



## NYU-ECNU Institute of Mathematical Sciences at NYU Shanghai

### WEEKLY SEMINAR

**Topic:** Spin Glasses: What's the Big Idea? Is There One?

**Speaker:** Prof. Daniel Stein

**Time:** 14:45-16:45, 28 November 2013

**Venue:** Room 385, Geography Building, 3663 Zhongshan Road North, Shanghai  
(华东师范大学中山北路校区, 地理楼 385 室)

#### ABSTRACT OF THE TALK

The aim of this talk is to introduce the subject of spin glasses, and more generally the statistical mechanics of quenched disorder, as a problem of general interest to physicists and mathematicians from multiple disciplines and backgrounds. Despite years of study, the physics and mathematics of quenched disorder remains poorly understood, and represents a major gap in our understanding of the condensed state of matter. While there are many active areas of investigation in this field, I will narrow the focus of this talk to our current level of understanding of the low-temperature equilibrium structure of realistic (i.e., finite-dimensional) spin glasses.

#### BIOGRAPHY

Daniel L. Stein is Professor of Physics and Mathematics at New York University. From 2006-2012 he served as NYU Dean of Science. Prior to NYU he served on the faculties at Princeton University and at the University of Arizona. His research is in the fields of theoretical condensed matter physics and statistical mechanics, focusing primarily on randomness and disorder in condensed matter systems, with an emphasis on magnetic materials and on stochastic processes leading to rare nucleation events. His awards include an Alfred P. Sloan Fellowship, Commission on the Status of Women Vision 2000 Award, election as a Fellow of the American Physical Society, election as a Fellow of the American Association for the Advancement of Science, and the U.S. Air Force Exemplary Civilian Service Medal. He received his Ph.D. in Physics from Princeton University in 1979.