



The Institute of Mathematical Sciences
Department of Mathematics
The Chinese University of Hong Kong

For Favour of Posting

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Room 220, 2/F, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Joint Colloquium

Homology cobordism and triangulations

Professor Ciprian MANOLESCU
University of California, Los Angeles

Abstract

In the 1970's, Galewski-Stern and Matumoto studied the existence and the classification of triangulations on topological manifolds of dimension at least five. They reduced these problems to questions about the three-dimensional homology cobordism group, Θ_3^H , and the Rokhlin homomorphism from this group to $\mathbb{Z}/2$. The structure of the homology cobordism group is still unknown, but some information can be obtained using tools from gauge theory and symplectic geometry, such as the Seiberg-Witten Floer spectrum and involutive Heegaard Floer homology. I will describe the proof of the existence of non-triangulable high-dimensional manifolds (using gauge theory), and some open problems.

Date: July 07, 2017 (Friday)
Time: 10:30am ~ 11:30am
Venue: Room 222, Lady Shaw Building,
The Chinese University of Hong Kong, Shatin

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All are Welcome