



## 复旦大学数学科学学院 数学综合报告会

报告题目: **An ergodic BSDE approach to large time behaviour of solution of semilinear parabolic partial differential equation**

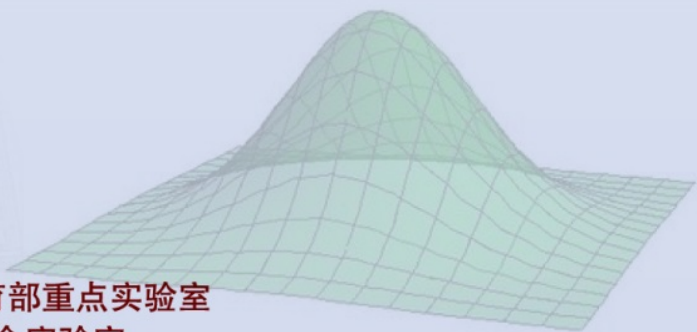
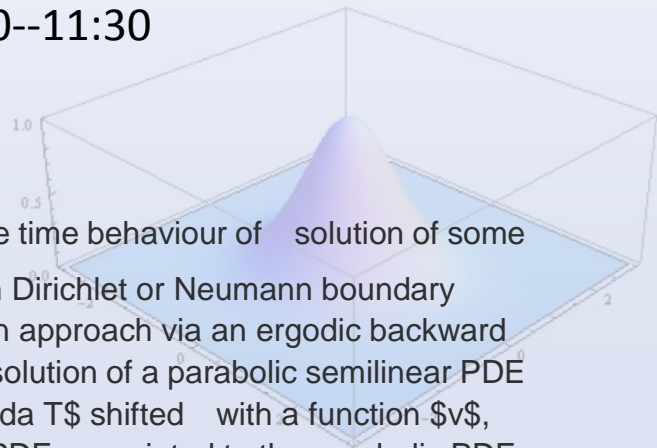
报告人: Professor Ying Hu

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报告时间: 2015-12-18 星期五 10:30--11:30

报告地点: 光华东主楼 1801

**摘要:** This talk is devoted to the study of the large time behaviour of solution of some semilinear parabolic partial differential equation (with Dirichlet or Neumann boundary condition). A probabilistic method (more precisely, an approach via an ergodic backward stochastic equation) is developed to show that the solution of a parabolic semilinear PDE at large time  $T$  behaves like a linear term  $\lambda T$  shifted with a function  $v$ , where  $(v, \lambda)$  is the solution of the ergodic PDE associated to the parabolic PDE. The advantage of our method is that it gives an explicit rate of convergence. The result gives a perspective to give a precise estimate on the long run asymptotics for utility maximisation.



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