



*Institute of Mathematical Research
Department of Mathematics*

COLLOQUIUM

From harmonic analysis to several complex variables

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Date: February 26, 2013 (Tuesday)

Time: 11:00am - 12:00noon

Venue: Room 210, Run Run Shaw Bldg., HKU

Abstract

The Heisenberg group is a non-abelian Lie group that arises naturally in the study of several complex variables and quantum mechanics. In this talk, I will discuss some aspects of harmonic analysis on the Heisenberg group. More specifically, I will talk about:

1. Some Gagliardo-Nirenberg estimates for the tangential Cauchy-Riemann complex (joint work with Yi Wang)
2. The construction of a new algebra of pseudodifferential operators on the Heisenberg group (joint work with Elias Stein).

Time permitting, I will also talk about the solution of the Kohn Laplacian on some non-compact strongly pseudoconvex CR manifolds that are asymptotic to the Heisenberg group at infinity (joint work with Chin-Yu Hsiao).

The talk will be fairly self-contained, and motivations for considering these problems will be discussed.

All are welcome