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Fraïssé and Ramsey properties of Fréchet spaces

A topological group G is *extremely amenable* if every continuous action of G on a compact Hausdorff space has a common fixed point. In 2005, Kechris, Pestov and Todorčević showed that Fraïssé theory provides a useful link between extreme amenability and Ramsey theory. In this talk we will survey some recent Fraïssé-theoretic developments in the context of Fréchet spaces, which we view as topological vector spaces equipped with a compatible sequence of semi-norms. We will define an approximate Ramsey property of finite-dimensional Fréchet spaces, and we will see how this property is related to the extreme amenability of the automorphism groups of approximately ultrahomogeneous Fréchet spaces.

This is joint work in progress with Jordi López-Abad.