

## Shaping the Italian contribution to HWO



Contribution ID: 8

Type: **not specified**

## Characterizing planet-host stars: the case of Ariel

*Thursday 10 July 2025 11:25 (15 minutes)*

The exoplanet characterization follows the axiom: know the star, know the planet. In order to achieve the goal of Habitable Worlds Observatory (HWO) for the search of other Earths, a precise and accurate knowledge of the properties of their host star is necessary. The NASA Exoplanet Exploration Program has already released a list of ~160 nearby targets identified as the most accessible to survey for potentially habitable exoplanets with HWO.

In this talk, I will present the methodologies and techniques we have applied for the homogeneous characterization of the Ariel mission candidate sample and demonstrate how this expertise can be leveraged to characterize the target list of HWO. Finally, I will highlight upcoming improvements in our techniques particularly by the 2040s in determining stellar atmospheric parameters, chemical abundances, and physical properties (mass, radius, age) and discuss their impact on the planetary systems.

**Presenter:** TSANTAKI, Maria (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Exoplanet Science