NYU-ECNU Institute of Mathematical Sciences at NYU Shanghai

WEEKLY SEMINAR

Topic: **Knots in Field Theory and Universal Topological Growth Laws**

Speaker: **Prof. Yisong Yang**

Time: 14:30-16:30, 20 November 2013

Venue: Room 153, Geography Building, 3663 Zhongshan Road North, Shanghai (华东师范大学中山北路校区，地理楼 153 室)

ABSTRACT OF THE TALK

Knots in field theory are realized as soliton-like energy minimizers characterized topologically and serve as possible candidates modeling elementary and composite particles.

For an existence theory it is crucial to understand how such minimum energy over knotted field configurations depends on the topology given.

This report is a review on topological growth laws, of a universal feature, arising in the Faddeev model in all the Hopf dimensions and in the Chern--Simons model in all odd dimensions. Much of this line of work is in collaboration with Fanghua Lin.

BIOGRAPHY

Yisong Yang is a professor of mathematics at Polytechnic Institute of New York University and an affiliated professor at NYU-Shanghai. His areas of research are nonlinear partial differential equations and mathematical physics.