Transportation, PowerChin
Wang, Weilin	PowerChina Huadong Engineering Corporation Limited

14:30-14:50	TuBT4.4

Self-Intersection Attention Pooling Based Classification for Rock Recognition, pp. 1210-1215.

Chen, Liang	Zhejiang University
Zheng, Qian	Fudan University
Liu, Zhitao	Zhejiang University
Mao, Wei-Jie	Zhejiang University
Lin, Fulong	China Railway Engineering Equipment Group Co., LTD

14:50-15:10	TuBT4.5

An Optical Flow Based Multi-Object Tracking Approach Using Sequential Convex Programming, pp. 1216-1221.

Xu, Qingwen	ShanghaiTech University
He, Zhenpeng	ShanghaiTech University
Chen, Zhang	ShanghaiTech University
Jiang, Yuning	ShanghaiTech University

15:10-15:30	TuBT4.6

Floor Extraction and Door Detection for Visually Impaired Guidance, pp. 1222-1229.

Berenguel-Baeta, Bruno	Instituto De Investigación En Ingeniería De Aragón
Guerrero-Viu, Manuel	Instituto De Investigación En Ingeniería De Aragón
Nova, Alejandro	Instituto De Investigación En Ingeniería De Aragón
Bermudez-Cameo, Jesus	Instituto De Investigación En Ingeniería De Aragón
Perez-Yus, Alejandro	Instituto De Investigación En Ingeniería De Aragón
Guerrero, Jose J	Universidad De Zaragoza

TuBT5	Room 5
Distributed Secure Control for Cyber-Physical Systems with Industrial Applications (Invited Session)	

Organizer: Deng, Chao	Nanyang Technological University
Organizer: Wang, Yan-Wu	Huazhong University of Science and Technology

13:30-13:50	TuBT5.1

Optimal Trajectory Tracking for Cyber-Physical Marine Vessel: Reinforcement Learning Approach (I), pp. 1230-1235.

Li, Xiaolei	Nanyang Technological University
Wang, Jiange	Yanshan University
Li, Xinyao	Nanyang Technological University
Yan, Jiaqi	Nanyang Technological University

13:50-14:10	TuBT5.2

Event Triggered Fault Tolerant Control for Nonlinear Systems Based on Adaptive Fault Estimation (I), pp. 1236-1241.

Fan, Quan-Yong	Northwestern Polytechnical University
Xu, Shuoheng	Northwestern Polytechnical University
Deng, Chao	Nanyang Technological University
Wang, Cai-Cheng	North Automatic Control Technology Institute

14:10-14:30	TuBT5.3

Connectivity Preservation and Collision Avoidance of Multi-Unmanned Surface Vehicles Via Adaptive Sliding Control (I), pp. 1242-1249.

Ma, Hongjun	Northeastern University

14:30-14:50	TuBT5.4

Smooth Adaptive Leader-Following Consensus Control for Uncertain Fractional-Order Nonlinear Multi-Agent Systems with Time-Varying Reference (I), pp. 1250-1255.

Li, Xinyao	Nanyang Technological University
Wen, Changyun	Nanyang Tech. Univ
Li, Xiaolei	Nanyang Technological University

14:50-15:10	TuBT5.5

Hierarchical Decomposition and Prescribed Performance Bound Based Adaptive Control for Leader-Follower Formation of Uncertain Nonholonomic Mobile Robots (I), pp. 1256-1261.

Shen, Jiajun	Beihang University
Wang, Wei	Beihang University
Lu, Jinhu	Academy of Mathematics and Systems Science, ChineseAcademyof Sci
Deng, Chao	Nanyang Technological University

15:10-15:30	TuBT5.6

Robust Adaptive Fault-Tolerant Coordinated Control for Biaxial Gantry System with Friction Compensation (I), pp. 1262-1267.

Wang, Kangjun	Beijing Jiaotong University
Liu, Xiangbin	School of Electronics and Information Engineering, Beijing Jiaot
Su, Hongye	Institute of Cyber-Systems and Control, ZhejiangUniversity

TuBT6	Room 6
Recent Advances in Cooperative Control of Swarm Systems (Invited Session)	

Organizer: Dong, Xiwang	Beihang University
Organizer: Li, Zhongkui	Peking University

13:30-13:50	TuBT6.1

Cooperative Control Based on Distributed Attack Identification and Isolation (I), pp. 1268-1273.

Liu, Hailing	Southeast University
Huang, Dalin	Southeast University
Zhang, Ya	Southeast University

13:50-14:10	TuBT6.2

Predefined Finite-Time Output Containment of Nonlinear Multi-Agent Systems with Undirected Topology (I), pp. 1274-1279.

