

## Laplacians on Infinite Graphs

There are two different notions of a Laplacian operator associated with infinite graphs: discrete Laplacians and quantum graphs. Both objects have a venerable history and their spectral theory relates to several diverse branches of mathematics (random walks, combinatorics, geometric group theory, ...).

In our talk we explore connections between these two types of operators (spectral, parabolic and geometric properties), and exploit these relations to prove a number of new results in spectral theory for both settings. In particular, we will present applications to the self-adjointness problem on infinite graphs.

Based on joint work with Aleksey Kostenko (Ljubljana&Vienna) and Mark Malamud (Donetsk).