

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

Seminar

Automorphic L -functions

Professor Jianya LIU

Shandong University

Abstract

An L -function is a type of generating functions formed out with local data associated with either an arithmetic-geometric object, such as an abelian variety over a number field, or with an automorphic form. It is expected that the latter set contains the former one.

Recent developments show that L -functions is not just a special topic in number theory. Time and again, it has turned out that the crux of a problem lies in the theory of these functions. In this talk, we introduce L -functions and describe some central conjectures connected with them. We give a sample of results towards these conjectures as well as some problems that can be resolved by approximating these conjectures. Especially, we discuss some advances in the following directions:

- A. The Generalized Riemann Hypothesis and the Generalized Lindelöf Hypothesis;
- B. The Generalized Ramanujan Conjecture;
- C. Subconvexity problems and applications.

Date: February 6, 2004 (Friday)

Time: 4:00 – 5:00pm

Place: Room 517, Meng Wah Complex

All are welcome