



中央研究院數學研究所
Institute of Mathematics
Academia Sinica

國立台灣大學數學系
Department of Mathematics
National Taiwan University



Lakeside Lecture Series

Speaker: Professor Frans Oort

(University of Utrecht)



Title: Arithmetic and Geometry:

Three conjectures about dense sets of points

Abstract:

Three conjectures will be studied: Manin-Mumford, André-Oort and the Hecke Orbit conjecture. We will show that these statements (in arithmetic algebraic geometry) are very similar: all three study a set of points in an algebraic variety and we ask what the closure is of this set.

In the first part of my talk I will discuss the basic concepts used: abelian varieties and moduli spaces. I will give examples and some easy proofs. Some of the aspects will be illustrated with the theory of elliptic curves. If you want to obtain a general impression about these things, the first half of the talk will provide this.

In the second part I will discuss some more technical details, and an application. The proof of the Hecke Orbit conjecture is joint work with Ching-Li Chai, using a result by Chia-Fu Yu.

Date: Dec. 10th, 2012

Time: **(I) 13:30-14:10** intended to be understandable by general audience

(II) 14:15-15:00

Venue: Room 202, 2/F, Astro-Math. Building

Refreshment: 13:00-13:30

Organizers: Yi-Chiuan Chen, Kin-Ming Hui, Jeremy Wong, Jeng-Daw Yu

