The Hong Kong Mathematical Society 香港數學學會

2016 The Hong Kong Mathematical Society Distinguished Lecture

Venue:



Professor Yum-Tong Siu

Department of Mathematics, Harvard University

The Past, Present, and Future of **Several Complex Variables**

Date: Time: 9:00 a.m. - 10:00 a.m.

21st May, 2016, Saturday

P4, Chong Yuet Ming Physics Building, HKU

Abstract

For the study of analysis and function theory the most natural setting is several complex variables. Since its initial development more than a hundred years ago the theory of several complex variables has gone through several distinct stages of development with the use of very different techniques. One theme common throughout its development is the problem of constructing complexanalytic objects: functions, maps, coherent sheaves and their sections, etc. The talk will start with a survey from scratch, requiring minimal background knowledge. It will then progress to a discussion of current unsolved problems, available techniques, and approaches being developed for their solutions. Problems selected for discussion include hyperbolicity problems, the complex Neumann problem, effective results in algebraic geometry, the abundance conjecture and related questions.

Professor Yum-Tong Siu is a world-famous mathematician in the fields of several complex variables and complex geometry. He has mastered techniques at the interfaces between complex variables, differential geometry, and algebraic geometry. By applying estimates of the complex Neumann problem and the theory of multiplier ideal sheaves to algebraic geometry, he has solved various important conjectures.

Professor Siu has been awarded the Stefan Bergman Prize of the American Mathematical Society and conferred honorary

doctorates at the University of Hong Kong, University of Bochum, Germany and University of Macau. He is a Member of the National Academy of Sciences of the U.S. and currently he serves as a member of the Scientific Advisory Board of the Clay Mathematics Institute, Advisory Committee for the Shaw Prize in Mathematical Sciences as well as the Advisory Committee for the Millennium Prize Problems.

> This event is co-organized with the Department of Mathematics, The University of Hong Kong

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