

MATH-IMS Joint Colloquium Series The Chinese University of Hong Kong

This MATH-IMS Joint Colloquium Series in pure mathematics is organized by the Department of Mathematics and the Institute of Mathematical Sciences (IMS) at the Chinese University of Hong Kong. The series focus on all areas of pure mathematics together with theoretical developments and applications.

Date: August 13, 2020 (Thursday)

Time: 11am – 12noon (Hong Kong Time)

Zoom Link: <https://cuhk.zoom.us/j/98846779826>

Singularities in General Relativity

Speaker: Professor Jonathan Wing-hong Luk

Abstract: General relativity is a theory of spacetime geometry and gravity in which the evolution of the spacetime is governed by the celebrated Einstein equations. It is well-known that solutions to the Einstein equations could develop singularities, for instance inside black holes. In this talk, I will survey some recent mathematical results regarding the nature of singularities in general relativity.

Bio: Professor Jonathan Luk received his Bachelor degree in mathematics and physics from University of California, San Diego in 2007, and his PhD degree in mathematics from Princeton University in 2012, under the supervision of Prof. Igor Rodnianski. After taking several post-doctoral and faculty positions at University of Pennsylvania, MIT and Cambridge University, Prof. Luk joined the Department of Mathematics at Stanford University, where he is currently an associate professor. Prof. Luk's research focuses on non-linear partial differential equations, general relativity and mathematical physics. Prof. Luk was named the prestigious Terman Fellow (2016) and Sloan Fellow (2017) for his recent groundbreaking work in mathematical general relativity