Mathematics, Statistics, and Computer Science **@ UIC**

Special Colloquium

Invariant means, inner amenable groups, and dynamics

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Abstract: An action of a group G on a set X is said to be amenable if X admits a G-invariant mean (i.e., finitely additive probability measure defined on the entire powerset of X). The group G is said to be amenable if the left translation action of G on itself is an amenable action. While these notions were introduced in 1929 by von Neumann, the systematic study of amenable actions of nonamenable groups did not gain momentum until the early 1990s. I will discuss this setting, and how the tension which arises between the nonamenability of the group and the amenability of the action results in surprising structural consequences for the acting group. This tension becomes particularly pronounced in the case of an atomless mean for the conjugation action – that is, when the group is inner amenable. I will give an overview of inner amenability, and highlight some recent results and applications of inner amenability relevant both to measured and topological dynamics.

Tuesday, December 4 at 3:00 PM in 636 SEO