



Yaguang Li

University of Hawaii

Title: From Stellar Oscillations to Insights: Techniques, Applications, and Outlook

Time: 15:00-16:00, 10 September (Tuesday), Shanghai time

Host: Yaguang Li

Location: N600

Join Tencent Meeting: <https://meeting.tencent.com/dm/9PzWfAXc643Q>

Meeting ID: 708619695 (no password)

Abstract:

Measuring key stellar properties, like age, radius, and mass, provide strong foundations for several important areas in galactic, stellar, and exoplanetary research. Asteroseismology, the study of stellar oscillations, probes the internal structure of stars. Recent breakthroughs in observations, enabled by space photometry missions (CoRoT, Kepler and TESS), have fortuitously allowed us to (1) obtain accurate stellar properties for a wide range of stars, and (2) scrutinize stellar interior physics, including composition, convection, rotation, and magnetism. However, these data also highlight major deviations from our theoretical expectations. I will present new techniques to improve the inferences of stellar properties, focusing on solar-type and red-giant pulsators. I discuss how these advancements have led to new breakthroughs, such as identifying post-mass-transfer binary systems and calibrating other age-dating techniques. Finally, I will introduce an exciting frontier for K dwarf asteroseismology, using ground-based radial velocity observations with the Keck Planet Finder.

Biography:

Yaguang Li is a Beatrice Watson Parrent Fellow at University of Hawaii at Mānoa. His research extensively utilized data from space missions and ground-based EPRV instruments (SONG, Keck/KPF, VLT/ESPRESSO). He is particularly interested in advancing observational and analytical techniques to interpret stellar oscillations. He received his PhD from the University of Sydney in 2023.

