NYU-ECNU Institute of Mathematical Sciences at NYU Shanghai

PDE/ANALYSIS SEMINAR

Topic: **ON THE RADIUS OF ANALYTICITY OF SOLUTIONS TO THE NONLINEAR WAVE EQUATIONS AND THE CUBIC SZEGŐ EQUATION**

Speaker: **Dr. Yanqiu Guo, Weizmann Institute of Science in Israel**

Time: 14:30-16:30, 17 September 2013

Venue: Room 264, Geography Building, 3663 Zhongshan Road North, Shanghai (华东师范大学中山北路校区，地理楼 264 室)

ABSTRACT OF THE TALK

Gevrey classes were introduced by Maurice Gevrey in 1918 to generalize real analytic functions. Functions of Gevrey classes can be characterized by an exponential decay of their Fourier coefficients. This characterization has been proved useful for studying analytic solutions of various nonlinear PDEs, since the work by Foias and Temam (1989) on the Navier-Stokes equations. We use this technique to investigate the persistency of spatial analyticity for nonlinear wave equations (joint work with Edriss S. Titi), and the cubic Szegő equation (joint work with Patrick Gerard and Edriss S. Titi). An advantage of this method is that it provides a lower bound for the radius of the spatial analyticity of the solutions.

BIOGRAPHY

Dr. Yanqiu Guo obtained Ph.D. in mathematics from the University of Nebraska-Lincoln (USA) in 2012. Currently, Dr. Guo is a postdoctoral fellow at the Weizmann Institute of Science in Israel.