



## Mathematics and CS Seminar

# Graph limits and spectral theory

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**Host: Laszlo Erdős**

The goal of the talk is to give an overview on the basic notions of graph limit theory, and to present recent results about its applications to the spectral theory of random graphs and random matrices. By identifying continuous limit objects (e.g.  $L^2$  operators) as the limit of convergent graph sequences, graph limit theory is a powerful combination of tools from analysis, combinatorics and probability theory. In the first part of the talk, we summarize the notions of local limit of bounded degree graphs, the limit of dense graph sequences, and the recently defined notion of action convergence, which works for graphs of intermediate density as well. Then we present two applications on the empirical distribution of eigenvectors of random regular graphs and random sign matrices.

Joint work with Balzs Szegedy.

**Thursday, May 16, 2019 04:00pm - 05:00pm**

IST Austria Campus Big Seminar room Ground floor / Office Bldg West (I21.EG.101)



This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage: <https://ist.ac.at/en/campus/how-to-get-here/> The IST Shuttle bus is marked IST Shuttle (#142) and has the Institute Logo printed on the side.