CAV Workshop at IAVSD, Ottawa

August 22nd-23rd, 2023
Venue: IAVSD Conference at The Shaw Center

start time	Tuesday August 22nd	Presenter(s)
8:00	**Coffee and refreshment**	
8:30	State-of-the-Art Presentation: Dynamics Performance of Long Combination Vehicles with Active Control Systems	Wei Huang (NRC), Mehdi Ahmadian (Virginia Tech), Amir Rahim (NRC), and Luke Steiginga (NRC)
9:30	**Coffee break**	
	Session 1: Connected and Autonomous Vehicle (CAV) Technologies	
9:45	Keynote presentation: Connected Vehicles and Intelligent Transportation Systems	Paul E. Krajewski (Director of Connected Vehicle Experience Research, General Motors)
10:15	Keynote presentation: Dynamics Fundamentals for Autonomous Terrain Mobility Optimization of Unmanned Ground Vehicles	Vladimir V. Vantsevich (Professor, Worcester Polytechnic Institute) and David J. Gorsich (Chief Scientist, U.S. Army DEVCOM Ground Vehicle Systems Center)
10:45	Enhancing controllability and path tracking with overactuated autonomous vehicles	Philipp Mandl, Johannes Edelmann, and Manfred Ploechl
11:15	Piloting of cybersecurity services for 5G-enabled connected and automated vehicles	Hongwen Zhang, Husam Kinawi, Tiia Ojanperä, and Seppo J. Rantala
11:45	**Discussion session**	
12:30	**Lunch break**	
	Session 2: Safety of Highly Automated Vehicles	
13:30	Keynote presentation: Methods and tools for the assessment of mobility of off-road autonomous ground systems	Paramsothy Jayakumar (Senior Technical Expert, Analytics, U.S. Army DEVCOM Ground Vehicle Systems Center) and Arnold Free (CEO, Traxara Robotics)
14:00	Keynote presentation: Verification and Validation of Automated Vehicles	Siddartha Kastgir (Professor, WMG, University of Warwick, UK)
14:30	Advanced road safety services enabled by hybrid 5G and ITS-G5 communications	Timo Sukuvaara, Kari Mäenpää, Toni Perälä, Marjo Hippi, and Virve Karsisto
15:00	Safety evaluation method for lateral dynamics of automated vehicles	Balazs Nemeth, Péter Gáspár, and Mario Hrgetić
15:30	**Coffee break**	

	Session 3: Regulations and Standards	
16:00	Keynote presentation: Supporting safe AV testing and deployment in Canada	Andrew Phillips, Manager, Connected and Automated Vehicle Safety Programs, Transport Canada
16:30	A Motion Planning Framework Based on Stackelberg Games for Autonomous Driving in Interactive Scenarios	Chaojie Zhang, Siyuan Hu, and Jun Wang
17:00	Path Planning for Autonomous Vehicles in Roundabout using Edge based Bezier Curve generation technique (AA* Algorithm)	Akhil Vinayak Sajith, Muhammad Aizzat Zakaria, Mohamad Heerwan Bin Peeie, and Muhammad Izhar Bin Ishak
17:30	Autonomy Map Concept Development	Seth Tau, Paramsothy Jayakumar, and Abhinandan Jain

18:00	City tour

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8:00	Coffee and refreshment	
	Session 4: Artificial Intelligence and Autonomous Driving	
8:30	Keynote presentation: Will Foundation Models Revolutionize Autonomous Vehicles?	Pascal Poupart (Professor & Canada CIFAR AI Chair at the Vector Institute, David R. Cheriton School of Computer Science, University of Waterloo, CANADA)
9:00	Explainable Human-Like Decision-Making for Autonomous Vehicle Trustworthiness Improvement	Xiaoxing Lv, Xinjie Zhang, Ye Zhuang, Konghui Guo, Jiabao Tan, and Hao Li
9:30	Reinforcement learning-based robust control for path tracking of automated vehicles	Attila Lelkó and Balazs Nemeth
10:00	Accurate HD-Map Updates using Iterative Refinement Deep Q-learning Approach	Ahmed Zekry, Ahmed Mohamed, Naser El-Sheimy, Aboelmagd Noureldin, and Mohamed Elhabiby
10:30	Coffee beak	
	Session 5: Future horizons	
11:00	Round table and conclusions	
12:30	Lunch break	

14:00	Technical visit