

# Einladung

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

**Frau Dr. Angkana Rüland (MPI Leipzig)**

über das Thema

**Microstructures in SMA: Rigidity, Non-Rigidity and Simulations.**

Der Vortrag findet am

**Donnerstag, dem 15. November 2018, 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. Peter Stollmann geleitet.

**Abstract:**

In this talk I will discuss a striking dichotomy which occurs in the mathematical analysis of microstructures in shape-memory alloys: On the one hand, some models for these materials display a very rigid structure with only very specific microstructures, if one assumes that surface energies are penalised. On the other hand, without this penalisation, for the same models a plethora of very wild solutions exists. Motivated by this observation, we seek to further understand and analyse the underlying mechanisms. By discussing a two-dimensional toy model and by constructing explicit solutions, we show that adding only little regularity to the model does not suffice to exclude the wild solutions. We illustrate these constructions by presenting numerical simulations of them. The talk is based on joint work with J. M. Taylor, Ch. Zillinger and B. Zwicknagl.

Prof. Dr. Christoph Helmberg  
Dekan