2019 IEEE 2nd Connected and Automated Vehicles Symposium (CAVS 2019)

Honolulu, Hawaii, USA
22 – 23 September 2019

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Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
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IEEE CAVS 2019 Schedule

IEEE CAVS 2019 will take place in Salon C on the 3rd floor at the Waikiki Beach Marriott Resort & Spa, in Honolulu, Hawaii, USA. You can find below information about the program and oral sessions. Detailed information about keynotes and panels can be found in the menu and links provided.

Sunday, 22nd September, Salon C, 3rd Floor

08:30-10:30	Opening and Session 1: V2X networks
10:30-11:00	Coffee break
11:00-12:45	CAVS Keynotes
12:45-14:15	Lunch (On your own; lunch is not provided on Sunday)
14:15-15:30	Session 2: CAVs traffic and mobility
15:30-16:00	Coffee break
16:00-17:50	Session 3: V2X propagation and channel modelling
18:00-20:00	VTC & CAVS welcome reception (Mohala Gardens)

Monday, 23rd September, Salon C, 3rd Floor

08:40-10:30	VTC Opening and Keynotes
10:30-11:00	Coffee break
11:00-12:30	Session 4: Cooperative and automated driving
12:30-14:00	Lunch (provided in the Kona Maku Ballroom)
14:00-15:30	Session 5: Connected and Automated Vehicles
15:30-16:00	Coffee break
16:00-18:00	CAVS panel: Standardization of CAVs
18:00-20:00	IEEE YP panel: UAV to UAV Communications: Options, Challenges, and Standards (Salon B, 3rd Floor)

Session1: V2X networks (Sunday 22nd September, 08:30-10:30)
Session Chair: Javier Gozalvez, Universidad Miguel Hernandez de Elche

Latency Analysis of LTE Networks for Vehicular Communications Based on Experiments and Computer Simulation
Tomoki Maruko, Shinpei Yasukawa, Atsushi Matsumoto, Junichi Abe, Mikio Iwamura, NTT DOCOMO INC.

Spatio-temporal Dynamics of Cellular V2X Communication in Dense Vehicular Networks
Behrad Toghi, Md Saifuddin, Ozair Mughal, Yaser Fallah, University of Central Florida

C-V2X Assisted mmWave V2V Scheduling
Alejandro Molina-Galan, Baldomero Coll-Perales, Javier Gozalvez, Universidad Miguel Hernandez de Elche

VRLS: A Unified Reinforcement Learning Scheduler for Vehicle-to-Vehicle Communications

Taylan Sahin, Ramin Khalili, Mate Boban, Huawei Technologies Duesseldorf GmbH, German Research Center; Adam Wolisz, Technische Universität Berlin

Investigating Value of Information in Future Vehicular Communications

Marco Giordani, Andrea Zanella, University of Padova; Takamasa Higuchi, Onur Altintas, InfoTech Labs, Toyota Motor North America, Inc.; Michele Zorzi, University of Padova

Real-Time Hardware-In-the-Loop Emulation Framework for DSRC-based Connected Vehicle Applications

Ghayoor Shah, Rodolfo Valiente, Nitish Gupta, S M Osman Gani, Behrad Toghi, Yaser P. Fallah, University of Central Florida; Somak Gupta, Ford Motor Company

Session 2: CAVs traffic and mobility (Sunday 22nd September, 14:15-15:30)
Session Chair: G. G. Md. Nawaz Ali, University of Charleston

Meta-Deep Q-Learning for Eco-Routing

Xin Ma, Yuanchang Xie, Chunxiao Chigan, University of Massachusetts Lowell

On calendar-based scheduling for user-friendly charging of plug-in electric vehicles

Karl Schwenk, Karlsruhe Institute of Technology; Manuel Faix, Daimler AG; Ralf Mikut, Veit Hagenmeyer, Riccardo Remo Appino, Karlsruhe Institute of Technology

Alternative Intersection Designs with Connected and Automated Vehicle

Zijia Zhong, Earl E. Lee, University of Delaware

Coordinating AV Dispatch with Smart Remote Parking

Paul Seymer, Chaitanya Yavvari, Duminda Wijesekera, Cing-Dao Kan, George Mason University

Session 3: V2X propagation and channel modelling (Sunday 22nd September, 16:00-17:50)
Session Chair: David Matolak, University of South Carolina

