

Technical Program Tuesday June 26

Workshops & Tutorials

Time	Location	Title	Chair	Co-Chair
08:30 - 12:00	RenHe Hall 2	TuWS1T1: Elemental Technologies for Automated Driving with Realistic Onboard Sensors: from Software to Hardware in the Real World and the Cyber World	Session I: Yoshiko Kojima Session II: Seichi Mita	Session I: Chunzhao Guo Session II: Vijay John
	ZhaoWen Hall	TuWS1T2: Human Machine Interface in Intelligent Vehicles-1	Rencheng Zheng	Zhenghai Gao Kimihiko Nakano Xuewu Ji
	TianHua Hall	TuWS1T3: Parallel Vision in Intelligent Vehicles	Kunfeng Wang	
	FangfTa Hall	TuWS1T4: IV Test Technologies	Qingwen Han	Jianmei Lei
	ShaJiaBang Hall	TuWS1T5: Intelligent Vehicles for Education	Xiwei Liu	Jiehan Zhou Xiaoyan Gong
	MeiLi Hall	TuWS1T6: Decision-Making and Control on Driver Automation Interaction	Wenshuo Wang	Xiaoxiang Na Jianwei Gong Wei Zhan
	ZhiTang Hall	TuWS1T7: Driver Vigilance Estimation for Vehicle Active Safety-1	Bao-Liang Lu	
	LongLiQi Hall	TuWS1T8: 2018 IEEE/IFAC Conference on Blockchain and Knowledge Automation-1	Fei-Yue Wang	Yong Yuan JasonJun Zhang Kimon Valavanis Philip Chen
	HaiYu Hall	TuWS1T9: Security and Privacy Protection for Internet of Vehicles	Jian Wang	Yuming Ge
	XinZhuang Hall	TuWS1T10: Scene Understanding for Automated Driving Systems	Jianru Xue	Ming Yang Huijing Zhao Jianwu Fang
	RenHe Hall 1	TuWS1T15: Connected and Automated Vehicle-based Cooperative Traffic Operation for Urban Driving	Guoyuan Wu	

Time	Location	Title	Chair	Co-Chair
12:00 - 13:30	Lunch			
13:30 - 17:00	RenHe Hall 2	TuWS2T1: The 5th Workshop on Naturalistic Driving Data Analytics	Huijing Zhao	Donghao Xu
	ZhaoWen Hall	TuWS2T2: Human Machine Interface in Intelligent Vehicles-2	Rencheng Zheng	Zhenghai Gao Kimihiko Nakano Xuewu Ji Wenbin Hou
	TianHua Hall	TuWS2T3: Intelligent Transportation and Autonomous Vehicles	Huiyun Li	Lei Peng Tianfu Sun Zheng Wang
	FangfTa Hall	TuWS2T4: CPS-Based Modeling and Optimization Control of Renewable Energy Vehicles	Teng Liu	Yuan Zou Xudong Zhang Huילong Yu
	ShaJiaBang Hall	TuWS2T5: Multi-Sensor Fusion and Extended Object Tracking for Autonomous Vehicles & Intelligent Driving for Autonomous Driving Vehicles & Communication for Connected and Cooperative Driving	Karl Granström	Xinyu Zhang Jean-Philippe Lauffenburger
	MeiLi Hall	TuWS2T6: Connected and Automated Vehicles	Ge Guo	Shengbo Eben Li Yantao Tian Hongbo Gao
	ZhiTang Hall	TuWS2T7: Driver Vigilance Estimation for Vehicle Active Safety-2	Bao-Liang Lu	
	HaiYu Hall	TuWS2T8: Cooperative Perception among Multiple Intelligent Vehicles	Zhe Xuanyuan	Long Chen Kai Huang Xuemin Hu Yunxiao Shan
	LongLiQi Hall	TuWS2T9: 2018 IEEE/IFAC Conference on Blockchain and Knowledge Automation-2	Fei-Yue Wang	Yong Yuan JasonJun Zhang Kimon Valavanis Philip Chen
	BaoGao Hall	V2X Communications: Overview, Technical Challenges, and Applications in Safety and Automated Driving	Bansal Gaurav	Kenney John

Workshops & Tutorials

2018.06.26 (Tuesday)

TuWS1T1 RenHe Hall 2
Elemental Technologies for Automated Driving with Realistic Onboard Sensors: from Software to Hardware in the Real World and the Cyber World

Session I

Chair: Yoshiko Kojima
Co-Chair: Chunzhao Guo

Greetings 08:30-08:35

Seiichi Mita Toyota Technological Institute

Keynote Speech 08:35-09:20

Autoware: university challenges of democratizing mobility technologies and values
Kazuya Takeda Nagoya University

09:20-09:35

General Forward Obstacle Detection using Current and Past In-Vehicle Camera Images
Haruya Kyutoku Nagoya University

09:35-09:50

The Nighttime stereo Vision and Its Application
Yuquan, Xu Toyota Technological Institute

09:50-10:05

Estimation of localization uncertainty
Naoki Akai Nagoya University

10:05-10:30

Coffee Break

Session II

Chair: Seiichi Mita
Co-Chair: Vijay John

Keynote Speech 10:30-10:55

Spatial Information Technology for Intelligent Mobility
Yoshiko Kojima Toyota Central R&D Labs., Inc.

