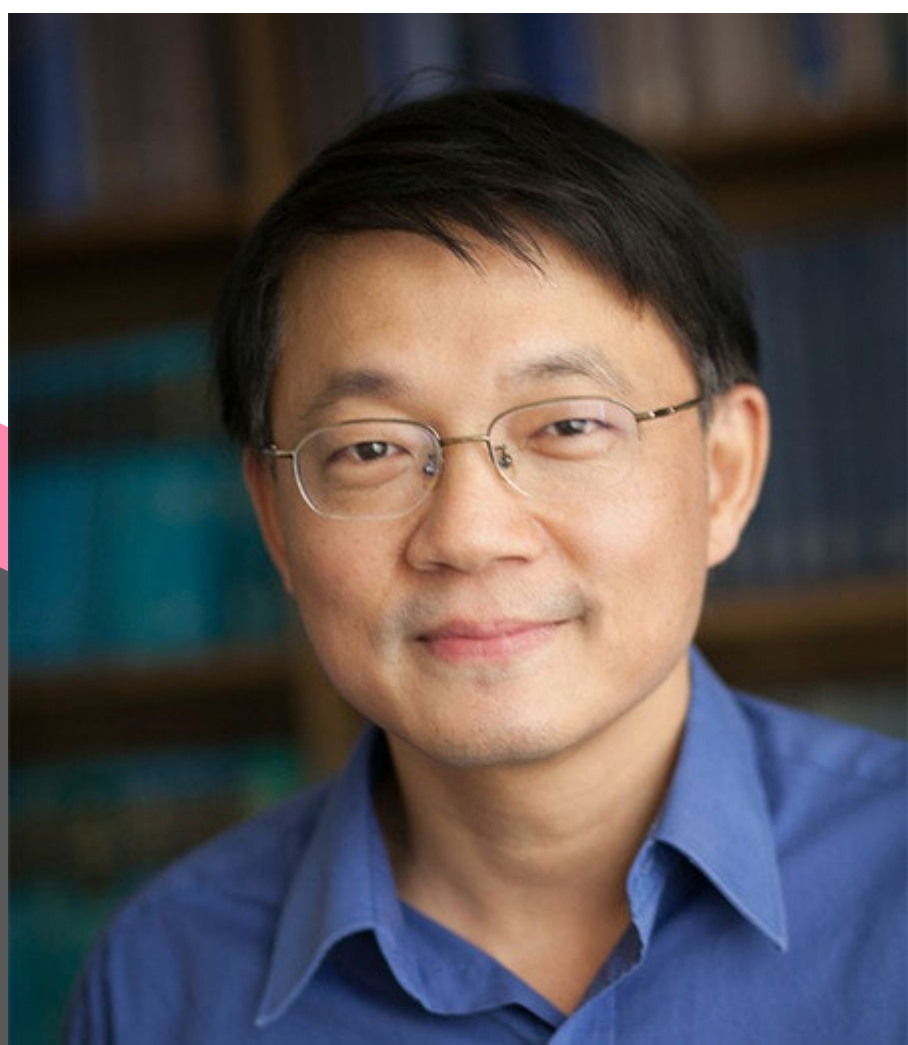


京师悟天学术论坛

Dynamical Formation of Merging Compact Binaries: From planetary dynamics to black holes

摘要 | The detection of gravitational waves (GWs) from merging black hole (BH) and neutron star (NS) binaries by advanced LIGO/Virgo has generated renewed interest in understanding the formation mechanisms of merging compact binaries, from the evolution of massive stellar binaries and triples in the galactic fields, dynamical interactions in dense star clusters to binary mergers in AGN disks. I will discuss different aspects of the dynamical formation channels (focusing on tertiary-induced mergers and AGN disks), and discuss how observations of spin-orbit misalignments, eccentricities, masses and mass ratios in a sample of merging binaries by aLIGO can constrain these formation channels.



时间 | 10月22号

10:00–12:00 学术报告

13:00–16:00 座谈交流

地点 | 物理楼 106

报告人 | 赖东 教授

上海交大李政道研究所

Dong Lai is Chair Professor and Astrophysics Division head at Tsung-Dai Lee Institute, Shanghai Jiao Tong University. From 1997 to 2025, he was on the faculty at Cornell University, where he was the Benson and Mary Simon Professor in Astrophysics. Dong Lai received B.S. from the University of Science and Technology of China, Ph.D. in theoretical physics from Cornell University in 1994. He was a Prize Postdoctoral Fellow at Caltech, and joined the Cornell Astronomy faculty in 1997. He has made significant contribution to the understanding of the physical processes around compact objects (black holes, neutron stars and white dwarfs), including the QED effect in radiation from magnetic neutron stars, the origin of pulsar kicks, gravitational waves from merging binaries, and accretion disks around magnetic stars and binary black holes. He has also made important contributions in several areas of exoplanetary dynamics. He has received Sloan Fellowship, Simons Fellowship and distinguished graduate teaching and mentoring award from Cornell. In 2024 he received the Dirk Brouwer Award from the American Astronomical Society, the highest international honor in dynamical astronomy.