HK Institute of
Quantum Science & Technology
香港量子研究院

HKIQST Distinguished Visitor Series

The Era of Photonic Chip

Prof. Xian-Min Jin, Shanghai Jiao Tong University

Time

23 April 2024,
Tuesday
10:30 a.m.

Venue

525
CYM Physics
Building
HKU

Abstract As the era of quantum computing and artificial intelligence gradually approaches, the demand for photon chips is rapidly increasing, making it the next fiercely contested high ground. No country in the world has yet built a complete photonic integration ecosystem, which provides a significant opportunity for China to take the lead in the post-Moore era. This talk will introduce the efforts made by our team to grasp the opportunities of the new round of technological revolution and industrial transformation, focusing on the new track of photonic chips. We are dedicated to meeting the integration demand of the new generation of information technology fields, with the development of photonic chips as the core, and concentrate on cutting-edge technologies and industrial applications such as quantum computing, photonic computing, and optical interconnect. We have developed a new generation of femtosecond laser direct writing three-dimensional photonic chip technology and CMOS-compatible thin-film lithium niobate (TFLN) high-speed photonic chip technology, mastering the full chain of techniques from design and wafer fabrication to packaging and testing. Based on the underlying chip technology, we have conducted a series of innovative research and facilitated the transition from cutting-edge science to industry. We have also established the first domestic pilot line for photonic chips and incubated several companies that have completed multiple rounds of financing.

Prof. Xian-Min Jin, Changjiang Scholar, Distinguished Professor at Shanghai Jiao Tong University, Director of Shanghai Jiao Tong University's Center for Integrated Quantum Information Technologies (IQIT), Dean of the Chip Hub for Integrated Photonics Xplore (CHIPX) at Shanghai Jiao Tong University, and Founder of TuringQ Co. Ltd. His research interests include photonic chip, quantum information and artificial intelligence, with over 100 publications, including 21 PRL, 9 Nature Photonics, 6 Optica, 2 Science, 3 Science Advances, 4 Nature Communications, 3 Light, and 3 Advanced Materials *etc.*, plus 15 authorized & transformed national invention patents. His achievements have been recognized as the 2018 Top Ten Progress in Chinese Optics, 2018 Top Ten Industrial Technologies in Chinese Optics, and the Top Ten Progress in Chinese Chip Science in 2022. He serves as Executive Editor of Chip (Elsevier), International Editorial Board Member of Advanced Intelligent Systems (WILEY), and Director of the Oxford-Cambridge Alumni Association Four Seasons Forum. Prof. Jin has been awarded the National Top100 Excellent Doctoral Dissertation Award, Wolfson College Fellow of University of Oxford, Marie Curie Fellow of the European Union, recipient of the Shanghai Thousand Talents Plan, National Thousand Young Talents Plan, Shanghai Young Science and Technology Talent Award, Top 50 Innovators and Entrepreneurs in Shanghai, and recognition as an outstanding individual of the Jiu San Society Central Committee.

香 港 大 學
THE UNIVERSITY OF HONG KONG