Speaker: Dr. Andy Shu Ho To, European Space Agency Research Fellow at ESTEC.

Title: Strange Coronal Composition and Where to Find Them.

Abstract: Composition of plasma in the solar corona is a tracer of the flow of plasma and energy in the solar atmosphere. A complete understanding of coronal abundances not only provides us a unique perspective to look at complex processes such as wave propagation, wave absorption, reconnection, evaporation and reconfiguration of magnetic fields and coronal heating, but it also has significant implications for solar-like stars. The method to parameterise and study coronal elemental abundances, is to use the first ionisation potential (FIP) bias, defined as taking the ratio of an element's coronal to photospheric abundance. In this seminar, we introduce FIP bias as a proxy to understand processes in different solar structures, ranging from small brightenings to flares and active regions, using extreme-ultraviolet imaging, and spectroscopy to study to the evolution of different solar structures, and interpret the physical processes underneath.