Locally normal subgroups of simple totally disconnected groups
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I will be talking about some joint work with Pierre-Emmanuel Caprace and George Willis on the structure of totally disconnected, locally compact (t.d.l.c.) groups that are (topologically) simple and compactly generated. T.d.l.c. groups can be simple, but they have a distinguished class of residually finite subgroups, namely the open compact subgroups, so in general they have many ‘locally normal’ subgroups, that is, compact subgroups with open normaliser. After introducing the concepts, I will explain how we can use them to demonstrate some global properties of a large class of examples, such as abstract simplicity and non-amenability.