EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

Mathematisch-
Naturwissenschaftliche
Fakultät

Fachbereich Mathematik

AB Geometrische Analysis und
Mathematische Relativitätstheorie

Wintersemester 2014/15

Oberseminar
Geometrische Analysis und Mathematische Relativitätstheorie

Am Donnerstag, den **20.11.2014** spricht um **14 Uhr c. t.** im Raum N16

Dr. Theodora Bourni
(FU Berlin)

über das Thema

"Null mean curvature" flow and marginally outer trapped surfaces.

In this talk we discuss a new second order parabolic evolution equation for hypersurfaces in space-time initial data sets, that generalizes mean curvature flow (MCF). In particular, the 'null mean curvature' – a space-time extrinsic curvature quantity – replaces the usual mean curvature in the evolution equation defining MCF. This flow is motivated by the study of black holes and mass/energy inequalities in general relativity. We present a theory of weak solutions using level-set methods and outline a natural application of the flow as a parabolic approach to finding outermost marginally outer trapped surfaces (MOTS), which play the role of quasi-local black hole boundaries in general relativity. This is joint work with Kristen Moore.

Hierzu wird herzlich eingeladen.

C. Cederbaum, G. Huisken