10:55-11:10

Automatic Lane-Level Map Generation Using Low-Cost Sensors in Urban Traffic Scenarios
Chunzhao, Guo Toyota Central R&D Labs., Inc.

11:10-11:25

Photon Counting LiDAR and DCNN-Based Localization for Automated Guided Vehicle
Seigo Ito Toyota Central R&D Labs., Inc.

11:25-11:40

Real-Time Road Segmentation and Lane Estimation Using Deep Features and Extra Trees Regression
Vijay John Toyota Technological Institute

11:40-11:55

Freeway Merging in Congested Traffic Based on Multipolicy Decision Making with Passive Actor Critic
Tomoki Nishi Toyota Central R&D Labs., Inc.

TuWS1T2 ZhaoWen Hall

Human Machine Interface in Intelligent Vehicles-1

Chair: Rencheng Zheng
Co-Chair: Zhenghai Gao, Kimihiko Nakano, Xuewu Ji

Paper TuWS1T2.1 08:30-09:00

Automatic Analysis of Pedestrian's Body Language in the Interaction with Autonomous Vehicles
Morales-Alvarez, WalterMechatronics Res. Group, Simon Bolivar Univ. Caracas
Gomez, Maria Jose Univ. Carlos III De Madrid
Fernandez, Gerardo Univ. Simon Bolivar
Garcia, Fernando Univ. Carlos III De Madrid
Olaverri-Monreal, Cristina UAS Tech. Wien

Paper TuWS1T2.2 09:00-09:30

Real-Time Traffic Scene Segmentation Based on Multi-Feature Map and Deep Learning
Linhui, Li Dalian Univ. of Tech
Weina, Zheng Dalian Univ. of Tech
LingChao, Kong Dalian Univ. of Tech
Ozguner, Umit Ohio State Univ.
Wenbin, Hou Dalian Univ. of Tech
Jing, Lian Dalian Univ. of Tech

Paper TuWS1T2.3 09:30-10:00

A Biosignal Based Driving Experience Analysis for Curved Road: An Initial Implementation
Hongyu, Hu Jilin Univ.
Zhenhai, Gao Jilin Univ.

Yuhuan, Sheng Jilin Univ.
Fei, Gao Jilin Univ.
Rencheng, Zheng Dalian Univ. of Tech
Xingtai, Mei Guangzhou Automobile Group Co., Ltd.
Jin, Zhang Guangzhou Automobile Group Co., Ltd.

Paper TuWS1T2.4 10:30-11:00

Analysis of Driver Behaviors While Using In-Vehicle Traffic Light with Partial Deployment of V2I Communication
Bo, Yang The Univ. of Tokyo
Rencheng, Zheng Dalian Univ. of Tech
Kaizuka, Tsutomu The Univ. of Tokyo
Nakano, Kimihiko Univ. of Tokyo

Paper TuWS1T2.5 11:00-11:30

An Application of Particle Swarm Algorithms to Optimize Hidden Markov Models for Driver Fatigue Identification
Mingheng, Zhang Dalian Univ. of Tech
Xiaojuan, Zhai Dalian Univ. of Tech
Guang, Zhao Dalian Univ. of Tech
Tonghong, Chong Dalian Univ. of Tech
Zheng, Wang The Univ. of Tokyo

Paper TuWS1T2.6 11:30-12:00

Longitudinal Control Strategy of Collision Avoidance Warning System for Intelligent Vehicle Considering Drivers and Environmental Factors
Yibing, Zhao Dalian Univ. of Tech
Xiumei, Xiang School of Automobile Engineering, Dalian Univ. of Tech
Ronghui, Zhang Guangdong Key Lab. of Intelligent Transportation System, S
Lie, Guo Dalian Univ. of Tech
Zheng, Wang The Univ. of Tokyo

