



---

## Minisymposium 17 - Globale Analysis

### Quaternionic torsion and Arakelov geometry

KAI KÖHLER (HEINRICH-HEINE-UNIVERSITÄT DÜSSELDORF)

Ray-Singer torsions are certain linear combinations of regularized determinants of Laplace operators on manifolds. They can be used to construct direct images in K-theories of vector bundles with metrics. In this lecture a torsion for quaternionic Kähler manifolds shall be explained and its relation to the holomorphic torsion on twistor spaces shall be detailed. This leads in particular to applications to the Arakelov geometry of generalized flag varieties.