

## TOPIC 7 - Exozodiacal dust

### *Our Invited Speaker*



Virginie Faramaz-Gorka  
(Steward Observatory)

The Zodiacal dust cloud in the Solar system and its extrasolar counterparts, called exozodis, are a peculiar type of debris disks detected in the close vicinity of stars, in the Habitable zone and below, sometimes even down to the sublimation radius. Therefore, their presence is best evidenced thanks to interferometric observations.

In contrast with warm and cold Asteroid and Kuiper belt analogues, this dust, exozodis cannot be replenished via a collisional cascade. Similarly to dust in debris disks, exozodiacal dust is subject to both radiation pressure Poynting-Robertson (PR) drag, as well as collisional grinding. However, due to the proximity to the star and the short orbital periods involved, a population of km-sized parent bodies in collisional cascade will erode extremely fast. Hence, two main mechanisms have been posited to replenish exozodis: PR drag and comet evaporation. Yet, even these mechanisms present caveats and additional trapping mechanisms are expected to come into play.

In this talk, I will review this narrative in detail and point to the future of exozodiacal dust studies and observations, and how these will be crucially necessary to ensure the success of future missions dedicated to the detection and characterization of exoplanets in the Habitable Zone.