Geometrical Modeling of Non-Stationary Polarimetric Vehicular Radio Channels

Carlos A. Gutierrez, Juan C. Ornelas-Lizcano, Universidad Autonoma de San Luis Potosi; Matthias Pätzold, University of Agder

Multi-band Vehicle to Vehicle Channel Measurements from 6 GHz to 60 GHz at "T" Intersection

Diego Dupleich, Robert Mueller, Christian Schneider, Sergii Skoblikov, Technische Universität Ilmenau; Jian Luo, Mate Boban, Huawei Technologies Duesseldorf GmbH; Giovanni Del Galdo, Reiner Thomä, Technische Universität Ilmenau

Path Loss Analysis and Modeling for Vehicle-to-Vehicle Communications in Convoys in Safety-Related Scenarios

Pan Tang, University of Southern California and Beijing University of Posts and Telecommunications; Rui Wang, University of Southern California and Samsung Research America; Andreas F. Molisch, University of Southern California; Chen Huang, University of Southern California and Beijing Jiaotong University; Jianhua Zhang, Beijing University of Posts and Telecommunications

Path Loss Models for V2V mmWave Communication: Performance Evaluation and Open Challenges
Marco Giordani, University of Padova; Takayuki Shimizu, InfoTech Labs, Toyota Motor North America, Inc.; Andrea Zanella, University of Padova; Takamasa Higuchi, Onur Altintas, InfoTech Labs, Toyota Motor North America, Inc.; Michele Zorzi, University of Padova

Modeling V2X Communications Across Multiple Road Levels
Alexander Brummer, Reinhard German, Anatoli Djanatliev, University of Erlangen-Nürnberg

Experimental Analysis of DSRC for Radio Signaling at Grade Crossings
Junsung Choi, KAIST; Vuk Marojevic, Mississippi State University; Christopher Anderson, US Naval Academy; Carl Dietrich, Virginia Tech

Session 4: Cooperative and automated driving (Monday 23rd September, 11:00-12:30)
Session Chair: Vuk Marojevic, Mississippi State University

A Probabilistic Framework for Trajectory Prediction in Traffic utilizing Driver Characterization
Jasprit Singh Gill, Pierluigi Pisu, Matthias J. Schmid, Clemson University

Clustering Strategies of Cooperative Adaptive Cruise Control: Impacts on Human-driven Vehicles
Zijia Zhong, Mark Nejad, Earl E. Lee, University of Delaware; Joyoung Lee, New Jersey Institute of Technology

Safety Planning Using Control Barrier Function: A Model Predictive Control Scheme
Zahra Marvi, Bahare Kiumarsi, Michigan State University

Correct-by-Construction Advanced Driver Assistance Systems based on a Cognitive Architecture
Francisco Eiras, FiveAI Inc; Morteza Lahijanian, University of Colorado Boulder; Marta Kwiatkowska, University of Oxford

Driver Drowsiness Detection through a Vehicle's Active Probe Action
Sen Yang, Junqiang Xi, Beijing Institute of Technology; Wenshuo Wang, Carnegie Mellon University

Session 5: Connected and Automated Vehicles (Monday 23rd September, 14:00-15:30)
Session Chair: Pierluigi Pisu, Clemson University

Towards bridging the gap between modern and legacy automotive ECUs: A Software-based Security Framework for Legacy ECUs
Ashok Samraj Thangarajan, Mahmoud Ammar, Bruno Crispo, Danny Hughes, KU Leuven

Location Anomalies Detection for Connected and Autonomous Vehicles
Xiaoyang Wang, Ioannis Mavromatis, Andrea Tassi, Raul Santos-Rodriguez, Robert Piechocki, University of Bristol

Analysis of the Effects of Communication Trust and Delay on Consensus of Multi-Agent Systems
Jonathan Sumpter, Christopher Thomas, Sun Yi, Alan Kruger, North Carolina A&T State University

Subjective Logic-based Identification of Markov Chains and Its Application to CAV's Safety
Johannes Müller, Thomas Griebel, Ulm University; Michael Gabb, Robert Bosch GmbH; Michael Buchholz, Ulm University

Cooperative Perception in Connected Vehicle Traffic under Field-of-View and Participation Variations
DoHyun Yoon, Nawaz Ali, Beshah Ayalew, Clemson University

CAVS panel: Standardization of CAVs (Monday 23rd September, 16:00-18:00)

IEEE YP panel: UAV to UAV Communications: Options, Challenges, and Standards (Salon B, 3rd Floor) (Monday 23rd September, 18:00-20:00)