





Physics Colloquium

The Earth 2.0 (ET) Space Mission

 April 15, 2026 (Wednesday)

 11: 15 a.m.

 **CYCP1, LG1/F, Chong Yuet Ming
Chemistry Building
Main Campus, HKU**



Prof. Jian GE

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Abstract:

The Earth 2.0 (ET) space mission is one of four missions under China's Space Origins Exploration Program (2024–2031). Currently in Phase C and scheduled for launch in fall 2028, ET aims to discover habitable Earth-like exoplanets using a dedicated observatory at the Earth–Sun L2 point. The ET payload includes six wide-field transit telescopes and one microlensing telescope, all equipped with large-format CMOS detectors designed for high-precision photometry. During its four-year prime mission, ET will monitor more than 3 million nearby dwarf stars for transits and about 30 million stars in the Galactic bulge for microlensing events. The mission's daily data downlink rate will reach 2.5 Gb. Simulations predict the detection of ~20 Earth 2.0s, ~25 free-floating Earth-mass planets, more than 4,000 terrestrial-like planets, and tens of thousands of additional exoplanets. This talk will present the mission design, technical innovations, and its scientific potential in exoplanet, stellar, and time-domain astrophysics.

Biography:

Dr. Jian Ge is a chair professor at Shanghai Astronomical Observatory of Chinese Academy of Sciences and the founder and PI of the Earth 2.0 space mission in China. He was a professor at the University of Florida in 2004-2020, an assistant professor at Pennsylvania State University in 2000-2004, and a postdoc at Lawrence Livermore National Lab in 1998-2000. He received his PhD from the University of Arizona in 1998. He has long been engaged in research on exoplanets, observational cosmology, astronomical technology and instruments, and the application of artificial intelligence in astronomical big data. His team have made numerous discoveries of planets, brown dwarfs, binaries, asteroids, and various kinds of quasar absorbers. He has published 162 refereed journal papers, 121 technical papers, and was awarded with three US patents.