



Invited Speaker



Dr. Angela Hicks

Assistant Professor of
Mathematics

Lehigh University

“Applying Representation Theory to Random Walks”

Thursday, November 7, 2019 • Smith Hall 530 • 4:00pm

Abstract

We'll talk about why representation theory is useful, by focusing on a particular case: using representation theory to analyze random walks on groups. We'll also discuss some of the difficulties in this approach, here focusing on joint work with Daniel Bump, Persi Diaconis, Laurent Miclo, and Harold Widom studying a simple random walk on the the Heisenberg group mod p (a particularly simple to describe noncommutative group). Analysis of a random walk on the group dates back to Zach, who was considering the effectiveness of certain random number generators. We'll assume knowledge of matrices and basic linear algebra, but otherwise aim for an elementary talk.