FILIPPO CALDERONI, UIC
Descriptive set theory: order and classification

We shall discuss recent applications of descriptive set theory to ordered groups. First we shall analyze various examples of orderable groups whose Borel space of left-invariant orders, modulo the conjugacy relation, is not standard. Most notably, the conjugacy relation on the space of left-invariant orders of $\mathbb{F}_2$ is a universal countable Borel equivalence relation. Next we shall investigate the complexity of the isomorphism relation on countable ordered Archimedean groups from the viewpoint of Borel reducibility. Time permitting, we shall discuss anti-classification results that prevent classifying ordered Archimedean groups by countable subsets of reals. This includes joint work with A. Clay and with D. Marker, L. Motto Ros, and A. Shani.