The K-amenability and higher index map for metric spaces with proper group actions

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I will talk about the K-amenability and the equivariant higher index map for the metric space with proper and isometrical group actions. More precisely, Let Γ be a countable discrete amenable group, which acts properly and isometrically on a discrete metric space X with bounded geometry. If the quotient space X/Γ admits a coarse embedding into Hilbert space and the Γ-orbits in X are uniformly equivariantly coarsely equivalent to each other, then the equivariant coarse Baum–Connes conjecture holds for (X, Γ). Along the way, we prove a K-theoretic amenability statement for the Γ-space X with the same assumptions as above, i.e. the canonical quotient map from the maximal equivariant Roe algebra of X to the reduced equivariant Roe algebra of X induces an isomorphism on K-theory. This is a joint work with Deng Jintao and Wang Qin.