NYU-ECNU
Institute of Mathematical Sciences
at NYU Shanghai

ANALYSIS/PDE SEMINAR SERIES

TOPIC: **Semilinear Fractional Elliptic Equations Involving Measures**

SPEAKER: **Huyuan Chen, NYU Shanghai**

TIME: 16:15–17:15, 18 December 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

In this talk, we will discuss the existence of weak solutions to $(\mathrm{E})\ (-\Delta)^{\alpha}u+g(u)=\nu$ in a bounded regular domain Ω in $\mathbb{R}^N(\mathrm{N}\geq 2)$ which vanish in $\mathbb{R}^N\setminus\Omega$, where $(-\Delta)^{\alpha}$ denotes the fractional Laplacian with $\alpha\in(0,1)$, ν is a Radon measure and *g* is a nondecreasing function satisfying some extra hypotheses. When *g* satisfies a subcritical integrability condition, we prove the existence and uniqueness of weak solution for problem (E) for any measure. In the case where ν is Dirac measure, we characterize the asymptotic behavior of the solution.

BIOGRAPHY

Huyuan Chen is Global Postdoctoral Fellow at NYU Shanghai. He holds a PHD from University of Chile AND and University of Francois-Rabelais, Tours a MA in Department of Mathematics from Jiangxi Normal University, China.