

Geometry, Groups and Dynamics/GEAR Seminar  
(held at the Illinois hub of GEAR )

**12:00 pm, Tuesday, February 20, 2018, 243 Altgeld Hall**

**Yair Hartman (Northwestern University)**

**Which groups have bounded harmonic functions?**

Abstract: Bounded harmonic functions on groups are closely related to random walks on groups. It has long been known that all abelian groups, and more generally, virtually nilpotent groups are "Choquet-Deny groups": these groups cannot support non-trivial bounded harmonic functions. Equivalently, their Furstenberg-Poisson boundary is trivial, for any random walk. I will present a very recent result where we complete the classification of discrete countable Choquet-Deny groups. In particular, we show that any finitely generated group which is not virtually nilpotent, is not Choquet-Deny. Surprisingly, the key is not the growth rate of the group, but rather the algebraic infinite conjugacy class property (ICC). This is joint work with Joshua Frisch, Omer Tamuz and Pooya Vahidi Ferdowsi.

[Video](#)