

Jointly organized by the Department of Physics and HK Quantum Institute of Science & Technology

Algebraic Bethe Ansatz, Yang-Baxter Equation and All That

Professor Yunfeng JIANG

Shing-Tung Yau Center and School of Physics, Southeast University

	<i>Time</i>	<i>Place</i>
<i>Lecture One</i>	Tuesday, February 24, 2026 1:00 pm – 4:00 pm	<i>Room 105</i> <i>CYM Physics Building</i>
<i>Lecture Two</i>	Wednesday, February 25, 2026 9:00 am – 12:00 pm	<i>Room 522</i> <i>CYM Physics Building</i>
<i>Lecture Three</i>	Thursday, February 26, 2026 12:00 pm – 3:00 pm	<i>Room 522</i> <i>CYM Physics Building</i>

Abstract:

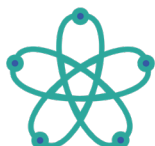
This lecture series provides a systematic introduction to the Algebraic Bethe Ansatz (ABA), also known as the Quantum Inverse Scattering Method (QISM): a powerful framework for solving quantum integrable models exactly. We will begin with its basic construction, demonstrating how to obtain the exact spectra of paradigmatic models such as the Heisenberg spin chain, the Lieb-Liniger model, and the 6-vertex model. We will then explore the rich mathematical structure underlying the method, focusing on the central role of the Yang-Baxter equation and its profound connection to quantum group theory. If time permits, we will discuss extensions of the formalism to compute dynamical quantities, such as form factors and correlation functions, illustrating the full power of ABA as a tool for non-perturbative analysis in quantum theory.

About the lecturer

Professor Yunfeng Jiang earned his Ph.D. in 2015 from Sorbonne University (formerly Université Pierre et Marie Curie) in Paris, France. He subsequently held postdoctoral positions at ETH Zurich and CERN from 2015 to 2021. In 2021, he joined Southeast University, where he is currently a Professor in the School of Physics and a member of the Shing-Tung Yau Center. His primary research interests lie in integrable systems and their applications, quantum field theory, and quantum gravity.

ANYONE INTERESTED IS WELCOME TO ATTEND!

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