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### **Presentation Title: Protoplanetary disc dispersal in stellar clusters**

Work Package: WP116 360 The Influence of Birth Environment on the Formation and Evolution of Planetary Systems

The mass and time available for planet formation is strongly dependent on the stellar birth environment. Both star-disc encounters and external photoevaporation, induced by far ultraviolet (FUV) photons, reduce the timescales for which protoplanetary discs (PPDs) survive. To what extent do we expect planet formation to be influenced in observed star forming regions? I quantify the influence of the two mechanisms in observed young stellar environments and find that external photoevaporation generally dominates over star-disc encounters, dispersing PPDs quickly (in  $< 3$  Myr) in many local stellar clusters and associations. I further find that PPDs around low mass stars are more quickly dispersed by external photoevaporation due to a shallower gravitational potential; I predict that this effect should be detectable in samples of observed discs, and that the frequency/masses of planets hosted by low mass stars should be suppressed. Finally, I discuss how differences in how star formation proceeds outside the local region influence timescales for disc dispersal, and what this means for planet frequency over time and space.