

2012 NSF/CBMS Conference

# Small Deviation Probabilities: Theory and Applications

June 4-8, 2012

Department of Mathematical Sciences  
University of Alabama in Huntsville

Principal Lecturer



Each day the primary speaker, Dr. Wenbo Li, University of Delaware, will present two lectures. The purpose of these lectures is to present the state of the art of various powerful techniques on estimating small deviation probabilities, including traditional ones such as blocking, chaining, series expansions, Laplace/Taubirean theorems, classical Gaussian inequalities, Feynman-Kac formula, and newly developed ones such as metric entropy, weaker correlation and reverse Slepian type inequalities, determinantal approaches, etc. Major applications include strong limit theorems in probability and statistics, smoothness of density via Malliavin calculus, approximation quantities for stochastic processes, exit time and boundary crossing asymptotics, deviations for local times, lower tail behavior of Martingale limits for branching related processes, smallest singular values and Littlewood-Officer theory.

## Complementary Talks

Xia Chen (University of Tennessee)  
Yaozhong Hu (University of Kansas)  
James Kuelbs (University of Wisconsin-Madison)  
Tai Melcher (University of Virginia)  
Yimin Xiao (Michigan State University)

Frank Gao (University of Idaho)  
Thomas Kühn (Universität Leipzig)  
Michael Lacey (Georgia Institute of Technology)  
Hoi Nguyen (University of Pennsylvania)

## Financial Support for Participants

Financial support for attending conference will be provided to about 25-30 participants. Established researchers as well as interested newcomers, postdoctoral fellows, and graduate students, are invited to attend. An online application and further information are available at: <http://www.math.uah.edu/~cbms/>

For more information, please contact the organizers:

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Organized by: Department of Mathematical Sciences  
University of Alabama in Huntsville

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