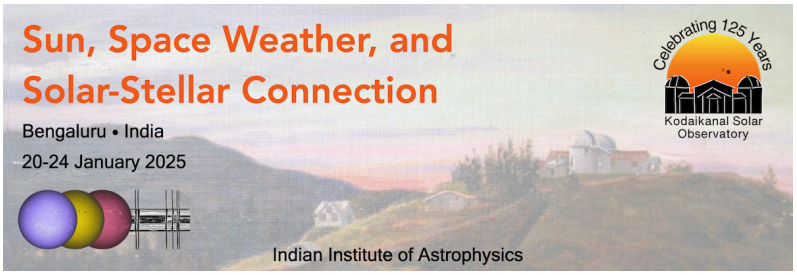

Contribution ID: **11** Type: **Invited talk**

The Sun as a Proxy for Stellar Variability

Thursday, January 23, 2025 2:25 PM (20 minutes)

Simultaneous monitoring of stellar brightness and chromospheric activity shows that the brightness variations of stars with near-solar level of chromospheric activity appear to be faculae dominated over their activity cycle, whereas they are spot dominated at higher chromospheric activity. Additionally, the unprecedented precision of broadband stellar photometry achieved with the planet-hunting missions CoRoT and *Kepler* initiated a new era in examining the magnetically-driven brightness variations of stars.
Such brightness variations, on both the rotational timescale, but also on the timescales of decades, are well studied and understood for the Sun. The plethora of data available now allows to accurately compare solar and stellar brightness variations. An intriguing question is whether the observed trends in the stellar photometric variability can be explained by utilising the solar paradigm, in particular the physical concepts of brightness variations learnt from the Sun. In this talk, I will present recent efforts of modelling stellar variability by following the path of extending the solar paradigm (e.g. the physical mechanisms causing solar variability) to stars with higher activity and rotation rates.

Contribution Type

Theme

Solar - Stellar Connections

Primary author: NEMEC, Nina-Elisabeth (CSIC-ICE)

Presenter: NEMEC, Nina-Elisabeth (CSIC-ICE)

Session Classification: Solar/Stellar Dynamo and Activity