TuWS1T3 TianHua Hall

Parallel Vision in Intelligent Vehicles

Chair: Kunfeng Wang

Invited Talk1 08:30-12:00

Kunfeng, Wang Institute of Automation, Chinese Academy of Sciences

Invited Talk2 08:30-12:00

Hui, Zhang Institute of Automation, Chinese Academy of Sciences

Invited Talk3 08:30-12:00

Wenwen, Zhang Xi'an Jiaotong University

Invited Talk4 08:30-12:00

Yue, Lu Institute of Automation, Chinese Academy of Sciences

Paper TuWS1T3.1 08:30-12:00

The ParallelEye-CS Dataset: Constructing Artificial Scenes for Evaluating the Visual Intelligence of Intelligent Vehicles
Xuan, Li Beijing Inst. of Tech
Yutong, Wang Inst. of Automation, Chinese Acad. of Sciences
Kunfeng, Wang Inst. of Automation, Chinese Acad. of Sciences
Lan, Yan Inst. of Automation, Chinese Acad. of Sciences
Fei-Yue, Wang Chinese Acad. of Sciences

TuWS1T4 FangTa Hall

IV Test Technologies

Chair: Qingwen Han
Co-chair: Jianmei Lei

Invited Talk1 08:30-12:00

The test and validation challenges of sensor fusion for ADAS
Murali Ravindran Director, Automotive, Global Business Development, National Instruments

Invited Talk2 08:30-12:00

The test certification approach for C-V2X terminal device
Yuming, Ge China Academy of Information and Communications Technology

Invited Talk3 08:30-12:00

The test platform and evaluation standard system for self-driving car
Tao, Chen Doctor, China automotive engineering research institute

Paper TuWS1T4.1 08:30-12:00

Semi-Virtual Test for ICVs in Automotive EMC Laboratory
Jianmei, Lei State Key Lab. of Vehicle NVH and Safety Tech. & Chongqing Univ.
Qingwen, Han Chongqing Univ.
Xu, Yang Chongqing Univ.
Li, Fengxi Chongqing Univ.
Chen, Rui Univ. of Electronic Sieneese and Tech. of China, China
Chen, Lidong State Key Lab. of Vehicle NVH and Safety Tech. Chong

Paper TuWS1T4.2 08: 30–12: 00

Study on the Test Scenarios of Level 2 Automated Vehicles
 Huang, Li Chongqing Univ.
 Qin, Xia China Automotive Engineering Res. Inst. Co., Ltd
 Fei, Xie China Automotive Engineering Res. Inst. Co., Ltd
 Hai Lin, Xiu Chongqing Univ.
 Hong, Shu Chongqing Univ.

Paper TuWS1T4.3 08: 30–12: 00

EMC Test for Connected Vehicles and Communication Terminals
 Qingwen, Han Chongqing Univ.
 Jianmei, Lei State Key Lab. of Vehicle NVH and Safety Tech. & Chongqing Univ.
 Lingqiu, Zeng Chongqing Univ.
 Yunyang, Tang Chongqing Univ.
 Jie, Liu China Automotive Engineering Res. Inst. Co., Ltd.
 Lidong, Chen State Key Lab. of Vehicle NVH and Safety Tech. Chong

Paper TuWS1T4.4 08: 30–12: 00

Media Access Process Modeling of LTE-V-Direct Communication Based on Markov Chain
 Jiayang, Li Tsinghua Univ.
 Mengkai, Shi Tsinghua Univ.
 Ji, Li Tsinghua Univ.
 Danya, Yao Tsinghua Univ.

Paper TuWS1T4.5 08: 30–12: 00

Application-Based Performance Evaluation of Wireless Access in Vehicular Environment Using Broadcast Protocol
 Chang, Lu Tsinghua Univ.
 Mengkai, Shi Tsinghua Univ.
 Ji, Li Tsinghua Univ.
 Danya, Yao Tsinghua Univ.

**TuWS1T5 ShaJiaBang Hall
 Intelligent Vehicles for Education**

Chair: Xiwei Liu
 Co-Chair: Jiehan Zhou, Xiaoyan Gong

Paper TuWS1T5.1 08: 30–12: 00

Artificial Intelligence Course Design: Istream-Based Visual Cognitive Smart Vehicles
 Xiaoyan, Gong Chinese Acad. of Sciences
 Yilin, Wu Beijing NO. 13 School, Beijing, China
 Zifan, Ye Affiliated NO.2 High School of Beijing Normal Univ. Beijing
 Xiwei, Liu Chinese Acad. of Sciences

Paper TuWS1T5.2 08: 30–12: 00

Autonomous RC-Car for Education Purpose in Istem Projects
 Wu-Ling, Huang Inst. of Automation, Chinese Acad. of Sciences
 Weihang, Feng Beijing NO.161 High School
 Xiaoyan, Gong Chinese Acad. of Sciences
 Fenghua, Zhu Inst. of Automation, Chinese Acad. of Sciences

