

Seeing beyond the line of sight – controlling connected automated vehicles

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In this talk I will present theoretical and experimental results related to connected automated vehicle design. I will construct a general framework called connected cruise control based on human driving behavior which allows a connected automated vehicle to integrate well with human-dominated traffic. I will analyze the performance of connected cruise controllers under several driving scenarios while utilizing beyond-line-of-sight motion information obtained through vehicle-to-vehicle communication. I will demonstrate that both traffic safety and efficiency can be significantly improved for the connected automated vehicle as well as the human-driven vehicles around.