

ESD Research Seminar Announcement

Supporting Automated Vehicles from a Distance: The Human Factor

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Wednesday, 3 September 2025 - 2.00pm to 3.00pm

Venue: SUTD, Think Tank 21 (2.310), Building 2, Level 3

ABSTRACT

Highly automated vehicles are expected to positively affect safety, comfort, reliability, and availability of mobility. However, the robustness of automated driving systems is still lacking. To make large-scale operations more robust, specifically at system limits or in corner cases, a human operator can support the vehicles remotely. Seamless integration of human perceptual and cognitive skills is crucial when pursuing a holistic sociotechnical approach that not only addresses technological challenges but puts the Human Factor at the centre of the development. In my talk, I will present my approach of designing and evaluating human-machine interfaces for the remote operation of highly automated vehicles from a Human Factors perspective.

PAPERS/ ARTICLES:

- Schrank, A., Wilbrink, M., Brandenburg, S., & Oehl, M. (2025). Improving road user perception in adverse weather: An augmented human-machine interface for remote assistants of automated vehicles. *Transportation Research Part F: Traffic Psychology and Behaviour*, 113, 500-516. <https://doi.org/10.1016/j.trf.2025.05.017>.
- Schrank, A., Walocha, F., Brandenburg, S., & Oehl, M. (2024). Human-centered design and evaluation of a workplace for the remote assistance of highly automated vehicles. *Cognition Technology & Work*, 26, 183-206. <https://doi.org/10.1007/s10111-024-00753-x>

ABOUT THE SPEAKER



Andreas Schrank is a Human Factors researcher at the German Aerospace Center (DLR), Institute of Transportation Systems. He is currently a visiting scholar at the Singapore-ETH Centre. After studying in Istanbul, Turkey, and Chapel Hill, North Carolina, USA, Andreas obtained his Master's degree in Psychology from Heidelberg University, Germany. In his research, he focuses on human-machine interaction in the realm of automated driving with an emphasis on the remote operation of automated vehicles. He regularly organizes conference workshops, e.g., at the IEEE IV and ACM AutoUI Conferences, and is involved in major EU research projects like "Hi-Drive" as well as several German national research projects. Andreas is a member of the Human Factors and Ergonomics Society (HFES), Europe Chapter, as well as the German Psychological Society (DGPs).