**TuWS1T6 MeiLi Hall
 Decision-Making and Control on Driver Automation Interaction**

Chair: Wenshuo Wang
 Co-Chair: Xiaoxiang Na, Jianwei Gong, Wei Zhan

Invited Talk 08: 30–12: 00

An Android Application for Road Freight Vehicle In-Service Monitoring
 Xiaoxiang, Na

Paper TuWS1T6.1 08: 30–12: 00

Transfer Learning for Driver Model Adaptation Via Modified Local Procrustes Analysis
 Chao, Lu Beijing Inst. of Tech
 Fengqing, Hu Beijing Inst. of Tech
 Wenshuo, Wang Univ. of Michigan
 Jianwei, Gong Beijing Inst. of Tech
 Zeliang, Ding Beijing Inst. of Tech

Paper TuWS1T6.2 08: 30–12: 00

Development and Evaluation of Two Learning-Based Personalized Driver Models for Pure Pursuit Path-Tracking Behaviors
 Zirui, Li Beijing Inst. of Tech
 Boyang, Wang Beijing Inst. of Tech
 Jianwei, Gong Beijing Inst. of Tech
 Tianyun, Gao Beijing Inst. of Tech
 Chao, Lu Beijing Inst. of Tech
 Gang, Wang Shenzhen Inst. of Advanced Tech. Chinese Acad. of S

Paper TuWS1T6.3 08: 30–12: 00

Influence Analysis of Autonomous Cars' Cut-In Behavior on Human Drivers in a Driving Simulator
 Chunqing, Zhao Beijing Inst. of Tech
 Shaopeng, Li Beijing Inst. of Tech
 Fenggang, Liu Beijing Inst. of Tech
 Wenshuo, Wang Univ. of Michigan
 Jianwei, Gong Beijing Inst. of Tech

Paper TuWS1T6.4 08: 30–12: 00

Research on Intelligent Merging Decision-Making of Unmanned Vehicles Based on Reinforcement Learning (I)
 Xuemei, Chen Beijing Inst. of Tech
 Qiang, Zhang Beijing Inst. of Tech
 Zhenhua, Zhang Here Tech
 Gemeng, Liu Beijing Inst. of Tech
 Jianwei, Gong Beijing Inst. of Tech
 Ching-Yao, Chan ITS, Univ. of California at Berkeley

**TuWS1T7 ZhiTang Hall
 Driver Vigilance Estimation for Vehicle Active Safety-1**

Chair: Bao-Liang Lu

Organizer's introduction 9: 00–09: 10

Keynote 9: 10–10: 10

Brain Computer Interface (BCI) for Driving Cognition
 Chin-Teng Lin University of Technology Sydney

Keynote 10: 30–11: 30

Vigilance Estimation Using a Wearable EOG Device in Real Driving Environments
 Bao-Liang, Lu Shanghai Jiao Tong University

Invited Talk 11: 30–12: 00

Prediction of Driver's Eye Fixation Distribution with Visual Attention Model
 Yongjie, Li University of Electronic Science and Technology of China, China

**TuWS1T8 LongLiQi Hall
 2018 IEEE/IFAC Conference on Blockchain and Knowledge Automation-1**

Chair: Fei-Yue Wang
 Co-Chair: Yong Yuan, JasonJun Zhang
 Kimon Valavanis, Philip Chen

Paper TuWS1T8.1 08:30–12:00

Blockchain Based Provenance for Agricultural Products: A Distributed Platform with Duplicated and Shared Bookkeeping
 Jing, Hua CASIA
 Xiujian, Wang CASIA
 Mengzhen, Kang CASIA
 Haoyu, Wang CASIA
 Fei-Yue, Wang Chinese Acad. of Sciences

Paper TuWS1T8.2 08:30–12:00

A Bibliometric Analysis of Blockchain Research
 Shuai, Zeng Inst. of Automation, Chinese Acad. of Sciences
 Xiaochun, Ni Inst. of Automation, Chinese Acad. of Sciences
 Yong, Yuan Qingdao Acad. of Intelligent Industries
 Fei-Yue, Wang Chinese Acad. of Sciences

Paper TuWS1T8.3 08:30–12:00

An Overview of Smart Contract: Architecture, Applications, and Future Trends
 Shuai, Wang Inst. of Automation, Chinese Acad. of Sciences
 Yong, Yuan Qingdao Acad. of Intelligent Industries
 Xiao, Wang Chinese Acad. of Science, Inst. of Automation
 Juanjuan, Li Inst. of Automation, Chinese Acad. of Sciences
 Rui, Qin Inst. of Automation, Chinese Acad. of Sciences
 Fei-Yue, Wang Chinese Acad. of Sciences

Paper TuWS1T8.4 08:30–12:00

Juanjuan, Li Inst. of Automation, Chinese Acad. of Sciences
 Yong, Yuan Qingdao Acad. of Intelligent Industries
 Shuai, Wang Inst. of Automation, Chinese Acad. of Sciences
 Fei-Yue, Wang Chinese Acad. of Sciences