Wang, Qing	Beihang University
Zhou, Shiyu	Beihang University, School of Automation Science and Electrical
Zhou, Siquan	Beihang University
Dong, Xiwang	Beihang University
Yu, Jianglong	Beihang University
Ren, Zhang	Beihang University

14:10-14:30	TuBT6.3

Attack-Free Protocol Design with Distributed Noncontinuous Appointed-Time Unknown Input Observer (I), pp. 1280-1285.

Lv, Yuezu	Southeast University
Zhou, Jialing	Nanjing University of Science and Technology
Wang, Qishao	Beihang University
Wen, Guanghui	Southeast University

14:30-14:50	TuBT6.4

Event-Triggered Optimal Adaptive Control for Robot

Trajectory Tracking (I), pp. 1286-1291.

Chen, Shuo	Anhui University
FAN, Yuan	Anhui University
Yuchao, Guo	Anhui University
Zhu, Mingjian	Anhui University

14:50-15:10	TuBT6.5

Distributed State Estimation for Nonlinear Networked System with Correlated Noises (I), pp. 1292-1297.

Liang, Yuan	Beihang University
Hu, Sibo	Beihang University
Dong, Xiwang	Beihang University
Li, Qingdong	Beihang University
Ren, Zhang	Beihang University

15:10-15:30	TuBT6.6

Active Disturbance Rejection Time-Varying Formation Tracking for Unmanned Aerial Vehicles (I), pp. 1298-1303.

Ran, Maopeng	Nanyang Technological University
Li, Juncheng	Nanyang Technological University
Xie, Lihua	Nanyang Technological University

TuCT1	Room 1
Application of Robotics and Autonomous Control in Construction Sites (Invited Session)	

Organizer: Leung, Kim-Wan, Joshua	Hong Kong University of Science and Technology

16:00-16:20	TuCT1.1

Perception System – from Autonomous Driving to Autonomous Logistic (I), N/A.

LIU, MING	Hong Kong University of Science and Technology

16:20-16:40	TuCT1.2

A Passive Radiant Cooler for Energy-Efficient Building (I), N/A.

Huang, Bao Ling	Hong Kong University of Science and Technology

16:40-17:00	TuCT1.3

Data-Driven Computational Design, Acquiring and Understanding 3D Visual Data (I), N/A.

Yeung, Sai Kit	Hong Kong University of Science and Technology

17:00-17:20	TuCT1.4

AI Technologies for Image and Video Enhancement (I), N/A.

Chen, Qifeng	Hong Kong University of Science and Technology

17:20-17:40	TuCT1.5

Research on Design and Forming Technology of Large Size Continuous Fiber Reinforced Composites for Building Formwork and Light-Weight Robots (I), N/A.

Lu, Dong	Hong Kong University of Science and Technology

17:40-18:00	TuCT1.6

Application of Robotics and Autonomous Control in Construction Sites (I), N/A.

Leung, Kim-Wan, Joshua	Hong Kong University of Science and Technology
Qiu, Li	Hong Kong Univ. of Sci. & Tech

TuCT2	Room 2
Internet of Things (Regular Session)	

16:00-16:20	TuCT2.1

A Data Driven Approach for Leak Detection with Smart Sensors (I), pp. 1311-1316.

Liang, Bin	University of Technology Sydney
VERMA, SUNNY	University of Technology Sydney
Xu, Jie	University of Technology Sydney
Liang, Shuming	University of Technology Sydney
Li, Zhidong	UTS
Wang, Yang	University of Technology Sydney
Chen, Fang	University of Technology Sydney

16:20-16:40	TuCT2.2

Searching for High Accuracy Mix-Bitwidth Network Architecture, pp. 1317-1322.

Lan, Haochong	Nanyang Technological University
Lin, Zhiping	School of Electrical &ElectronicEng., NanyangTechnologicalUnivers
Lai, Xiaoping	Hangzhou Dianzi University

16:40-17:00	TuCT2.3

BOSON - Application-Specific Instruction Set Processor (ASIP) for Educational Purposes, pp. 1323-1328.

Mazurek, Przemyslaw	West Pomeranian University of Technology in Szczecin

17:00-17:20	TuCT2.4

Robust CSI-Based Human Activity Recognition Using Roaming Generator, pp. 1329-1334.

WANG, DAZHUO	Nanyang Technological University
Yang, Jianfei	Nanyang Technological University
CUI, WEI	Institute for Infocomm Research (I2R), Agency for Science, Techn
Xie, Lihua	Nanyang Technological University
SUN, SUMEI	Institute for Infocomm Research (I2R), Agency for Science, Techn

TuCT4	Room 4
Internet of Things (IoT) Based Indoor/Outdoor Localization and Tracking (Invited Session)	

Organizer: Chen, Zhenghua	Nanyang Technological University
Organizer: Jiang, Chaoyang	Beijing Institute of Technology

16:00-16:20	TuCT4.1

A Multi-Hop Distributed Indoor Localization Algorithm for Ultra-Wide-Band Sensor Network (I), pp. 1335-1340.

