



DEPARTMENT OF PHYSICS
THE UNIVERSITY OF HONG KONG



香港天文與天體物理研究所
THE HONG KONG INSTITUTE FOR
ASTRONOMY AND ASTROPHYSICS

HKIAA Colloquium Series

NEXUS: The North-ecliptic-pole EXtragalactic Unified Survey



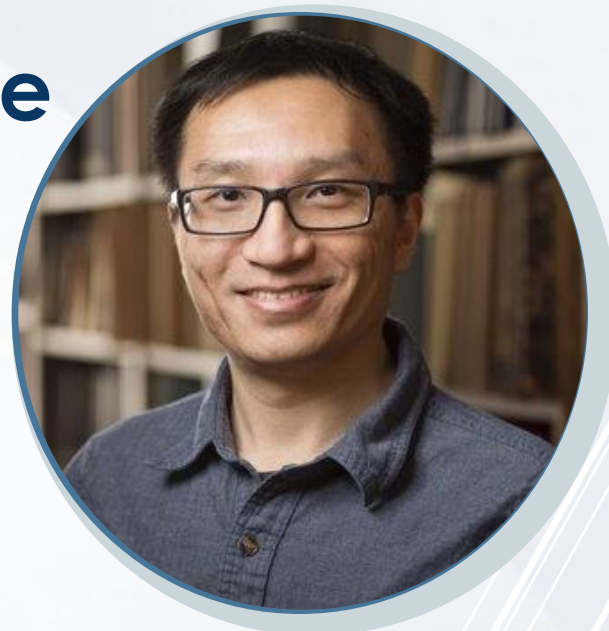
June 4, 2026 (Thursday)



10:30 a.m.



CYCP1, LG/F, Chong Yuet
Ming Chemistry Building,
The University of Hong Kong



Prof. Yue SHEN

University of Illinois Urbana-Champaign

Abstract: JWST is revolutionizing many areas of astronomy by pushing observations deeper into the early Universe. In just its first few years of operation, JWST programs have already produced an incredibly rich dataset and transformative discoveries at the forefront of high-redshift science. I will describe NEXUS, a multi-cycle JWST Treasury Program targeting the North Ecliptic Pole, designed to address a broad range of science goals using JWST's unique capabilities. Together with a suite of multi-wavelength programs at the NEP, NEXUS aims to establish a long-lasting legacy dataset and elevate this strategic extragalactic field in the era of synoptic sky surveys. I will provide some recent science highlights from NEXUS, including studies of high-redshift little red dots, searches for high- z transients, and systematic investigations of nuclear variability in the early universe. I will also discuss the synergy between NEXUS-JWST and other major observing programs, particularly the Euclid mission.

Biography: Prof. Yue Shen is a Professor in the Department of Astronomy at the University of Illinois Urbana-Champaign. As an extragalactic observer, he mainly works on a range of topics centered on quasars and supermassive black holes (SMBHs), to understand the physics and evolution of these exotic objects in the cosmological context. Specifically, Prof. Shen studies the large-scale structure traced by quasars, the demography of SMBHs as a function of cosmic time, the phenomenology and physics of black hole accretion, and the co-evolution of black holes and host galaxies. He uses multi-wavelength survey data and dedicated observing programs to carry out these studies.