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

This 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 focuses on all areas of pure mathematics together with theoretical developments and applications.

Date: November 4, 2021 (Thursday)
Time: 10:00-11:00 (Hong Kong Time)
Zoom Link: https://cuhk.zoom.us/j/98846779826

Stable minimal hypersurfaces in R^4

Speaker: Professor Chao Li
Courant Institute, New York University

Abstract: In this talk, I will discuss the Bernstein problem for minimal surfaces, and the recent solution to the stable Bernstein problem for minimal hypersurfaces in R^4. Precisely, we show that a complete, two-sided, stable minimal hypersurface in R^4 is flat. Corollaries include curvature estimates for stable minimal hypersurfaces in 4-dimensional Riemannian manifolds, and a structural theorem for minimal hypersurfaces with bounded Morse index in R^4. This is based on joint work with Otis Chodosh.

Bio: Prof. Li received his undergraduate education at Peking University, where he got his BSc degree in Mathematics mentored by Prof. Huijun Fan. After that, he went abroad to pursue his PhD degree at Stanford University, under the supervision of Prof. Richard Schoen and Brian White. After graduating in 2019, he became an instructor at Princeton University and from the fall of 2021, he has been an assistant professor at Courant Institute of Mathematical Sciences at New York University. Prof. Li's research interests include differential geometry, partial differential equations and geometric measure theory. He has made tremendous breakthrough in his recent work on minimal surfaces, scalar curvature and mathematical general relativity.