## The Sun as a testbed for understanding stellar variability and improving exoplanet confirmation and characterisation

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Almost everything we know about exoplanets comes from light originating in their far more luminous host stars. Consequently, signatures from stellar surface inhomogeneities can imprint themselves on exoplanet observations, mimicking, masking and biasing exoplanet confirmation and characterisation. For Sun-like stars, such inhomogeneities are primarily driven by heat transport via convection at the surface interplaying with magnetic fields, giving rise to various phenomena from granulation and oscillations to faculae/plage, spots, and flares etc. The impact is far-reaching, from exoplanet mass determination to our analysis of star-planet dynamical histories to teasing out the chemical makeup of exoplanet atmospheres. The Sun as our closest, and only resolved, stellar neighbour provides an optimal testbed for understanding and mitigating these stellar effects in exoplanet observations. Not only is the signal-to-noise unrivalled, but it is also the only star where we have a priori knowledge of all the planetary companions. This combination also makes the Sun a unique and powerful testbed for understanding instrumental systematics, especially if observed across multiple platforms. In this talk, I will provide a brief overview of the current efforts to use both spatially resolved and sun-as-a-star observations to improve our knowledge of the stellar variability and pioneer new techniques to mitigate its effects in both planet confirmation and characterisation.