

Mathematics and Physics Seminar Series



Announcing

A Seminar Presentation
on Friday
February 16, 2018
from 3:00 pm - 3:45 pm in
North Hall 104
at The University of New Haven

Brownian motion on spaces with varying dimension

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Abstract: The first part of this talk will be an introduction to the relationship between electrical networks in physics and Dirichlet forms. As a matter of fact, Dirichlet forms are sometimes called “energy forms” because they characterize the energy consumed by electrical networks when they are charged. In particular, we give the Dirichlet form characterization for electrical networks with shorting. In the second part, we present a class of probabilistic models of our interest: Brownian motion constructed on spaces with varying dimension, using the idea of “shorting”. Brownian motion on spaces with varying dimension has an intrinsic interplay with the geometry of the underlying spaces, and therefore reveals many non-trivial and interesting phenomena. We give an overview of their properties with an emphasis on the two-sided heat kernel estimates. (This talk is based on my joint work with Zhen-Qing Chen.)

Further Information

For further information, please contact Dr. Yasanthi Kottegoda at the Department of Mathematics and Physics, Office: Maxcy 315, 203-932-1206, YKottegoda@newhaven.edu.