A STORY OF POSITIVE CURVATURE AND TOPOLOGY

MANUEL AMANN

Manifolds admitting metrics of positive sectional curvature are conjectured to have a very rigid topological structure. However, this structure is still highly speculative and most results in this direction are known under the assumption of Lie group actions.

In this talk I shall try to illustrate this interplay between geometry, symmetry and topology on the level of prerequisites, techniques and results. I shall present results from joint work with Lee Kennard and Wolfgang Ziller respectively using different symmetry assumptions in order to provide insight into submersion structures, the concept of geometric formality, questions from index theory and generalised versions of conjectures by Hopf in this context.

Priv.-Doz. Dr. Manuel Amann
Mathematisches Institut
Universität Bonn
Endenicher Allee 60
D-53115 Bonn

manuel.amann@kit.edu
http://topology.math.kit.edu/21_54.php

Date: June 30th, 2016.