Strongly shortcut spaces

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The strong shortcut property was introduced in my PhD thesis as a very general non-positive curvature condition for graphs. Despite unifying many important classes of graphs in geometric group theory and metric graph theory, strongly shortcut graphs have strong algebraic consequences for groups that act on them properly and cocompactly, including finite presentedness and polynomial isoperimetric (Dehn) function.

In recent work I have generalized the strong shortcut condition to rough geodesic metric spaces. In this talk I will define strongly shortcut metric spaces, describe various characterizations and properties of them and relate them to strongly shortcut groups. Using these results, I will show that new families of groups act properly and cocompactly on strongly shortcut graphs.