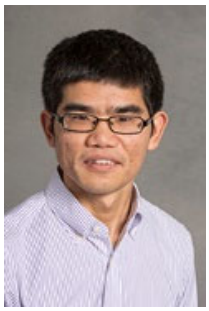
香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

DEPARTMENT OF MATHEMATICS
THE CHINESE UNIVERSITY OF HONG KONG

Joint Colloquium

Deep Learning and Mathematics



by

Professor Bangti Jin

University College London

Abstract: In the last decade, deep learning has had a transformative impact on many research areas, ranging from computer vision and natural language processing to medical imaging. However, the mechanisms of deep learning success remain mysterious, and the design and training are still largely black box arts. In this talk I will shed some insights into the black box using mathematics, e.g., optimization and differential equations. The talk will be illustrated with extensive examples.

Selected publications:

Tim Jahn, Bangti Jin. On the discrepancy principle for stochastic gradient descent. Inverse Problems 2020;36(9): 095009, 30 pp.

Riccardo Barbano, Chen Zhang, Simon Arridge, Bangti Jin. Quantifying model-uncertainty in inverse problems via Bayesian deep gradient descent. 25th ICPR, 2021

Bio: Professor Bangti Jin is Professor of Inverse Problems at the Department of Computer Science, University College London. He received his PhD in Mathematics from the Chinese University of Hong Kong, Hong Kong, in 2008. Previously, he was Assistant Professor of Mathematics at University of California, Riverside (2013–2014), Visiting Assistant Professor at Texas A&M University (2010–2013), Alexandre von Humboldt Postdoctoral Researcher at the University of Bremen (2009–2010). His research interests include inverse problems, numerical analysis and data-driven techniques.

Date: 12 March 2021, Friday
Time: 4:00pm – 5:00pm (Hong Kong time)
Zoom link:
https://cuhk.zoom.us/j/95095046137?pwd=dHR3Sjl6MzRyemJ2dW5JNHBiSmhIZz09
Meeting ID: 950 9504 6137
Passcode: 991364

All are Welcome