



# Lothar-Collatz-Kolloquium für Angewandte Mathematik

**Donnerstag, den 1. Juni 2017, um 17:15 Uhr, im Hörsaal 5**

**Prof. Dr. Hans Zwart\***

(University of Twente, Department of Applied Mathematics)

## *Nonlinear controllers for flexible systems*

### Zusammenfassung/Abstract:

Consider an undamped flexible system such as a vibrating string, with a control at the boundary of its spatial domain. For controller design it is very natural to use the physical energy in the design a controller, i.e., the controller is designed such that it removes energy from the system. Intuitively, it is clear that the controlled system should come to rest. However, proving this mathematically correctly is not so straightforward. Normally, Lyapunov functions need to be designed, or the location of the new eigenvalues must be estimated.

### Kontakt:

**Prof. Dr. Timo Reis**

Optimierung und Approximation  
Raum 123, Tel.: 040 42838-5111

E-Mail: [timo.reis@math.uni-hamburg.de](mailto:timo.reis@math.uni-hamburg.de)

Web: <http://www.math.uni-hamburg.de/home/reis/>

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### \*Prof. Dr. Hans Zwart

University of Twente, Department of Applied Mathematics  
P.O. Box 217, 7500 AE Enschede, NL

E-Mail: [h.j.zwart@utwente.nl](mailto:h.j.zwart@utwente.nl)

Web: <http://wwwhome.math.utwente.nl/~zwarthj/>

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