

Riemannian and subRiemannian geometry on Lie groups.
Enrico Le Donne (University of Jyväskylä)

Cortona, July 3-7, 2017

The course is an introduction to differential geometry on Lie groups. The first basic objects considered will be vector fields, commutators, Lie algebras, exponential maps, adjoint maps.

In the setting of Lie groups, we shall introduce left-invariant distances. We may consider both Riemannian and sub-Riemannian metrics. We shall study what are the curves of finite length and some regularity of the minimizing ones. Time permitting we could discuss distinguished maps, such as isometries or conformal maps.