



Seminar

Past, Present and Future Research Directions: Taming Complexities

Prof. Guanglian Li
HKU

Abstract

In this talk, I will categorize my main scientific contributions into three key components: (a) developing and analyzing efficient numerical methods for problems characterized by multiple scales; (b) designing curse-of-dimensionality free numerical techniques for challenging high-dimensional nonlinear problems; and (c) leveraging neural network-based approaches to address problems featuring high dimensionality and singularities. I will review the evolution of these research directions, highlighting significant achievements and their impact across computational mathematics and applied sciences. Finally, I will outline my future research plans aimed at further taming the complexities of multiscale, high-dimensional, and singular problems, with an emphasis on innovative computational frameworks and interdisciplinary applications.

Date:	August 28, 2026 (Friday)
Time:	3:00 pm – 4:00 pm
Venue:	Room 210, Run Run Shaw Building HKU