



Department of Mathematics
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Room 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Colloquium

Oscillating Property, MMA and MMLS Flows, Distal Flows and Sarnak's Conjecture

*Professor Yunping JIANG
The City University of New York*

Abstract

Recently, Sarnak's conjecture attracts many people who work in number theory and dynamical systems. In this talk I will give an explanation of this conjecture from dynamical systems point of view. I will talk about a joint work with Fan on oscillating sequences and MMA and MMLS flows in the frame of this conjecture. This work confirms Sarnak's conjecture for flows defined by all p -adic polynomials of integral coefficients, all p -adic rational maps with good reduction, all automorphisms of the 2-torus with zero topological entropy, all diagonalizable affine maps of the 2-torus with zero topological entropy, all Feigenbaum maps, and all orientation-preserving circle homeomorphisms. I will also talk my recent work on higher order oscillating sequences and affine distal flows on the d -torus. This work reconfirms Sarnak's conjecture for all zero entropy affine flows on the 2-torus and all triangularizable affine distal flows on the d -torus for all $d > 2$. It is known that the Mobius function is an example of a higher order oscillating sequence. I will talk a recent joint work with Akiyama on the discovery of a different kind of higher order oscillating sequence.

Date: December 22, 2016 (Thursday)
Time: 4:30pm ~ 5:30pm
Venue: Room 222, Lady Shaw Building,
The Chinese University of Hong Kong, Shatin

All are Welcome