Tools from Topological Infinite Graph Theory for Hamiltonicity

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In this talk I will introduce several concepts and tools from Topological Infinite Graph Theory. In particular I will define a notion of a Hamilton cycle that turns out to be very useful and general when trying to extend results from finite graphs to locally finite infinite ones. Furthermore, I will illustrate some examples, e.g. for proving the existence of a Hamilton cycle, but also some problems that might occur and which we do not have in finite graphs. Finally I will mention some open problems regarding the existence of a Hamilton cycle in certain locally finite graphs.