**TuWS1T9 HaiYu Hall
 Security and Privacy Protection for Internet of Vehicles**

Chair: Jian Wang
 Co-Chair: Yuming Ge

Organizer's introduction 09:00–09:10

Invited Talk1 09:10–09:30

Defending against SSDP Attacks in IoT by Reducing Amplification
 Xin, Liu China University of Petroleum

Invited Talk2 09:30–09:50

A Planning Scheme for Information Security Platform of Standard Intelligent Connected Vehicle in China
 Hongmao, Qin Beihang University

Invited Talk3 09:50–10:10

The cybersecurity protection and assessment practices of ICV
 Xiaoqing, Xue China Software Testing Center

Coffee break 10:10–10:20

Invited Talk4 10:20–10:40

FAW opportunities and challenges in IOV
 Guilin, Lv China FAW Group CO., LTD.,

Invited Talk5 10:40–11:00

Cooperative ITS Device Architecture and Application
 Lidong, Shi Shenzhen Gervict Technologies Co., Ltd.,

Invited Talk6 11:00–11:20

C-V2X development in China and Cybersecurity Challenge
 Yuming, Ge China Academy of Information and Communications Technology

Invited Talk7 11:20–11:40

Analysis on the threat of automotive cybersecurity and its protection suggestions
Shuai, Qi Neusoft, China

Invited Talk8 11:40–12:00

Automotive T-box IP security analysis and evaluation
Wei, Wang Rohde & Schwarz, China

**TuWS1T10 XinZhuang Hall
Scene Understanding for Automated Driving Systems**

Chair: Jianru Xue
Co-Chair: Ming Yang, Huijing Zhao, Jianwu Fang

Invited Talk1 08:30–12:00

Visual SLAM and Its Application
Guofeng, Zhang Zhejiang University

Invited Talk2 08:30–12:00

Visual Saliency Detection and Sequence Learning for Autonomous Driving
Xin, Xu National University of Defense Technology

Paper TuWS1T10.1 08:30–12:00

Traffic-Sign Spotting in the Wild Via Deep Features

Jinkang, Guo Xiamen Univ.
Jiayun, Lu Xiamen Univ.
Yanyun, Qu Xiamen Univ.
Cuihua, Li Xiamen Univ.

Paper TuWS1T10.2 08:30–12:00

An Efficient Hierarchical Convolutional Neural Network for Traffic Object Detection
Qianqian, Bi Shanghai Jiao Tong Univ.
Ming, Yang Shanghai Jiao Tong Univ.
Chunxiang, Wang Shanghai Jiao Tong Univ.
Bing, Wang Shanghai Jiao Tong Univ. SEIEE

Paper TuWS1T10.3 08:30–12:00

Understanding 3D Semantic Structure Around the Vehicle with Monocular Cameras
Narioka, Kenichi DENSO Corp
Nishimura, Hiroki ENSO Corp
Tamochi, Takayuki DENSO Corp
Inomata, Teppei Morpho, Inc

**TuWS1T15 RenHe Hall 1
Connected and Automated Vehicle-based Cooperative Traffic Operation for Urban Driving**

Chair: Guoyuan Wu

Paper TuWS1T15.1 08:30–12:00

Advance of Cooperative Driving Strategies for Nonsignalized Intersections
Li, Li Tsinghua University

Paper TuWS1T15.2 08:30–12:00

Cooperative Adaptive Cruise Control with Automated Steering
Jia, Hu Tongji University

Paper TuWS1T15.3 08:30–12:00

Virtual Coupled Train Formation Control: Make Trains Running Closer
Jing, Xun Beijing Jiaotong University

Paper TuWS1T15.4 08:30–12:00

Next Generation Traffic Control with Connected and Automated Vehicles
Yiheng, Feng University of Michigan
Transportation Research Institute

Paper TuWS1T15.5 08:30–12:00

Distributed Consensus-Based Cooperative Highway On-Ramp Merging Using V2X Communications
Guoyuan, Wu University of California at Riverside

**TuWS2T1 RenHe Hall 2
The 5th Workshop on Naturalistic Driving Data Analytics**

Chair: Huijing, Zhao
Co-Chair: Donghao, Xu

Paper 13: 30–17: 00

On Annotation, Augmentation & Analytics of Naturalistic Data for Autonomous Driving
Mohan Trivedi University of California, San Diego

Paper 13: 30–17: 00

Vehicle-Pedestrian Encountering Scenarios and Pedestrian Behavior Recognition in Naturalistic Driving Environment
Renran, Tian Indiana University-Purdue University Indianapolis
Yaobin, Chen Indiana University-Purdue University Indianapolis
David Good School of Public and Environmental Affairs, Indiana

