



DEPARTMENT OF PHYSICS AND ASTRONOMY

COLLOQUIUM *ZOOM ONLY EVENT*



Probing the early evolution of stellar and planetary systems

Edward Gillen

Winton Fellow & Lecturer
in Observations of Exoplanets
Queen Mary University of London

Stars and planets both evolve dramatically during their first several hundred million years, which has important implications for the subsequent diversity and habitability of planetary systems. Young stellar associations, open clusters and co-moving groups are fruitful astrophysical laboratories because their members share broad coevality, composition and location. Combining information from groups at different ages offers a powerful tool to understand the early evolution of stellar and planetary systems. Recent photometric surveys have provided key advances in this area, first with the Kepler/K2 mission and now with the Transiting Exoplanet Survey Satellite (TESS) and the Next-Generation Transit Survey (NGTS). I will discuss various avenues to probe the early evolution of stars and planets, beginning with recent successful searches for young transiting planets, which have also led to the development of improved techniques to characterise young planetary systems. I will then present recent work on the early evolution of stellar rotation before concluding with a brief look at how early stellar flare activity might influence subsequent planet habitability.



Thursday, February 29, at 3:55 PM

ZOOM ONLY EVENT

Via Zoom: <https://zoom.us/j/99879004873?pwd=Vkp2dHJDdU9tcnpNUWp5SFk4QVIvQT09>

Local Contact: Prof. Y. Abate, yohannes.abate@uga.edu