

# Low mass binaries are bound from birth

*Tuesday 26 August 2025 14:20 (20 minutes)*

Observations show that most main sequence stars, unlike our Sun, are members of systems with two or more stars. Exactly how these systems form and when these stars become gravitationally bound together remains debated, since resolving the earliest stages of star formation is challenging. I will discuss how multiple star systems form and evolve in simulations of star cluster formation representative of typical Milky Way conditions that include all key physics and stellar feedback mechanisms. In particular, I will show ~70-80% of binaries form as bound systems, rather than from capture of initially unbound stars.

**Presenter:** Dr GENEROZOV, Aleksey (University of Texas at Austin)

**Session Classification:** Formation pathways