EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

Mathematisch-
Naturwissenschaftliche
Fakultät

Fachbereich Mathematik
AB Geometrische Analysis,
Differentialgeometrie und
Relativitätstheorie

Geometric Analysis Miniconference

Freitag, 01. August 2025 im Hörsaal N14

14:00 -15:00 Uhr Vortrag

Dr. Stephen Lynch
(King's College)

Mean curvature flows of higher codimension

Abstract: Many fascinating phenomena occur when a submanifold of higher codimension is evolved by its mean curvature vector. In this more general setting much of the structure of hypersurface flows is absent e.g. embeddedness and mean-convexity fail to be preserved. However Andrews and Baker discovered a family of quadratic curvature pinching conditions which are preserved by the flow. I will describe recent developments concerning the singularities of flows with this kind of pinching, from joint works with Huy Nguyen.

15:00-15:30 Uhr Kaffee im Hankelzimmer

15:30-16:30 Uhr Vortrag

Dr. Rodrigo Avalos
(Universität Tübingen)

Yamabe metrics of Sobolev regularity

Abstract: In this talk, we examine the Yamabe problem for rough Riemannian metrics with limited Sobolev regularity. This analysis is motivated by the growing interest in low-regularity aspects of scalar curvature, including recent developments in low-regularity positive mass-type theorems and the study of rough initial data for the Einstein equations. In this rough setting, in particular for Yamabe positive metrics, the Yamabe problem requires developing new elliptic theory for the conformal Laplacian, including a fine blow-up analysis of its Green function. The aim of this talk is to motivate, contextualize, and present these results. Time permitting, we will also discuss applications to a broader low-regularity program for conformally covariant geometric equations.

Hierzu wird herzlich eingeladen.

Carla Cederbaum, Gerhard Huisken