



Committee on Traffic Flow Theory and Characteristics
(TRB ACP50)

ACC Webinar Series



We are proud to announce our 7th webinar in the ACC Webinar Series:



“Delays in ACC and CACC systems: The risk of perfect assumptions”

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Friday, Nov 12nd, 2021 --- 10:00 AM (EDT)

(3 PM for London; 4 PM for Zurich, Paris, Rome, Amsterdam...; 11 PM for Beijing)

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ABSTRACT

Assumptions on technologies, system operations and human behavior are indispensable in order to design ACC/CACC systems and evaluate their impact on traffic flow. These assumptions result in boundaries within which the modeling and impact evaluation results remain valid. Often, simple and simplistic assumptions are made, which ignore the imperfect nature of cyber-physical systems and human behavior. This talk will discuss some of these topics and shed some lights on the implications of delay. I start with an analytical framework to capture information feedback delay and actuator lag in ACC systems and identify the influence of the two intrinsic parameters on string stability of ACC platoons. A few strategies that leverage V2X communication are proposed to compensate delays in vehicle platooning control systems.

BIOGRAPHY

Dr. Meng Wang is Assistant Professor (tenured in 2019) at the Department of Transport & Planning of TU Delft. He obtained his BSc degree (2003) at Tsinghua University, MSc degree (2006) at Research Institute of Highway (RIOH), China, and PhD with distinction (2014) at TU Delft. Between 2006 and 2009, he worked as Assistant Researcher at ITS Center of RIOH. He is an Associate Editor of the journal IEEE Transactions of ITS and Transportmetrica B. He is the recipient of the IEEE ITS Society Best PhD Dissertation Award (2015) and the Chinese Government Award for Outstanding PhD Students Abroad (2013). His main research interests are design and traffic impact assessment of cooperative ITS.