Categorified graphs

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In recent years, there has been a lot of interest in the notion of a ``quantum graph'' from both the operator algebras and quantum information theory communities. Quantum graphs are generalizations of graphs within the framework of non-commutative geometry, and the goal of this talk will be to introduce these objects, and explain some of the things that one can do with them (e.g., study their quantum symmetry groups, construct quantum graph operator algebras, and so on). I will then use these considerations to motivate some ongoing work with Roberto Hernandez-Palomares, where we propose a further generalization of quantum graph theory. The main idea is to ``categorify'' the notion of a graph, using the language of rigid C*-tensor categories and tools from subfactors. Our approach clarifies and generalizes many constructions already present in the literature, and we hope it will lead to some interesting new developments in the study of quantum graphs.