Frontiers of Mathematics Lecture
Integral models with nonlocal operators: applications and recent development

Abstract

Recent applications and theoretical developments of models of integral equations using nonlocal operators have shown promise as effective alternatives to local models, especially in the presence of singularities and anomalies. These models also serve as continuum limits for large-scale discrete models used in data learning and network analysis. We present these models on bounded spatial domains and discuss related modeling, analysis, and computational issues.

Professor Qiang Du
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Date :
22 January, 2025 (Wednesday)

Time :
5:00 – 6:00 pm
(Tea Reception starts at 4:30 pm)

Venue :
Lecture Theatre C, LG1/F,
Chow Yei Ching Building
The University of Hong Kong

Biography

Qiang Du is the Fu Foundation Professor of Applied Mathematics at Columbia University, where he also chairs the Center of Computing Systems for Data-driven Science. He received his B.S. from the University of Science and Technology of China (USTC) and Ph.D. from Carnegie Mellon University. A Fellow of SIAM, AMS, and AAAS, he now serves as the EIC of the SIAM Journal on Applied Mathematics (SIAP) and the founding co-EIC of Communications of the American Mathematical Society (CAMS). Some of the recognitions for his work include a SIAM Outstanding Paper Prize (2016), a Gordon Bell finalist (2016), the USACM T.J.R. Hughes Medal (2021), and an ICBS Frontier of Science Award (2024).

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