EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

Mathematisch-Naturwissenschaftliche Fakultät

Fachbereich Mathematik
AB Geometrische Analysis, Differentialgeometrie und Relativitätstheorie

Oberseminar
Geometrische Analysis, Differentialgeometrie und Relativitätstheorie

Am Donnerstag, den **05.12.2024** spricht um **14 Uhr s.t.** im Raum **S9 (C6H05) und über Zoom**

Prof. Dr. Bruno Premoselli
(Université Libre de Bruxelles)

über das Thema

Non-existence of extremals for the second conformal eigenvalue of the conformal Laplacian in dimensions 3 to 10

Let (M,g) be a closed manifold of dimension $n\geq 3$. We define the conformal Laplacian of g as $L_g = \Delta_g + c_n S_g$, where S_g is the scalar curvature of (M,g) and c_n is an explicit numerical constant. We consider in this talk the second conformal eigenvalue of (M, [g]) which is defined as the infimum, over all unit-volume metrics h in the conformal class of [g], of the second eigenvalue of L_h. In dimensions larger than 11 it was proven by Ammann and Humbert that the second conformal eigenvalue is attained provided (M,g) is not locally conformally flat. In this talk we investigate the lower-dimensional case $3\leq n\leq 10$. We prove that there is an open neighbourhood of the round metric on the sphere in which the second conformal eigenvalue is never attained. This is the first non-trivial non-existence result for conformal eigenvalues in all settings. This is a joint work with J. Vétois (Mc Gill).

Den Zoom-Link erhalten Sie per E-Mail von Martina Neu.

For participating online, please sign up by sending an email to Martina Neu.

Hierzu wird herzlich eingeladen.

Rodrigo Avalos, Carla Cederbaum, Gerhard Huisken, zusammen mit Jan Metzger (Potsdam)