



UNIVERSITY OF CALIFORNIA RIVERSIDE

DEPARTMENT OF MATHEMATICS

Colloquium

Dr. Changfeng Gui
University of Connecticut / NSF

“Diffusions, Fractional Laplacians and Traveling Waves”

Abstract:

Fractional Laplacians can be used to model physical phenomena involving abnormal diffusions. In this talk, I will discuss how abnormal diffusions may affect the propagation of certain materials/species.

In particular, the effects of abnormal diffusions on the existence of traveling wave will be examined. For three important classes of diffusion-reaction models with monostable, combustion and bistable nonlinearities, we will show rigorous results for abnormal diffusions and compare them with the results for the classical models. The talk is based on recent results obtained jointly with Tingting Huan and with Mingfeng Zhao.

Wednesday, April 16th, 2014

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Tea Time: 3:40 p.m. / Talk: 4:10 – 5:00 p.m.