EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

**Mathematisch-Naturwissenschaftliche Fakultät**

**Fachbereich Mathematik**
**AB Geometrische Analysis und Mathematische Relativitätstheorie**

**Universität Tübingen**, Auf der Morgenstelle 10, 72076 Tübingen

## Obserseminar Geometrische Analysis und Mathematische Relativitätstheorie

Am Donnerstag, den 13.03.2014 spricht um **14 Uhr c. t.** im Hörsaal **M3** (N16)

**Jonas Hirsch**

über das Thema

# Boundary regularity of Dirichlet minimizing Q-valued functions

F. Almgren considered a proof of a regularity result on area minimizing currents as the most pressing problem in geometric measure theory. His solution culminated in his pioneering work 'Almgren's big regularity paper.' In his opinion 'central among his tools is utilization of Q-valued function to study branching phenomena.' After a short introduction and motivation of Almgren's Q-valued functions we present a boundary regularity result. We have been able to extend the Hölder regularity for Dirichlet minimizing Q-valued functions up to the boundary. We assume $C^1$ regularity of the domain and $C^{1,\alpha}$ regularity of the boundary data, $\alpha > 1/2$. After giving the precise statement and comparing it to the interior equivalent we will give an idea of our proof emphasising on similarities and differences to the interior situation. As time permits we conclude explaining why higher regularity results are difficult due to branching phenomena.

Hierzu wird herzlich eingeladen.

C. Cederbaum, G. Huisken