***Presentation on Friday November 19, 2021*, 7:00pm PT**

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From Astrometry to Discovery

Free and open to the public. Via Zoom video conference.
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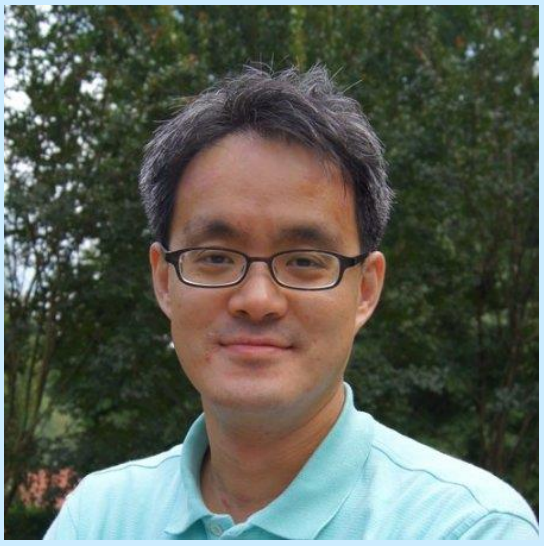
The unprecedented high precision of astrometric data released by the European Space Agency's *Gaia* mission provide us a new map of nearby stars and the Milky Way we have never seen before. In this talk, I will discuss a brief history of astrometry, the importance of astrometry, and new discoveries from this mission, especially a new feature embedded in the Hertzsprung-Russell diagram. I will also present the latest results related to this feature using the data from NASA's *TESS* mission and Gemini observatories, and these results will lead us to understand the connections between the changing of stellar interior structure and surface activities, which will eventually affect the habitable zones around these stars.



Dr. Jao is from Taiwan. He received his B.Sc in physics from Soochow University and Ph.D. in astronomy from Georgia State University. He is a staff astronomer at Georgia State University. His research mainly focuses on 1) all aspects of low mass stars, including determining fundamental stellar parameters, studying multiplicities and finding exoplanets around them, and 2) high precision astrometric observations. He has used telescopes on the ground from a small aperture of 0.9-m at CTIO to the large 8-m Gemini observatories at Mauna Kea, and in space like Hubble Space Telescope, *Kepler* and *TESS* missions. He has logged more than 1600 hours of on-site observing while everyone else is sleeping. Lately, his research is awarded by the NASA's inaugural High Risk/High Impact Blue Ribbon Panel to study stars close to the gap on the main sequence. He enjoys hiking, listening to music and watching baseball (Go Braves!).