He, Chengyang	Beijing Institute of Technology Chongqing Innovation Center
Xia, Yinqiu	Beijing Institute of Technology
Yu, Chengpu	Beijing Institute of Technology Chongqing Innovation Center
Jiang, Chaoyang	Beijing Institute of Technology

16:20-16:40	TuCT4.2

Adaptive Kalman Filter with Linear Equality Road Constraints for Autonomous Vehicle Localization (I), pp. 1341-1346.

Xu, Yanjie	Beijing Institute of Technology
Wang, Xingqi	Beijing Institute of Technology
Jiang, Chaoyang	Beijing Institute of Technology

16:40-17:00	TuCT4.3

Integrated BLE and PDR Indoor Localization for Geo-Visualization Mobile Augmented Reality (I), pp. 1347-1353.

Zhou, Baoding	Shenzhen University
Gu, Zhining	Shenzhen University
ma, Wei	Shenzhen University
Liu, Xu	Shenzhen University

17:00-17:20	TuCT4.4

Indoor Mobile Localization Based on a Tightly Coupled UWB/INS Integration (I), pp. 1354-1359.

Yang, Haoran	Southeast University
Yujin, Kuang	Southeast University
Manyi, Wang	Nanjing University
Xiaoyu, Bao	Southeast University
Yang, Yuan	Southeast University

17:20-17:40	TuCT4.5

Linear Features Observation Model for Autonomous Vehicle Localization, pp. 1360-1365.

SHIPITKO, OLEG	Institute for Information Transmission Problems – IITP RAS
kibalov, vladislav	Institute for Information Transmission Problems – IITP RAS, Bol'
Abramov, Maxim	Institute for Information Transmission Problems – IITP RAS

17:40-18:00	TuCT4.6

No-Attachment Head Tracking Method of Robotic Transcranial Magnetic Stimulation Based on Vision Sensor, pp. 1366-1371.

Yu, Chen	Harbin Institute of technology(Shen Zhen)
Wang, Xin	Harbin Institue of Technology (Shenzhen)
Lu, ZongJie	Harbin Institute of technology(Shen Zhen)
Su, HuanRan	Harbin Institute of technology(Shen Zhen)

TuCT5	Room 5
Modeling, Monitoring, Control, and Signal Processing in Intelligent Manufacturing Systems (Invited Session)	

Organizer: Que, Haoyi	Shenzhen Polytechnic
Organizer: Lu, Shan	Zhejiang University
Organizer: Xu, Zhaowen	Shenzhen Polytechnic

16:00-16:20	TuCT5.1

Leader Tracking in Constant Spacing Policy with Parasitic Delays and Lag (I), pp. 1372-1376.

Su, Zhiyuan	The Army Military Transportation University
Li, Yongle	The Army Military Transportation University
Xue, Yuanfei	Shenzhen Polytechnic, Mingde Building 503

16:20-16:40	TuCT5.2

Oscillating Scanning FPCB Micromirror Integrated with Angle Detecting (I), pp. 1377-1381.

Li, Liangtian	Shenzhen Polytechnic

16:40-17:00	TuCT5.3

Asynchronous H-Infinity Control of Markov Jump Nonlinear Systems Using Sliding Mode Approach and Its Application to an Electric Circuit (I), pp. 1382-1387.

Xu, Ming	NingboTech University
Xu, Zhaowen	Shenzhen Polytechnic
Ma, Long-hua	Zhejiang University
Que, Haoyi	Shenzhen Polytechnic
cui, dan	School of Information and Control Engineering, Liaoning Shihua U

17:00-17:20	TuCT5.4

Gaussian Process Model Predictive Control Based Cooperative Motion Planning Structure for UAGVS (I), pp. 1388-1393.

Sun, Pei	Shenzhen Polytechnic
Que, Haoyi	Shenzhen Polytechnic
Zhou, Yiming	Shenzhen Polytechnic

17:20-17:40	TuCT5.5

Improvement of Ant Colony Method Track Planning Based on Artificial Potential Field Method (I), pp. 1394-1398.

Yanze, Zhu	Northwesten Polytechnical University
Rong, Ma	Northwesten Polytechnical University
Quan, Yihong	XianYang Natural GAS Corporation

17:40-18:00	TuCT5.6

Resilient Privacy-Preserving Average Consensus for Multi-Agent Systems under Attacks (I), pp. 1399-1405.

Wang, Dong	Hangzhou Dianzi University
Zheng, Ning	Hangzhou Dianzi University
Xu, Ming	Hangzhou Dianzi University
Wu, Yiming	Hangzhou Dianzi University
Hu, Qinling	Hangzhou Dianzi University
Wang, Gangyang	Hangzhou Dianzi University