Speaker:

Marta Lewicka, Associate Professor, Department of Mathematics, University of Pittsburgh

Research interests:

Mathematical Theory of Elasticity, Calculus of Variations, Differential Geometry, Nonlinear Partial Differential Equations, Systems of Conservation Laws, Reaction-Diffusion Equations, Nonlinear Analysis

Title:

Variational models for prestrained plates with Monge–Ampère constraint

Abstract:

We derive a model for prestrained thin films, which consists of minimizing a biharmonic energy of displacements $v \in W^{2,2}$ satisfying the Monge–Ampère constraint $\det\nabla^2 v = f$. We further discuss multiplicity properties of the minimizers of this model, in some special cases.

Host:

Eliot Fried, Mathematical Soft Matter Unit