

Department of Mathematical Sciences welcomes

Russell Lyons **Indiana University, Bloomington**



August 31, 2018

Hosted by:
Prof. Roland Roeder

Tea begins at 3:00
in LD 259

Research Topic
begins at 3:30
in LD 229

Random walks on groups and the Kaimanovich-Vershik conjecture

ABSTRACT:

In the 1980s, much progress was made in understanding random walks on groups. In particular, characterizations of when there are non-constant bounded harmonic functions were given using asymptotic entropy. Later, Kaimanovich gave criteria for identifying all bounded harmonic functions. However, a conjecture of Kaimanovich and Vershik from 1979 remained open with the first breakthrough by Erschler in 2011. We present a simple proof of the full conjecture in joint work with Yuval Peres.

ABOUT THE SPEAKER:

Russell Lyons is a leading researcher who works on Probability Theory on Graphs, Geometric Group Theory, Combinatorics, Statistical Mechanics, Ergodic Theory, and Harmonic Analysis. He received his PhD from the University of Michigan in 1983 and since then he has held positions at Indiana University, Stanford University, and Georgia Tech. Lyons was a Fellow of the American Math Society in 2013 and he was an Invited Speaker at the International Congress of Mathematicians in 2014.

