

## **Wireless Networks for Cooperative Driving**

In order to reduce the environmental impact of road traffic, and to increase road safety and efficiency, wireless communications can be used to exchange relevant information between (partly) automated vehicles. Using these so-called vehicular networks, information about a vehicle's current location, speed, acceleration etc., measured sensor (video) data, and planned trajectories can be exchanged. Ultimately vehicles can fully coordinate their driving behaviour in a distributed manner, using vehicular networks. The requirements on vehicular networks are very stringent, in terms of bandwidth, delay, and reliability. Furthermore, the characteristics of the offered traffic are very specific, i.e., messages may be transmitted periodically, messages may be destined to a certain area instead of a node with a certain address (geocasting). To address these topics, novel types of communication networks are being developed, either using a variant of WiFi, IEEE 802.11p, or cellular networks, notably, 5G. In this line of research, M.Sc. and B.Sc. projects are available on a regular basis addressing (evaluation of) new vehicular network protocols and algorithms, applications for cooperative driving, the joint modelling and performance evaluation of cooperative driving and vehicular networking.

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