香 港 大 學
THE UNIVERSITY OF HONG KONG

Institute of Mathematical Research
Department of Mathematics

Frontiers of Mathematics Lecture

Conformally Invariant Elliptic Equations of Second Order

Abstract

Conformally invariant second-order elliptic equations arise naturally in geometric analysis, particularly in settings involving scalar curvature, Schouten tensor geometry, and Möbius invariance. Their nonlinear structure gives rise to striking analytical phenomena—rigidity, delicate compactness behavior, and subtle singularity formation—that sharply distinguish them from classical uniformly elliptic equations. In this talk, I will present an overview of recent developments in this area and highlight several intriguing open problems.

Professor Yanyan Li
Rutgers University, USA

Biography

Yanyan Li is a Distinguished Professor at Rutgers University and the Director of the Center for Nonlinear Analysis. He received his B.S. degree from the University of Science and Technology of China in 1982, his M.S. from the Institute of Systems Science, Academia Sinica in 1983, and his Ph.D. from the Courant Institute of Mathematical Sciences at New York University in 1988.

His research interests lie in nonlinear partial differential equations and their applications. He was an invited speaker at the International Congress of Mathematicians in 2002 and has been a member of the inaugural class of Fellows of the American Mathematical Society since 2012. He was awarded an Alfred P. Sloan Research Fellowship (1993–1995), a Simons Fellowship in Mathematics and Theoretical Physics in 2020, and the Rutgers Board of Trustees Award for Excellence in Research in 2008.

Date :
January 27, 2026 (Tuesday)

Time :
5:00 – 6:00 pm

Venue :
Lecture Theatre A, 1/F,
Chow Yei Ching Building, HKU

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