

学术报告会

时 间: 6月25日(周一) 10:30-12:00

地 点: 电院群楼2-410会议室

Self-Driving Vehicles and Electromobility: Research Involving Estimation, Prediction And Model Based Optimisation and Path Planning for Safe and Efficient Traffic

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Abstract:

Chalmers University of Technology, placed in Gothenburg, Sweden, the same city as Volvo Cars and Volvo Trucks, has, not surprisingly, a lot of automotive related research. The Mechatronic Research Group has, since it was established, had research in the automotive area, most of it together with industrial partners. The research topics have been within electro-mobility, where system design, dimensioning and control has been in focus, and active safety and autonomous driving where path planning, safety, and real time aspects have been of importance. This talk gives an overview of earlier research projects, and how the research results have been validated in test-driving and implemented as products on the market. To some extent, the theoretical approaches in the projects are covered and the ongoing projects are discussed. The cooperation with companies and authorities through the Swedish Electromobility Centre and SAFER is explained, as well as the cooperation within the university. The successful PhD program with Volvo Cars and what it has meant for the research group is covered as an example of a long term cooperation between industry and academy.

Biography:

Jonas Sjöberg received the degree of master in applied physics from Uppsala University 1989 and the degree of doctor in engineering (PhD) in 1995 from Linköping University, Sweden. After Post-Docs at ETH Zurich, he became Assistant Professor at Chalmers, and after research visits at TU Wien, and at Technion in Haifa, he became a Professor of Mechatronics at Chalmers University of Technology in 2001. Between 2005 and 2010 he was the Programme Director for the 5-year engineering programme Automation and Mechatronics that leads to a Master's degree. His research interests are in mechatronics, and mechatronic related fields, such as signal processing, and control. Within these fields, interest focus on model based methods, simulations, system identification, and optimization for design and product development of mechatronic systems. Many of the applied projects his research group target the transport area, both electro-mobility, and, active safety and autonomous

driving. He was the winner of Volvo Cars technology award 2011. In 2015 he was co-main chair of the FASTzero symposium, and 2016 he was main chair of IEEE Intelligent Vehicles Symposium. Since 2017 he is BOG member of IEEE ITSS and 2018 he was the winner of the Håkan Frisinger award for outstanding achievements in automotive research in the fields of electromobility and self-driving vehicles.