

Announcement

## Oberseminar Geometrie

**6th of Juli 2022 at 2:15pm CEST/CES**

Zoom

<https://uni-wuerzburg.zoom.us/j/96587647828?pwd=ZjliUHpkd3J2cDlpVFBYRmlrYkRMZz09>

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Haefliger's differentiable cohomology

In the early 70's, André Haefliger showed that foliations on manifolds can be described as cocycles valued in the groupoid of germs of diffeomorphisms of the Euclidean space. His approach proved to be advantageous when studying the homotopy theory of foliations and the cohomological invariants associated with them - i.e. the characteristic classes of foliations.

We are going to review Haefliger's construction in modern terms and to expand it. To be precise, we will describe how to construct a natural characteristic map for Lie groupoids and principal groupoid bundles equipped with a flat multiplicative connection. These cohomological invariants lie in the image of a map whose domain is the so-called Haefliger's differentiable cohomology of the groupoid. The construction neatly generalizes both Haefliger's construction for foliations and the well known Chern-Weil approach to characteristic classes of flat principal group bundles. As a byproduct, we obtain a natural characteristic map for structures richer than foliations.

Invited by Francesco Cattafi