

Seminar

# Modelling and Analyzing Discrete Event Systems

Discrete event systems (DESs) are today used to model and analyze a wide variety of real-world systems, such as multiprocessor operating systems, computer networks, telecommunication networks, but also railway networks of manufacturing systems.

In general, DESs lead to a non-linear description in conventional algebra, which complicates their analysis. However, some DESs can be described as linear using the so-called max-plus algebra. Max-plus algebra is an algebraic structure, which replaces the addition and multiplication operations of conventional algebra with maximization and addition, respectively.

During this project, the basics of max-plus algebra and its application in scheduling DESs shall be investigated.

## Contact

conrad.foik@tum.de

## Advisors

Conrad Foik