THE UNIVERSITY   **OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

COLLOQUIUM

Special Role of Canonical Bundles of Complex Manifolds

Professor Yum-Tong Siu
William Elwood Byerly Professor, Harvard U.

Abstract

The canonical line bundle, whose transition functions are the Jacobian determinants of coordinate transformations, comes naturally with any complex manifold. It plays a very special role, different from a general holomorphic line bundle. Many fundamental problems in complex manifold theory and algebraic geometry concern the canonical line bundle or the pluricanonical line bundle. Will discuss techniques, recent results and open problems involving holomorphic pluricanonical sections of compact complex algebraic manifolds. The talk will start with the history, background, and motivations without any assumption of knowledge beyond elementary complex manifold theory and algebraic geometry. Will focus at the end on the analytic approach to the finite generation of the canonical ring and the abundance conjecture.

Date:	**June 25, 2019 (Tuesday)**
Time:	**4:00 – 5:00pm**
Venue:	**Room 210, Run Run Shaw Bldg., HKU**

All are welcome