

Fakultät für Mathematik



Mathematisches Kolloquium

EINLADUNG

Prof. Dr. Guillaume Bal

(Applied Mathematics, Columbia University, New York)

**"Some Mathematical Problems in
Elastography"**

"Some Mathematical Problems in Elastography"

Abstract:

Elastography is a medical imaging modality aiming to reconstruct the elastic properties of biological tissues. In ultrasound elastography, the displacements generated by propagating shear waves are measured by ultrasound. A first inverse problem consists of reconstructing such displacement maps from the ultrasound echos.

I will present a mathematical modeling and theoretical and numerical results for such a problem. Once displacements are obtained, a second inverse problem consists of reconstructing quantitative estimates of the elastic properties of tissues. I will present a general mathematical framework for such an inverse problem and related hybrid inverse problem.

**Zeit: Mittwoch, 6. Mai 2015
15.45 Uhr Kaffeejause,
16.15 Uhr Vortrag**

**Ort: Fakultät für Mathematik,
Oskar-Morgenstern-Platz 1,
Sky Lounge**

Otmar Scherzer
Harald Rindler