

*Drive for All*

# Seminar at MINES ParisTech

Wednesday 13<sup>th</sup> February 15:00 – 16:00

## Practical Challenges to the Implementation of Automated Driving Systems

By Dr. Steven Shladover, UC Berkeley

The Chair *Drive for All* is pleased to invite you to a seminar on “Practical Challenges to the Implementation of Automated Driving Systems”. We have the honor to receive Dr. Steven Shladover from the University of California at Berkeley.

This seminar is public and free of charge, [registration is mandatory](#).

### Abstract

This presentation aims to provide a realistic assessment of the state of the art in Automated Driving Systems based on understanding the long-term historical trends in transportation and the technical challenges that remain to be solved. It begins with the long history of prior efforts to automate driving and then clarifies the descriptions of automated driving systems based on their levels of automation and connectivity and their operational design domains. The importance of vehicle-vehicle and vehicle-infrastructure connectivity in order to achieve transportation system improvements from automation is emphasized, based on results of simulations calibrated to full-scale vehicle test results. The formidable unsolved challenges in perception technology and system safety assurance are then discussed as part of the explanation for why it will take multiple decades of further development efforts before automated driving will be able to serve major fractions of surface transportation needs.

### Venue

MINES ParisTech – room L109 - Le Chatelier  
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 Centre for Robotics 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.*

# Drive for All



**Steven E. Shladover, Sc.D.**

Dr. Shladover has been conducting research on applications of advanced technologies to transportation systems for more than forty-five years. He has based this research on a multidisciplinary background, combining expertise in transportation systems planning and analysis, vehicle dynamics and control, large-scale systems, and economics. Dr. Shladover participated in the founding of the California PATH Program at the University of California, Berkeley, and has served as the program's Technical Director, Acting Director, Deputy Director and Program Manager for Advanced Vehicle Control and Safety Systems. He retired in late 2017 from his position as Program Manager, Mobility at PATH.

Dr. Shladover's research experience has included work on a variety of connected vehicle and automated vehicle systems, well before these were as popular as they are today. Virtually all the projects that he has worked on at PATH have involved use of I2V/V2I and/or V2V connectivity, and most of them have also involved automation. These applications have included communication-coordinated platoons of automated passenger cars, trucks and buses driving at close separations, communication-based coordination of vehicle maneuvers, communication between vehicles and intersections for intersection collision avoidance, and communication among networks of vehicles for cooperative collision avoidance. He has gained an unparalleled appreciation of the state-level regulatory issues involved with vehicle automation through his work as Principal Investigator of PATH's project advising the California Department of Motor Vehicles on the development of their regulations for automated driving systems.

Dr. Shladover was one of the initial participants in Mobility 2000, the group that guided the formation of the national program on intelligent transportation systems (ITS) in the U.S., and has been active in national and international ITS events and organizations ever since. He led PATH's internationally renowned research on automated highway systems for twelve years, including a broad mix of projects involving analysis and simulation, synthesis of vehicle operating concepts (user services), evaluations of system effectiveness and the development of highly sophisticated test and demonstration vehicles.

Dr. Shladover has been a very active participant in international ITS meetings and organizations, and his technical presentations and writings have been widely cited. He chairs the TRB Committee on Vehicle-Highway Automation and chaired the Committee on Intelligent Transportation Systems from 2006-2010. He has been active in the American Society of Mechanical Engineers, in which he chaired the Dynamic Systems and Control Division in 1996, and the Society of Automotive Engineers. He is also the leader of the U.S. delegation to ISO TC204/WG14, which is developing international standards for Vehicle-Roadway Warning and Control Systems.

Dr. Shladover received his S.B., S.M. and Sc.D. in Mechanical Engineering from the Massachusetts Institute of Technology (M.I.T.) in 1972, 1974 and 1978 respectively. He worked at Systems Control, Inc. and Systems Control Technology, Inc. from 1978 to 1989, where he served as Manager of Transportation Systems Engineering and Director of Computer-Aided Engineering.

Dr. Shladover has been honored with the Charles Stark Draper Innovative Practice Award by the Dynamic Systems and Control Division of the American Society of Mechanical Engineers in 2008 for "fundamental contributions to the development of intelligent vehicle and highway systems" and the Control Engineering Practice Award by the American Automatic Control Council in 2011 for "original contributions to control practice in Intelligent Highway and Vehicle Systems". He was also honored with SAE's Delco Electronics Intelligent Transportation Systems 2017 Award.