TECHNISCHE UNIVERSITÄT
CHEMNITZ

Fakultät für Mathematik

Chemnitzer Mathematisches Colloquium

In der Reihe „Chemnitzer Mathematisches Colloquium“ der Fakultät für Mathematik der TU Chemnitz spricht

Herr Prof. Dr. Stefan Streif
(TU Chemnitz, Fakultät für Elektrotechnik und Informationstechnik)

über das Thema

Analysis and Design of Uncertain Nonlinear Systems Using Convex Relaxations.

Der Vortrag findet am

Donnerstag, dem 21. Januar 2016, um 16.00 Uhr im Raum B202,
Reichenhainer Straße 70

statt.

Ich möchte Sie hiermit recht herzlich zu dieser Veranstaltung einladen. Das Kolloquium wird von Herrn Prof. Dr. Ivan Veselić geleitet.

Abstract:
Uncertainties such as imprecisely known parameters, disturbances, measurement noise etc. are inevitable when modeling, analyzing or controlling real systems. Many engineering applications, however, require analysis and design tools guaranteeing that constraints are robustly satisfied, or that system designs are (in)validated with respect to desired specifications. If dynamical systems are considered, this requires to determine outer approximating sets of all reachable states or of all valid design or system parameters. Determining these sets is particularly difficult for nonlinear dynamics. In this talk, suitable approaches based on tools from semidefinite and linear relaxations and optimization theory are presented. Some examples from real applications will be shown for illustration and an outlook for future research will be given.

Prof. Dr. Peter Stollmann
Dekan