

# THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

### **Department of Mathematics**

### **SEMINAR ON APPLIED MATHEMATICS**

## **Deep PDE solvers: Error analysis and adaptive scheme**

By

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#### <u>Abstract</u>

The use of deep learning methods for solving high-dimensional PDEs has gained significant attention recently. In the first part of this talk, I will present some theoretical analysis from the perspective of deep non-parametric estimation for the main deep solvers in the literature, namely DRMs, PINNs and WANs. In the second part of the talk, I will introduce a novel method called Gaussian Mixture Distribution-based Adaptive Sampling (GAS) for PINNs, which aims to boost their accuracy.

Date : 27 June 2025 (Friday) Time : 3:00p.m.-4:00p.m. Venue : Room 2463 (Lift 25/26)

All are Welcome!