



Institute of Mathematical Research
HKU



Department of Mathematics
HKUST



Department of Mathematics and IMS
CUHK

Hong Kong Geometry Colloquium

February 6, 2010 (Saturday)

Room 210, Run Run Shaw Bldg., HKU

Professor Yum-Tong Siu

William Elwood Byerly Professor, Harvard U., USA and
C.V. Starr Visiting Professor, HKU

The Abundance Conjecture

10:00 - 11:00am

Abstract

Will discuss and sketch a proof of the abundance conjecture which states that for a compact complex algebraic manifold X its Kodaira dimension

$$\kappa_{\text{kod}}(X) = \limsup_{m \rightarrow \infty} \frac{\log \dim_{\mathbb{C}} \Gamma(X, mK_X)}{\log m}$$

is equal to its numerical Kodaira dimension

$$\kappa_{\text{num}}(X) = \sup_{k \geq 1} \left[\limsup_{m \rightarrow \infty} \frac{\log \dim_{\mathbb{C}} \Gamma(X, mK_X + kA)}{\log m} \right],$$

where A is any ample line bundle on X .

11:00 - 11:20am

Tea Break

Professor Wing-Keung To

National University of Singapore

Bounding volumes of complex analytic subvarieties and some applications

11:20am - 12:20pm

Abstract

In this talk, I will discuss some joint works with Jun-Muk Hwang on obtaining sharp lower bounds of volumes of complex analytic subvarieties of certain domains in some classes of projective manifolds, and their applications related to the gonality of Riemann surfaces and the projective normality of abelian varieties.

This meeting is hosted by the Institute of Mathematical Research, HKU.

All are Welcome