Universität Konstanz

Department of Mathematics and Statistics
Chair for Numerical Optimization
Prof. Dr. Stefan Volkwein

Oberseminar of Numerical Optimization

We kindly invite you to the following talk

Jun.-Prof. Dr. Claudia Totzeck

(University of Wuppertal)

Optimal control for interacting particle systems driven by neural networks

Tuesday, 25 May 2021

Begin: **4:00 p.m.**
Room: **Zoom-Link: https://zoom.us/j/99085685058?pwd=bEZrV0FoaDdFVHdCOFRZOUNBeHVzQT09**
Interested visitors are warmly welcomed!

Abstract:
We investigate whether dynamics driven by neural networks are an adequate alternative for interacting particle systems with forces modelled with the help of physical considerations such as the social force model for pedestrians or the LWR model for traffic flow. A rather general approach for parameter identification for neural network driven interaction models is introduced. Then we use real data to analyse the performance of the parameter identification for the neural network systems on the one hand and the potential based models on the other hand. Numerical results allow us to compare the two approaches qualitatively.
This is joint work with Simone Göttlich (University of Mannheim).

(invited by Prof. Dr. Stefan Volkwein)