Oberseminar Master ET/IT
Research Group: Optimization and Control

Control *of* Wireless Networks and Control *using* Wireless Networks

With the constant growth in terms of scale of applications of and demand for distributed systems, wireless networked control systems are evolving to the go-to solution for controlling complex systems. Next to the obvious physical benefit of reducing excessive wires the system gets cheaper and more flexible.

The application area of cellular network standards like 5G (or future 6G) consider ultra-reliable low-latency communications for mission critical applications or massive machine-type communications to connect large numbers of IoT devices.
For these applications losses and delays of the network can no longer be neglected and the controller has to be explicitly co-designed. Therefore next to the challenge of controlling the agents connected through the cellular networks, feedback control also plays a major role within the network.

We will discuss both dimensions: control *of* wireless networks and control *using* wireless networks. We will provide a list of recent but also classical works in this field, and each student can choose one of these works to present during the seminar. The key goal in this seminar is to engage the participants in the active discussion of the covered topics. Students will first present their chosen topic to the group and then everyone is expected to participate in the ensuing discussion.

Moodle:

Important dates, zoom links and further information will be made available via the Moodle Course:

https://moodle.tu-dortmund.de/course/view.php?id=33832

Dates: All dates are possible to change. Please check the Moodle course for details.

Registration Deadline: 14.04.22

Kick-off: 19.04.22

Regular meetings: According to prior agreement

Registration:

Students may register for the seminar via Email to Jens Püttschneider or Julian Golembiewski. This seminar is designed for a group of 4 to 8 students. It will be held in English.

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