Paper 13: 30–17: 00

Automan: Democratizing Self-Driving AI with Open Research Corpus
Shunya Seiya Nagoya University
Yuto Jumonji The University of Tokyo
Hidenaga Ushijima The University of Tokyo
Abraham Monroy Nagoya University
Yuki Tsuji The University of Tokyo
Kazumasa Sakiyama The University of Tokyo
Eiji Sekiya Tier4
Yuki Iida Tier4
Shinpei Kato The University of Tokyo; Tier4
Kazuya Takeda Nagoya University; Tier4

Paper 13: 30–17: 00

Round Table Discussion: How to effectively collect/share/utilize the Naturalistic Driving Data - Challenges & future of NDS activities
Pujitha Gunaratne Toyota Motor North America

**TuWS2T2 ZhaoWen Hall
Human Machine Interface in Intelligent Vehicles-2**

Chair: Rencheng Zheng
Co-Chairs: Zhenghai Gao, Kimihiko Nakano, Xuewu Ji, Wenbin Hou

Paper TuWS2T2.1 13:30–17:00

Application of Stackelberg Game Theory for Shared Steering Torque Control in Lane Change Maneuver
Kaiming, Yang Tsinghua Univ.
Rencheng, Zheng Dalian Univ. of Tech
Xuewu, Ji Tsinghua Univ.
Nishimura, Yosuke JTEKT, Co., Ltd.
Ando, Kazuya JTEKT, Co., Ltd.

Paper TuWS2T2.2 13:30–17:00

Driver-Automation Shared Control: Modeling Driver Behavior by Taking Account of Reliance on Haptic Guidance Steering
XZheng, Ji The Univ. of Tokyo
Rencheng, Zheng Dalian Univ. of Tech
Kaizuka, Tsutomu The Univ. of Tokyo
Nakano, Kimihiko The Univ. of Tokyo

Paper TuWS2T2.3 13:30–17:00

The Impact of Explanation on Possibility of Hazard Detection Failure on Driver Intervention under Partial Driving Automation
Tianwei, Liu Univ. of Tsukuba
Huiping, Zhou Tokyo Business Service Co., LTD
Itoh, Makoto Univ. of Tsukuba
Kitazaki, Satoshi National Inst. of Advanced Industrial Science and Tech

Paper TuWS2T2.4 13:30–17:00

Analysis on Biosignal Characteristics to Evaluate Road Rage of Younger Drivers: A Driving Simulator Study
Hongyu, HU Jilin Univ.
Zheng, Zhu Jilin Univ.
Zhenhai, Gao Jilin Univ.
Rencheng, Zheng Dalian Univ. of Tech

**TuWS2T3 TianHua Hall
Intelligent Transportation and Autonomous Vehicles**

Chair: Huiyun Li
Co-Chairs: Lei Peng, Tianfu Sun, Zheng Wang

Paper TuWS2T3.1 13:30–17:00

A Security Model for Intelligent Vehicles and Smart Traffic Infrastructure
Kumar, Sachin Nanyang Tech. Univ. Singapore
Jha, Sonu Nanyang Tech. Univ. Singapore
Pandey, Sumit Kumar Ashoka Univ. Sonapat
Chattopadhyay, Anupam Nanyang Tech. Univ. Singapore

Paper TuWS2T3.2 13:30–17:00

Automated Toll Gate Passing
Zhonglin, Xu Continental Automotive Systems (Shanghai) Co., Ltd.

Xinhui, Di Continental Automotive Systems (Shanghai) Co., Ltd. Shanghai, China
Houming, Wang Continental Automotive Systems (Shanghai) Co., Ltd.
Jun, Xu Continental Automotive Systems (Shanghai) Co., Ltd.
Adomat, Rolf Continental
Chen, Zhang Continental

Paper TuWS2T3.3 13:30–17:00

Improved Sliding-Mode On-Line Adaptive Position Control for AMT Clutch Systems Based on Neural Networks
Jie, Zou Shenzhen Inst. of Advanced Tech. Acad
Hua, Huang Schaeffler Tech. AG & Co. KG
Gühmann, Clemens Tech. Univ. Berlin

Paper TuWS2T3.4 13:30–17:00

Real-Time Pedestrian and Vehicle Detection for Autonomous Driving
Zhiheng, Yang Guilin Univ. of Electronic Tech
Jun, Li Guilin Univ. of Electronic Tech
HuiYun, Li Shenzhen Inst. of Advanced Tech

**TuWS2T4 FangTa Hall
CPS-Based Modeling and Optimization Control of Renewable Energy Vehicles**

Chair: Teng, Liu
Co-Chairs: Yuan Zou, Xudong Zhang, Huilong Yu

Paper TuWS2T4.1 13:30–17:00

Reinforcement Learning-Based Predictive Control for Autonomous Electrified Vehicles
Teng, Liu Univ. of Waterloo
Hong, Wang Univ. of Waterloo
Li, Li Tsinghua Univ.
Dongpu, Cao Cranfield Univ.
Fei-Yue, Wang Chinese Acad. of Sciences

Paper TuWS2T4.2 13:30–17:00

Multi-Objective Optimal Sizing and Real-Time Control of Hybrid Energy Storage Systems for Electric Vehicles
Huilong, Yu Univ. of Waterloo
Dongpu, Cao Waterloo Univ.

