Drive for All

Seminar at MINES ParisTech

Tuesday May 9, 15:00 – 16:00

Some autonomous vehicle issues with a Canadian flavor: from current project initiatives to testing, validation and challenges in artificial intelligence

The Chair *Drive for All* is pleased to invite you to a seminar on "Some autonomous vehicle issues with a Canadian flavor: from current project initiatives to testing, validation and challenges in artificial intelligence." We have the honor to receive Prof. Denis Gingras, Director of the laboratory on Intelligent Vehicles (LIV) at the Université de Sherbrooke, Québec, Canada.

Abstract:

After a brief overview of the Canadian automotive context and a few local initiatives in connected and autonomous vehicles, some issues and challenges pertaining to the full deployment of autonomous and connected vehicles will be discussed. As self-driving capabilities are being demonstrated through several pilot projects, Canada, like most countries in Europe and the US, is caught by enthusiasm, and has concerns and many interrogations still to be answered. The pace at which OEMs are introducing various automated driving functions is impressive, but their specificities and current limitations emphasize the artificial intelligence problem. To reach full driving automation and get beyond human driving, no matter what the traffic, weather, visibility and road conditions are, major breakthroughs in the field of artificial intelligence (AI) are still required. This is in part illustrated by recent major investments in the range of several billions of dollars that have been announced for AI R&D by several OEMs. Vehicle complexity is also becoming a major concern as the tools and standards for proper testing, validation and maintenance of those systems are still to be developed. Finally, we will briefly raise the issue of risk assessment and responsibility assignment while dealing with autonomous vehicles, an issue that has triggered an important debate among the association of the automobile insurers in Canada.

This seminar is public and free of charge, registration is mandatory.

Venue

MINES ParisTech – room V106b (it will be indicated)
60, Boulevard Saint-Michel 75006 Paris
Luxembourg station on RER line B

Drive for All is the International Chair MINES ParisTech, Peugeot-Citroën, Safran, Valeo on automated driving of ground vehicles.

The chair unites researchers from MINES ParisTech's Robotics Centre with teams from international partner institutions — Shanghai Jiao Tong University in China, the University of California, Berkeley in the United States and Ecole Polytechnique Fédérale de Lausanne in Switzerland.

Seminar MINES ParisTech *Some autonomous vehicle issues with a Canadian flavor: from current project initiatives to testing, validation and challenges in artificial intelligence*

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Dr Gingras has more than 35 years of a unique experience in the fields of information processing, AI and embedded intelligent systems applied to road transportation. In 1980, he was already working as a junior engineer at the BOSCH Research Center in Schwieberdingen-Stuttgart, Germany, on energy recovery dynamic braking control systems for electrical vehicles. In 1990, he founded and directed for nine years the Digital and Optical Systems Division at INO (Institut National d'Optique) in Quebec City, supervising the development of ITS technologies such as fiber optics weight sensors for trucks or intelligent video monitoring systems for automated road traffic analysis. In 2000, Dr Gingras was appointed Director General of the Intelligent Materials and Systems Institute (IMSI) at Université de Sherbrooke and full professor at the Electrical Engineering and Computer Science Department. During that time, he was also head of the Canadian research program "Intelligent systems and sensors" in the federal AUTO21 Network of Centers of Excellence (NCE) for 15 years. From 2003 to 2008, he was Group Leader of the Intelligent Vehicles Group in the ATLANTIC International Network (Canada-US-Europe). He is a member of different boards and committees such as the board of the CAHR Council (Canadian Automotive Human Resources) or the board of INNOV-ÉÉ in Quebec. He is a member of the APMA Connected Vehicle Working Group and the ITS Canada Autonomous Vehicle Task Force. He was the instigator and Chair of the Canada-California Strategic Innovation Partnership-CCSIP- Committee on "Intelligent Vehicles and Transportation Systems", allowing Canadian PhDs and postdoc students to complete internships in Californian automotive firms and universities. He was a member of advisory committees of the ANR in France (French Research Agency) on transportation and mobility from 2009 to 2011. He founded the Laboratory on Intelligent Vehicles (LIV) at Sherbrooke in 2012 involved in various R&D industrial projects related to intelligent vehicles (http://www.gel.usherbrooke.ca/LIV). He is a senior associate member of the Canadian Autonomous Vehicle Center of Excellence (CAVCOE) since 2013. Over the years, Pr. Gingras has been invited professor and a guest researcher in various universities across the world (France, US, Mexico, Australia). He was awarded in 2008 a Foreign Researcher Fellowship from the City of Paris, France, working at IFSTTAR at the Intelligent Vehicle Laboratory (LIVIC). As invited guest professor, lecturing a graduate course on intelligent vehicles at Cal Poly, San Luis Obispo, California in 2015. He was also visiting the CAOR at Mines Paristech in 2016. Throughout his career, Dr Gingras has published 2 books and has co-authored more than hundred publications, most of them related to the road transportation arena. He is regularly invited to give talks on the subject at various organizations, such as the Centre Jacques-Cartier in Lyon,or the Canadian Board of Insurance Companies. His research interests cover information processing, telecommunications, multi-sensor fusion and intelligent systems applied to automobile.