Rome Joint Astrophysics Colloquia

# The disks of dawn: are the processes that shaped our Solar System common?


The question of how common is our own Solar System and the processes that led to its current architecture, including the favourable conditions for the development of an inhabited planet, are at the center of a vast branch of astrophysics research.

Observations of exoplanetary systems seem to suggest that the architecture of our own System may be a rather uncommon occurrence. In parallel, the progress in the exploration and understanding of the different constituents of our own Solar System have shaped a fairly detailed (even if at times debated) view of the origin and early history of our own Solar System.

In this talk, I will discuss our current observational constraints on the properties and evolution of the birthplace of planets, as they are emerging from the last decade of observations. I will highlight the common traits that emerge from the analysis of disk populations, especially for what concerns the timeline for planet formation, the role of the dynamical history of disk-planet interaction, and the physical and chemical evolution of the refractory and volatile constituents of protoplanetary disks.

The surprising, and yet, perhaps, scientifically comforting, result is that there seems to be a broad similarity in the fundamental processes of exoplanet and our own planet formation. I will conclude by highlighting the major open questions and how to address them in the future.



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Join in person at IAPS-INAF Roma (aula IB09)
or online on Zoom at https://rebrand.ly/JAC-Testi

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