Paper TuWS2T4.3 13:30–17:00

Adaptive Multivariable Super-Twisting Control for Lane Keeping of Autonomous Vehicles with Differential Steering
Chuan, Hu Univ. of Waterloo
Rongrong, Wang Shanghai JiaoTong Univ.
Ye Chen, Qin Beijing Inst. of Tech

TuWS2T5 ShaJiaBang Hall
Multi-Sensor Fusion and Extended Object Tracking for Autonomous Vehicles & Intelligent Driving for Autonomous Driving Vehicles & Communication for Connected and Cooperative Driving
 Chair: Karl Granström
 Co-Chairs: Xinyu Zhang, Jean-Philippe Lauffenburger

Paper TuWS2T5.1 13:30-17:00
 Multi-Objective Adaptive Cruise Control Strategy Based on Variable Time Headway
 Lie, Guo Dalian Univ. of Tech
 Pingshu, Ge Dalian Minzu Univ.
 Yanfu, Qiao Dalian Univ. of Tech
 Linna, Xu Dalian Univ. of Tech

Paper TuWS2T5.2 13:30-17:00
 Lane Detection and Road Surface Reconstruction Based on Multiple Vanishing Points
 Bijun, Li Wuhan Univ.
 Yuan, Guo Wuhan Univ.
 Jian, Zhou Wuhan Univ.
 Jinsheng, Xiao Wuhan Univ.
 Yi, Cai Wuhan Univ.
 Weicheng, Zeng Tongji Univ.

Paper TuWS2T5.3 13:30-17:00
 Bayesian Framework for Vehicle Localization Using Crowd-sourced Data
 Verentsov, Sergey Innopolis Univ.
 Magerramov, Emil Innopolis Univ.
 Vinogradov, Vlad Innopolis Univ.
 Gizatullin, Ramil Innopolis Univ.
 Alekseenko, Andrey Innopolis Univ.
 Kholodov, Yaroslav Innopolis Univ.
 Nikolskiy, Evgeniy RoadAR, Inc

Paper TuWS2T5.4 13:30-17:00
 Low Latency V2X Applications and Network Requirements: Performance Evaluation
 Amjad, Zubair Inst. of Reliable Embedded Systems and Communication Electro
 Sikora, Axel Offenburg Univ. of Applied Sciences
 HILT, Benoit Univ. De Haute Alsace
 Lauffenburger, Jean-Philippe Univ. De Haute-Alsace

TuWS2T6 MeiLi Hall
Connected and Automated Vehicles
 Chair: Ge, Guo
 Co-Chairs: Shengbo Eben Li, Yantao Tian, Hongbo Gao

Invited Talks1 13:30-17:00
 Dynamical Modeling and Distributed Control of Multiple Connected Vehicles,
 Shengbo, Li Tsinghua University, China

Invited Talks2 13:30-17:00
 Hazard-Evaluation-Oriented Moving Horizon Parallel Steering Control for Driver-Automation Collaboration during Automated Driving
 Hongyan, Guo Jilin University, China

Invited Talks3 13:30-17:00
 Situational Assessments Based on Uncertainty-Risk Awareness in Complex Traffic Scenarios
 Hongbo, Gao Tsinghua University, China

Paper TuWS2T6.1 13:30-17:00
 Deep Q Learning Based High Level Driving Policy Determination
 Min, Kyushik Hanyang Univ.
 Kim, Hayoung Hanyang Univ.
 Huh, Kunsoo Hanyang Univ.

Paper TuWS2T6.2 13:30-17:00
 Observer-Based Cooperative Adaptive Cruise Control of Vehicular Platoons with Random Network Access
 Ligang, Wu Coll. of Mechanical and Electrical Engineering, Shanxi Datong
 Shixi, Wen Dalian Univ.
 Ge, Guo Dalian Maritime Univ.
 Yiwon, He The Coll. of Music, Dalian Univ.
 Qian, Zhou Coll. of Business, Shanxi Datong Univ.
 Zibao, Lu Anhui Normal Univ.

