ALBERT-LUDWIGS-
UNIVERSITÄT FREIBURG

EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

Universität Zürich

SFB/ Transregio 71

Geometric Partial Differential Equations

Am Dienstag, den **30. Juni 2009**

spricht um **14 Uhr c.t.** im **Raum 226, Hermann-Herder-Str. 10**

im Rahmen des SFB/Transregio 71 und des

Oberseminars über Angewandte Mathematik

Anna Dall'Acqua

(Otto-von-Guericke-Universität Magdeburg)

über das Thema

"*The Dirichlet boundary value problem for Willmore surfaces of revolution*"

Hierzu wird herzlich eingeladen.

Abstract: The Willmore functional is the integral of the square of the mean curvature over the unknown surface. We consider the minimisation problem among all surfaces which obey suitable boundary conditions. The Willmore equation as the corresponding Euler-Lagrange equation may be considered as frame invariant counterpart of the clamped plate equation. This equation is of interest not only in mechanics and membrane physics but also in differential geometry.

We consider the Willmore boundary value problem for surfaces of revolution with arbitrary symmetric Dirichlet boundary condition. Using direct methods of the calculus of variations, we prove existence and regularity of minimising solutions.

The lecture is based on joint work with
K. Deckelnick (Magdeburg), S. Fröhlich (Free University of Berlin) and
H.-Ch. Grunau (Magdeburg).