



*Technische Universität Berlin*

Fakultät IV Elektrotechnik und Informatik  
Fachgebiet Regelungssysteme  
Leitung: Prof. Dr.-Ing. Jörg Raisch



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## **Vortragsankündigung**

Seminar Regelungssysteme LV 0430L 654

Monday, June 25th, 2018, 4pm  
Vortragsort: EN 223

**Srikant Sukumar,  
Associate Professor,  
Systems and Control Engineering, IIT Bombay, India**

### **Event-triggered consensus laws for linear multi-agent systems**

We present an event-triggered control strategy for multi-agent systems with general linear dynamics which interact via persistently exciting interaction topologies. Two types of trigger functions - static trigger and dynamic trigger - are considered. In the static trigger case, we show that the states converge to an envelope around the consensus trajectory while in the dynamic trigger case, the states achieve consensus exponentially. The rate of convergence in both cases, as well as the size of the envelopes are calculated. Later it is shown that these results can be extended to cases where the interaction topology is switching between different spanning-trees. These results are simulated on a collection of harmonic oscillators to validate our analysis.