abstract

Members Seminar
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

``Quantum ergodicity'' usually deals with the study of eigenfunctions of the Laplacian on Riemannian manifolds, in the high-frequency asymptotics. The rough idea is that, under certain geometric assumptions (like negative curvature), the eigenfunctions should become spatially uniformly distributed, in the high-frequency limit. There are a many conjectures, some of which have been turned into theorems recently. Physicists like Uzy Smilansky or John Keating have suggested looking for similar questions and results on large (finite) discrete graphs. Take a large graph $G=(V, E)$ and an eigenfunction ψ of the discrete Laplacian -- normalized in $L^2(V)$. What can we say about the probability measure $|\psi(x)|^2$ ($x\in V$)? Is it close to uniform, or can it, on the contrary, be concentrated in small sets? I will talk about ongoing work with Etienne Le Masson, in the case of large regular graphs.