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Fakultät für Mathematik

EINLADUNG

zum

HABILITATIONSVORTRAG

Dr. Katharina Neusser
(Department of Mathematics and Statistics,
Masaryk University)

"Symmetry and Geometric Rigidity"

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Abstract:
In differential geometry there is a dichotomy between geometric structures on manifolds that are rigid,—in the sense that their Lie algebras of infinitesimal automorphisms are finite-dimensional, and those that are not. Prominent examples of rigid structures are Riemannian and conformal manifolds, as well as quaternionic manifolds and certain CR-structures, and in general all geometric structures admitting equivalent descriptions as so-called Cartan geometries. Generically, rigid geometric structures have no automorphisms and so the ones among them with large or special types of automorphism groups are typically geometrically and topologically constrained, and hence can often be classified. Recall for instance that a Riemannian manifold with an isometry group of largest possible dimension is a space of constant curvature or the famous Ferrand–Obata Theorem, which says that the only compact Riemannian manifold with a non-compact group of conformal transformations is the standard sphere. In this talk we will present several such classification results for geometric structures underlying parabolic geometries, which form a subclass of Cartan geometries whose homogeneous models are generalized flag manifolds.

Freitag, 4. März 2022
13:15 Uhr – 14:00 Uhr

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