# PROBABILITY SEMINAR

**TOPIC:**     **Cluster Expansion Estimates**

**SPEAKER**:     **William Faris, Visiting Professor of Mathematics, NYU Shanghai**

**TIME:**     13:45-14:45, 20 November 2014

**VENUE:**     Room 357, Geography Building, 3663 Zhongshan Road North, Shanghai
(中山北路校区，地理楼 357 室)

## ABSTRACT OF THE TALK

A cluster expansion is a power series expansion whose terms are indexed by connected graphs. A large vertex set has a huge number of connected graphs, so convergence must depend on a cancellation between terms of opposite sign. This talk will explain the cancellation mechanism in detail.

## BIOGRAPHY

William G. Faris is Visiting Professor of Mathematics at NYU Shanghai. He is also Professor Emeritus at the University of Arizona. Prior to that, he was a Fulbright Lecturer at the Independent University of Moscow.  He has also been a Visiting Professor at the Institut des Hautes Etudes Scientifiques, a Visiting Member at the Courant Institute of Mathematical Sciences at NYU, a Visiting Fellow at the Newton Institute, and a Visiting Scholar at the University of British Columbia. He holds a PhD from Princeton University and a BA from the University of Washington.

Professor Faris's research interests are mathematical physics, applied probability, and combinatorics. His books include Self-Adjoint Operators (Springer, 1975), Martingale Methods in Elementary Probability(Independent University of Moscow, 1996), and Diffusion, Quantum Theory, and Radically Elementary Mathematics (Princeton University Press, 2006). He has published over fifty articles in mathematics and mathematical physics.