Paper TuWS2T6.3 13:30-17:00
 Decision-Theoretic Cooperative Parking for Connected Vehicles: An Investigation
 Aliedani, ALI Latrobe Univ.
 Loke, Seng Deakin Univ.

Paper TuWS2T6.4 13:30-17:00
 Hazard-Evaluation-Based Driver-Automation Switched Shared Steering Control for Intelligent Vehicles
 Yangyang, Guo Jilin Univ.
 jun, Liu Jilin Univ.
 Linhuan, Song Jilin Univ.
 Hongyan, Guo Jilin Univ.
 Yunfeng, Hu Jilin Univ.
 Hong, Chen Jilin Univ.

Paper TuWS2T6.5 13:30-17:00
 Vehicle Platoon Control with Communication Scheduling
 Liyuan, Chen Dalian Minzu Univ.
 Ge, Guo Dalian Maritime Univ.
 wei, Yue Dalian Maritime Univ.

TuWS2T7 ZhiTang Hall
Driver Vigilance Estimation for Vehicle Active Safety-2
 Chair: Bao-Liang Lu

Invited Talks1 13:30-14:00
 Driver Distraction Detection Using Multiple Kernel Learning
 Yan, Yang Northwestern Polytechnical University, China

Invited Talks2 14:00-14:30
 EEG-Based Spatio-Temporal Interaction Analysis for Driver Fatigue Assessment
 Fengyu, Cong Dalian University of Technology, China

Invited Talks3 14:30-15:00
 Assessment of Driving Fatigue Based on Brain Connectivity
 Wanzong, Kong Hangzhou Dianzi University, China

Invited Talks4 15:30-16:00
 Noncontact Stress Monitoring and Sleep Analysis Using Millimeter Wave Radar
 Jin, Zhang Southern University of Science and Technology, China

16:00-16:30
 Summary and discussion round with all speakers

TuWS2T8 HaiYu Hall
Cooperative Perception among Multiple Intelligent Vehicles
 Chair: Zhe XuanYuan
 Co-Chairs: Long Chen, Kai Huang, Xuemin Hu, Yunxiao Shan

Paper TuWS2T8.1 13:30-17:00
 Online Cooperative 3D Mapping for Autonomous Driving
 Xuanyuan, Zhe Beijing Normal Univ. Kong Baptist Univ. United In Sun Yat-Sen Univ.
 Boyang, Li Sun Yat-Sen Univ.
 Xinyi, Zhang UIC
 Long, Chen Sun Yat-Sen Univ.
 Kai, Huang Sun Yat-Sen Univ.

Paper TuWS2T8.2 13:30-17:00
 A Robust Look-Ahead Distance Tuning Strategy for the Geometric Path Tracking Controllers
 Longsheng, Chen Sun Yat-Sen Univ.
 Ni, Liu Sun Yat-Sen Univ.
 Yunxiao, Shan Wuhan Univ.
 Long, Chen Sun Yat-Sen Univ.

TuWS2T9 LongLiQi Hall
2018 IEEE/IFAC Conference on Blockchain and Knowledge Automation-2
 Chair: Fei-Yue Wang
 Co-Chairs: Yong Yuan, JasonJun Zhang
 Kimon Valavanis, Philip Chen

Paper TuWS2T9.1 13:30-17:00
 Economic Issues in Bitcoin Mining and Blockchain Research
 Rui, Qin Inst. of Automation, Chinese Acad. of Sciences
 Qingdao Acad. of Intelligent Inst. of Automation, Chinese Acad. of Sciences
 Yong, Yuan
 Wang, Shuai
 Fei-Yue, Wang Chinese Acad. of Sciences

Paper TuWS2T9.2 13:30-17:00
 Organizational Management Using Software-Defined Robots Based on Smart Contracts
 Xiaochun, Ni Inst. of Automation, Chinese Acad. of Sciences
 Shuai, Zeng Inst. of Automation, Chinese Acad. of Sciences
 Xuan, Zeng Univ. of Chinese Academy of Sciences
 Yong, Yuan Qingdao Acad. of Intelligent
 Fei-Yue, Wang Chinese Acad. of Sciences

Paper TuWS2T9.3 13:30-17:00
 Performance Analysis of Consensus Algorithm in Private Block-chains
 Yue, Hao Beijing Univ. of Posts and Telecommunications
 Yi, Li Beijing Univ. of Posts and Telecommunications
 Xinghua, Dong Industrial and Commercial Bank of China
 Fang, Li Beijing Univ. of Posts and Telecommunications
 Ping, Chen Beijing Univ. of Posts and Telecommunications

TuWS2T10 BaoGao Hall
V2X Communications: Overview, Technical Challenges, and Applications in Safety and Automated Driving Tutorial
 Chair: Bansal Gaurav
 Co-Chairs: Kenney John