

*Kai-Lai Chung Memorial Lecture
Thursday, March 9th 4:30 p.m. in
Pigott Hall/Bldg. 260, Room 113*

“Groups and random walks”

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The notion of group appeared explicitly in the nineteenth century, and, in part because of the immense influence of Felix Klein on American mathematics, studied enthusiastically by many early American mathematicians including George Abram Miller who was successively professor at Cornell and Stanford before settling at the University of Illinois. More than a century later and after receiving much attention, finitely generated groups are still mysterious objects.

Random walks, the process of partial sums of sequences of independent identically distributed random variables, are classical objects in probability theory and one of the main focuses in the work of Kai-Lai Chung during his time at Cornell around 1950. Fourier analysis is the classical tool of choice in this subject.

In his Ph.D. thesis, in 1958 Harry Kesten proposed to study random walks on groups with an emphasis on how their behavior relates to the structure of the underlying group. In this lecture, I will describe some of the basic results relating volume growth to the behavior of random walk, what happens on free solvable groups, and some questions that remain open.

*Reception in Sloan Math Center
Bldg. 380, 4th floor
3:30 – 4:30 pm*