Habilitation

Fachbereich Mathematik und Informatik

E I N L A D U N G

zum Habilitationsvortrag

Im Rahmen seines Habilitationsverfahrens wird

Herr Dr. Stefan Klus

am **Montag**, d. **08. Juni 2020**

um **16:00 Uhr** via WebEx

einen Vortrag über das Thema:

Relaxation Approaches for the Graph Isomorphism and Traveling Salesman Problem

halten.

Der Vortrag wird ca. 45 Minuten dauern (Zusammenfassung s.u.).

Die Universitätsöffentlichkeit ist dazu herzlich eingeladen.

gez. Prof. Dr.-Ing. R. Klein

Dekan des FB Mathematik und Informatik

Abstract:
The Graph Isomorphism Problem (GIP) and the Traveling Salesman Problem (TSP) are two challenging combinatorial optimization problems. While the complexity class of the GIP is unknown, the TSP is an iconic NP-hard problem, which is often solved by combining different global approaches to compute an initial tour and local improvement heuristics such as k-opt. In this talk, we will present relaxations of combinatorial optimization problems to the manifold of orthogonal matrices and show how these problems can be solved by constructing gradient flows and by exploiting spectral information.
[5] R. W. Brockett. Dynamical Systems that Sort Lists, Diagonalize Matrices and Solve Linear Programming Problems. Linear Algebra and Its Applications, 1991.
[6] M. M. Zavlanos and G. Pappas. A dynamical systems approach to weighted graph matching. Automatica, 2008.