

# Einladung zum Würzburger Mathematischen Kolloquium

Julius-Maximilians-Universität Würzburg • Fakultät für Mathematik und Informatik

Prof. Dr. Marta Lewicka

University of Pittsburgh, USA, Giovanni-Prodi-Professorin

## Isometries on Surfaces, Elasticity, and Calculus of Variations

Mittwoch, den 8. Mai 2013 • 16:15 Uhr

Mathematik Ost (Emil-Fischer-Straße 40), Seminarraum SE 40 (Raum 00.001)

### Inhaltsangabe

Elastic materials exhibit qualitatively different responses to different kinematic boundary conditions or body forces. As a first step towards understanding the related evolutionary problem, one studies the minimizers of an appropriate nonlinear elastic energy functional.

We shall give an overview of recent results, rigorously deriving 2d elasticity theories for thin 3d shells around mid-surfaces of arbitrary geometry. One major ingredient is the study of Sobolev spaces of infinitesimal isometries on surfaces, their density and matching properties. Another one relates to the non-Euclidean version of 3d nonlinear elasticity, conjectured to explain the mechanism for spontaneous formation of non-zero stress equilibria in growing tissues (leaves, flowers).



[www.mathematik.uni-wuerzburg.de/kolloquium.html](http://www.mathematik.uni-wuerzburg.de/kolloquium.html)

Zu diesem Vortrag laden wir Sie herzlich ein.  
Im Anschluss an die Vorträge Kaffee und Tee im Foyer vor dem SE 40.

Die Dozentinnen und Dozenten der Mathematik

