Barcelona Analysis Seminar **2022–2023**

URL. https://mat.uab.cat/web/seminarianalisi/

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Room. C3b-158 (Universitat Autònoma de Barcelona)

Online streaming. Click here to join.

Quantitative rectifiability in metric spaces

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The theory of quantitative rectifiability for Ahlfors regular subsets of Euclidean space was developed extensively by David and Semmes in the early 1990s, partly motivated by questions arising in harmonic analysis. They proved, among many other things, the equivalence of Uniform Rectifiability (UR) and the Bi-lateral Weak Geometric Lemma (BWGL). Roughly speaking, an Ahlfors regular set is UR if a large proportion of every surface ball coincides with some Lipschitz image of a Euclidean ball of the same radius; it satisfies the BWGL if most surface balls are locally well-approximated by n-dimensional affine planes in Hausdorff distance. In this talk we discuss the equivalence of UR and BWGL for Ahlfors regular metric spaces. While the above definition of UR makes sense in this context, BWGL does not. Instead, the BWGL condition is stated in terms of local Gromov-Hausdorff approximations by n-dimensional Banach spaces. This is joint work with David Bate and Raanan Schul.