MINICOURSE

Wednesday, April 18th from 15:30 PM to 16:30 PM

In Room AAC 006

To be followed by discussion

“Embeddings of families of rescaled graphs into Cayley graphs, examples of groups with exotic properties”

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Target audience: doctoral students, researchers and Professors in Mathematic.

Abstract:

I shall explain two ways of embedding families of rescaled graphs into Cayley graphs of groups. The first one allows to construct finitely generated groups with continuously many non-homeomorphic asymptotic cones (joint work with M. Sapir). Note that by a result of Shelah, Kramer, Tent and Thomas, under the Continuum Hypothesis, a finitely generated group can have at most continuously many non-isometric asymptotic cones.

The second way is less general, but it works for instance for families of Cayley graphs of finite groups that are expanders. It allows to construct finitely generated groups with (uniformly convex Banach space)-compression taking any value in [0,1], and with asymptotic dimension 2. This is a joint work with G. Arzhantseva and M. Sapir.