



Univ.-Prof. Dr. Cristina Olaverri Monreal
Intelligent Transport Systems /
BMVIT Endowed Professorship and Chair
for Sustainable Transport Logistics 4.0

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Title of keynote: **Vehicle Automation**

Abstract

The feasibility of incorporating new technology-driven functionality to vehicles has played a central role in automotive design. The overall diffusion in the application of digital technologies presents the possibility of designing systems, the functioning of which is based on intelligent technologies that simultaneously reside in multiple, interconnected applications. Consequently, the development of intelligent road-vehicle systems such as cooperative advanced driver assistance systems (co-ADAS) and with them the degree of vehicle automation is rapidly increasing.

The advent of vehicle automation promotes a reduction of the driver workload. However, depending on the automation grade consequences for the passengers such as out-of-the-loop states can be foreseen. Also the protection of Vulnerable Road Users (VRUs) has been an active research topic in recent years. A variety of responses that exhibit several levels of trust, uncertainty and a certain degree of fear when interacting with driverless vehicles has been observed. In this context, P2V (Pedestrian-to-Vehicle) and V2P (Vehicle-to-Pedestrian) have become crucial technologies to minimize potential dangers, due to the high detection rates and the high user-satisfaction levels they achieve.

This presentation gives an overview of the impact of such technologies on traffic awareness towards improving driving performance and reducing road accidents. Furthermore, the benefits and potential problems regarding vehicle automation will be outlined.

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Biography:

Univ. Prof. Dr. Cristina Olaverri-Monreal received her PhD from the Ludwig-Maximilians University (LMU) in Munich in cooperation with BMW. She is full professor and holder of the BMVIT endowed chair ITS-

Sustainable Transport Logistics 4.0 at the Johannes Kepler University Linz, in Austria. Her research aims at studying solutions for an efficient and effective transportation focusing on minimizing the barrier between users and road systems. To this end, she relies on the automation, wireless communication and sensing technologies that pertain to the field of Intelligent Transportation Systems (ITS).

Prior to this position, she led diverse teams in the industry and in the academia in the US and in distinct countries in Europe. Dr. Olaverri is president-elect of the IEEE Intelligent Transportation Systems Society, founder and chair of the Austrian IEEE ITSS chapter, and chair of the Technical Activities Committee (TAC) on Human Factors in ITS. This TAC was recognized with the award “best TAC of the IEEE ITSS” in 2018 and 2019 respectively. To commemorate the anniversary of the IEEE ITS Workshop on Human Factors that she has been organizing since 2012, she has recently (co) edited the book “Human Factors in Intelligent Vehicles”, within the River Publishers Series in Transport Technologies.

In addition, she serves as editorial board member of several journals in the field, including the IEEE Transactions on Intelligent Transportation Systems, and the IEEE International Transportation Systems Magazine. She was recently recognized for her dedicated contribution to continuing education in the field of ITS with the 2017 IEEE Educational Activities Board Meritorious Achievement Award in Continuing Education.

Cristina Olaverri-Monreal is a member of the single EU-wide platform to coordinate open road testing of cooperative, Connected and Automated Mobility (CCAM). She has served as advisor and project evaluator in the field of ICT and Connected, Cooperative Autonomous Mobility Systems for several European agencies and organizations and she is a European Commission Expert for “Automated Road Transport”.