



Tsinghua University
Department of physics

Physics Colloquium 2019

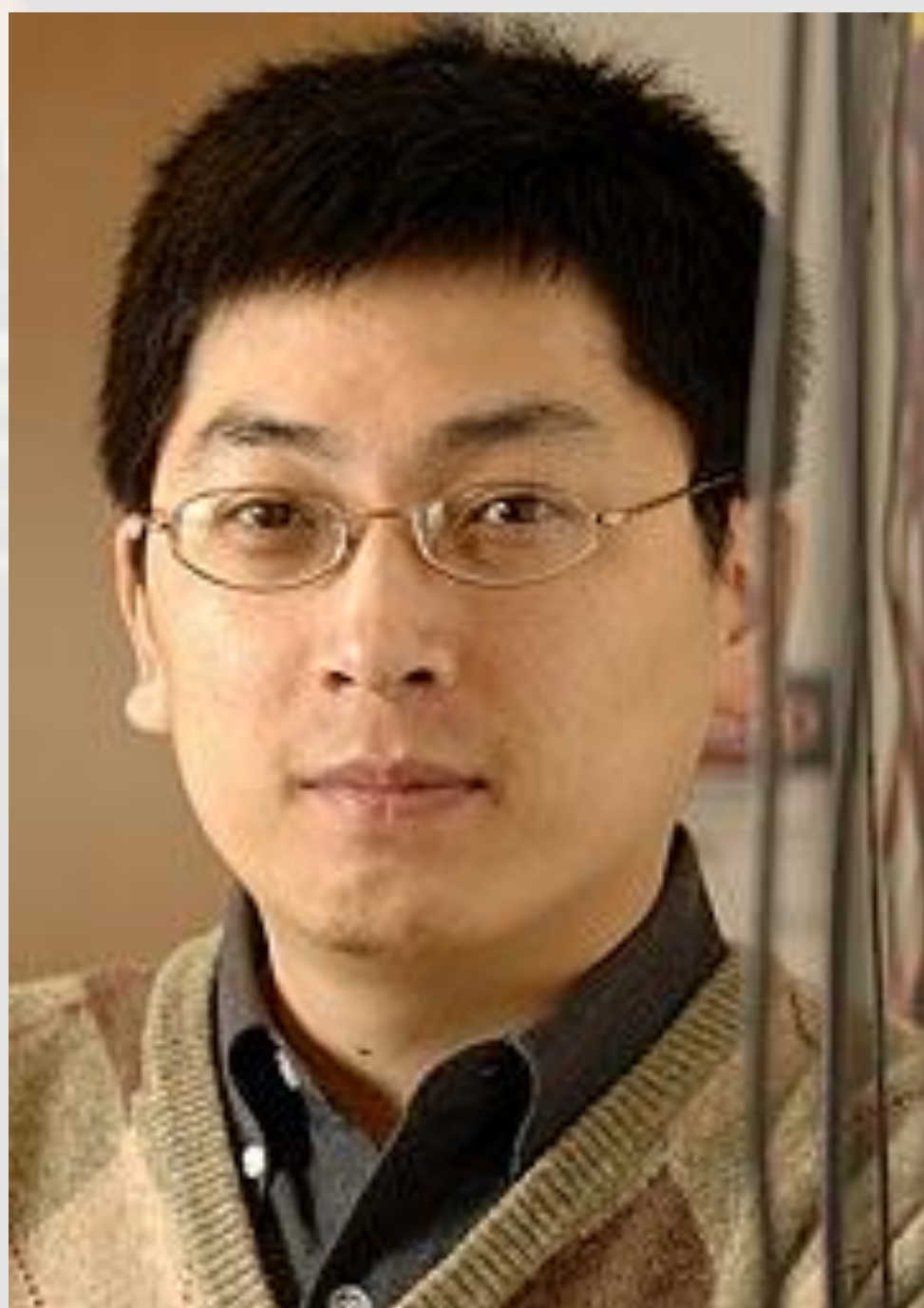
Autumn

Quantum Simulation and Quantum Information Control with Ultracold Atoms

Abstract

Laser cooling and trapping of atoms embarks an exploration into a new world where quantum mechanics dominates all laws of motion. New tools to precisely manipulate the atoms are developed, which remarkably advance quantum simulation and quantum metrology. I will outline in this lecture the basics of quantum control with cold atoms, as well as examples of quantum simulation of nuclear, condensed matter and gravitational systems. Finally I will outline our new experiment to gain full control of a many-body Hamiltonian toward scalable quantum information processing.

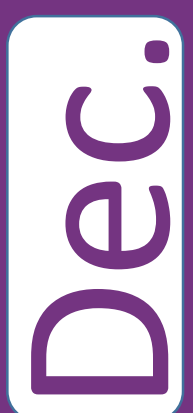
Speaker



金政

James Franck institute, Enrico
Fermi institute and Department of
Physics, University of Chicago

Department of physics, Tsinghua
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2019-12-19 16:00

Zheng Yu-tong Lecture Hall, New Science Building
理科楼郑裕彤大讲堂

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