

The seminar on differential geometry will continue with this lecture:

**November 26, 10am**, lecture room **M5**.

**Yaroslav Bazaikin:**

### **Losik classes for codimension one foliations**

Abstract:

This is a joint work with A. Galaev. Following Losik's approach to Gelfand formal geometry, certain characteristic classes for codimension one foliations coming from Gelfand-Fuchs cohomology are considered. Sufficient conditions for non-triviality in terms of the dynamical properties of generators of the holonomy groups are found. The non-triviality for the Reeb foliation is shown; this is in contrast with some classical theorems on the Godbillon-Vey class, e.g, the Mizutani-Morita-Tsuboi Theorem about triviality of the Godbillon-Vey class of foliations almost without holonomy is not true for the classes under consideration. It is shown that the considered classes are trivial for a large class of foliations without holonomy. The question of triviality is related to ergodic theory of dynamical systems on the circle and to the problem of smooth conjugacy of local diffeomorphisms. Certain classes are obstructions for the existence of transverse affine and projective connections.