



Seminar:

Automated Vehicle Technology- Assessment of Emerging Safety Hazards

Abstract

A safe, reliable, and efficient transportation system is the driving force of a nation's social and economic activities. Emerging automated vehicle technologies and services are essentially "the solutions" to today and tomorrow's many traffic safety and mobility problems. Until automated driving systems can perform all driving tasks under all road conditions (full automation, level 5), drivers will have to take over the vehicle control when the automation reaches its operational limits in level 4 (highly automated), due to the road conditions, critical events, and system failure. Driver interaction is needed in this non-ideal automated driving condition if the system initiates a Take-Over-Request (TOR) to the driver. Driver's performance during and after the transition from automated to manual driving is a critical issue in the automated vehicle's safety studies. Since monitoring the system performance and environment condition is not needed, drivers can engage in non-driving tasks during the automated operation in automation level 4. This presentation will focus on the investigation of drivers' driving behavior during and after the transition from automated to manual driving (during and after TORs) in highly automated vehicles, the effects of automated operation duration and a sequence of TORs (repeated TORs), and interactions between drivers' characteristics and their driving behavior after TOR.

About Dr. Kakan Dey



Kakan Dey is an Assistant Professor in the Wadsworth Department of Civil and Environmental

Engineering at West Virginia University (WVU). He received his Ph.D. in Civil Engineering from Clemson University in 2014 and earned his M.Sc. in civil engineering from Wayne State University in 2010. He is the recipient of the Clemson University 2016 Distinguished Postdoctoral Award and the IEEE George N. Saridis Best Transactions Paper Award. He is a standing committee member of the Transportation Research Board (TRB) Artificial Intelligence and Advanced Computing Applications Committee (AED50), TRB Vehicle-Highway Automation Committee (ACP30), and the ASCE TDI Committee on Freight and Logistics. He published more than 40 peer-reviewed articles and two book chapters. In addition, he is the co-editor of the textbook "Data Analytics for Intelligent Transportation Systems," published by Elsevier. He serves as an Associate Editor of the IET Intelligent Transport Systems Journal. He leads the Connected and Automated Transportation Systems (CATS) Lab at WVU. Dr. Dey is an ASCE Excellence in Civil Engineering Education (ExCEED) Fellow.

Date: April 12, 2022 Place:

PACCAR Auditorium, [Zoom](#)

Time: 1:30-2:30 PM