

# Non-discrete simple locally compact groups

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Real simple Lie groups and simple algebraic groups over local fields are the most prominent members of the class  $\mathcal{S}$  of non-discrete, compactly generated, simple locally compact groups. Further examples arise as groups acting on trees, on buildings or on CAT(0) cube complexes. It is an intriguing feature that all those examples reveal rich geometric features with a strong flavour of non-positive curvature. The goal of this talk is to explain how the class  $\mathcal{S}$  as a whole recently became an independent subject of study, one of whose main challenges is to provide a theoretical framework that would account for the geometric features of the non-discrete simple locally compact groups in a unified way.